IN THE HON'BLE NATIONAL GREEN TRIBUNAL,

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 200/2014

IN THE MATTER OF:

M.C. MEHTA ....APPLICANT

VERSUS

UNION OF INDIA &ORS. ...RESPONDENT

STATUS REPORT BY WAY OF AFFIDAVIT ON BEHALF OF DISTRICT GANGA PROTECTION COMMITTEE, NAINITAL, UTTARAKHAND THROUGH DISTRICT MAGISTRATE NAINITAL, DISTRICT NAINITAL, UTTARAKHAND IN COMPLIANCE OF ORDER DATED 24.11.2023 PASSED BY THIS HON'BLE TRIBUNAL IN THE ABOVE-MENTIONED MATTER

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Place: New Delhi
Dated: 08.02.24

Filed By:

K. P. Gautam
Advocate
Supreme Court of India
Reg. No. D/119/98

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I, Vandana, D/O Sh. Main Pal Singh, aged about 34 years, presently posted as District Magistrate, Nainital, District Nainital, Uttarakhand, do hereby solemnly affirm on oath and state as under:

1. That in my abovementioned official capacity, I am acquainted with the facts and circumstances of the present matter, and I am fully competent to fill present Status Report by way of Affidavit on behalf of District Ganga Protection Committee, Nainital, Uttarakhand through District Magistrate, Nainital, Uttarakhand.
2. That the abovementioned matter was listed on 24-11-2023 before this Hon'ble Tribunal and after hearing, this Hon'ble Tribunal was pleased to pass a detailed order, the relevant portion of the same is quoted below:-

> .....We find that the basic information for proper consideration of the issue have not been disclosed by any of the District. For each of the District with respect to each city/town of the District apart from the other information, following information is required to be disclosed.
>
> *I. Sewage*
>
> *a. Per day generation of sewage in each city/town within the District.*
>
> *b. Quantity of sewage treated per day, city/town wise.*

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c. *The number of sewage treatment plants existing and their capacity and capacity utilization and mode of disposal in each city/town.*

d. *Quantity of discharged treated sewage from each STP, particularly for fecal coliform.*

e. *Time bound plan to meet the gap, if any, in generation and treatment of sewage.*

f. *Details of Hotels, Dharamshala and Ashram operating without proper consent and discharging untreated effluent and the action taken against them.*

g. *Water quality in river and its tributaries in abutting district/towns in terms of fecal coliform (MPN/100ml).*

II. *MunicipalSolid Waste Disposal:*

a. *Per day generation of solid waste in each city/town within the District.*

b. *Quantity of solid waste treated per day, in each city/town of the District.*

c. *The gap in treatment of solid waste.*

d. *Legacy waste and the time bound plan to treat legacy waste.*

e. *The manner of utilization of the treated waste as well as rejects arising out of remediation of legacy waste.*

f. *Current status of dumping of solid waste with reference to location.*

III. *Construction and Demolition waste:*

a. *Total per day generating of C & D Waste within the District.*

b. *The detail of plant established for the treatment of C & D Waste including the existing capacity and capacity utilization.*

IV. *Industrial Effluent discharge:*

a. *Number of industrial unit discharging their effluent treated/untreated in river Ganga and its tributaries and details of defaulting industrial units.*

b. *Total daily generation of such industrial waste within the District.*

c. *The manner of treatment of the industrial waste so generated.*

d. *The discharge effluent analysis from the CETP and ETP treating the industrial waste from each outlet.*

e. *The per day generation of industrial solid waste and manner of its treatment and disposal in the District.*

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V. *Regulation of Flood Plain Zone:*
   a. *If the flood plain zone has been demarcated and the extent of encroachment on the flood plain zone in the District.*
   b. *The details of direct discharge of pollutants by the encroachers by the side of the river Ganga and its tributaries in the District.*

VI. *Bio Medical Waste:*
   a. *The per day total generation of bio medical waste in the District.*
   b. *The manner of its treatment and disposal.*

VII. *Mining:*
   a. *Number of cases registered within a year against illegal mining in the bed or flood plains of river Ganga and its tributaries and details of enforcement of mining policy of State and "Enforcement & Monitoring Guidelines for Sand Mining" (EMGSM-2020) and Sustainable Sand Mining Management Guidelines 2016.*

2. The concerned hydro project set up on river Ganga and its tributaries will ensure maintain and complying with the prescribed minimum 15% of flow of water in the river Ganga and its tributaries.
3. On the perusal of the reports filed by the District Magistrates of different District of Uttarakhand, we find that the above relevant information is missing. Such information is also required by the concerned District Magistrate of other District of the States from where river Ganga or its tributaries are flowing. Therefore, we direct that this order be circulated to the Chief Secretaries of all the concerned States i.e. Uttarakhand, Uttar Pradesh, Jharkhand, Bihar and West Bengal so that the report filed by the concerned District Magistrate includes the above information.

4. Let the fresh report be submitted by the concerned District Magistrate of State of Uttarkhand within eight weeks.

5. List this matter on 9th February, 2024.

3. That the District Naintal in the State of Uttarakhand has 07 city/town namely, Kathgodam-Haldwani, Lalkuan, Bhimtal, Bhowali, Ramnagar, Kaladhungi & Nainital. The city of Haldwani-Kathgodam is located at the bank of the river Gaula. Lalkuan city is located at the bank of river Gaula. Ramnagar is located at the bank of the river Kosi. Bhowali is located at the

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bank of river Shipra.

4. That para – wise report on the information sought by the Hon'ble Green Tribunal is as follows (ANNEXURE-1) –

<table>
<tr><th>Issues</th><th>Information Sought</th><th>Implementation & Compliance</th></tr>
<tr><td rowspan="3">1.Sewage</td><td>(a) Per day generation of sewage in each city/town within the district.</td><td>
<table>
<tr><th>Name Of town</th><th>Per day sewage generation</th></tr>
<tr><td>1. Haldwani-Kathgodam</td><td>45.30 MLD</td></tr>
<tr><td>2. Lalkuan</td><td>1.28 MLD</td></tr>
<tr><td>3. Bhimtal</td><td>2.25 MLD</td></tr>
<tr><td>4. Bhowali</td><td>1.5 MLD</td></tr>
<tr><td>5. Ramnagar</td><td>3.3 MLD</td></tr>
<tr><td>6. Kaladhungi</td><td>2.6 MLD</td></tr>
<tr><td>7. Nainital</td><td>14.27 MLD</td></tr>
</table>
(Annexure- A)
</td></tr>
<tr><td>(b) Quantity of sewage treated per day, city/town wise.</td><td>
<table>
<tr><th>Name of town</th><th>Per day treated sewage</th></tr>
<tr><td>1. Haldwani-Kathgodam</td><td>14.00 MLD</td></tr>
<tr><td>2. Lalkuan</td><td>Sewage treated as per frequency of receiving septage</td></tr>
<tr><td>3. Bhimtal</td><td>0.70 MLD</td></tr>
<tr><td>4. Bhowali</td><td>Sewage / Septage treatment facility is not available at present.</td></tr>
<tr><td>5. Ramnagar</td><td>3.1 MLD</td></tr>
<tr><td>6. Kaladhungi</td><td>Sewage / Septage treatment facility is not available at present.</td></tr>
<tr><td rowspan="2">7. Nainital</td><td>a. Harinagar - 0.32 MLD
b. Krishnapur - 0.56 MLD
c. Rusi - 7.00 MLD
d. Narayan Nagar - 0.25 MLD</td></tr>
<tr><td>Total of town Nainital - 8.13 MLD</td></tr>
</table>
(Annexure- A)
</td></tr>
<tr><td>(c) The number of sewage treatment plants existing and their capacity and capacity utilization and mode of disposal in each city/town.</td><td>
<table>
<tr><th>City/ Town</th><th>No. of existing sewage treatment plant</th><th>Capacity of STP</th><th>Capacity utilization</th><th>Mode of Disposal</th></tr>
<tr><td>1. Haldwani-Kathgodam</td><td>1</td><td>28 MLD</td><td>14 MLD</td><td>Through existing sewer line.</td></tr>
<tr><td>2. Lalkuan</td><td>1</td><td>10 KLD</td><td>As per frequency of receiving septage</td><td>Septic Tank</td></tr>
<tr><td>3. Bhimtal</td><td>1</td><td>1.25 MLD</td><td>0.70 MLD</td><td>Through existing sewer line</td></tr>
<tr><td>4. Bhowali</td><td>0</td><td>0</td><td>0</td><td>No STP installed.</td></tr>
</table>
</td></tr>
</table>

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5.Ramnagar					
(a). Puchdi	1	1.5 MLD	0.70 MLD	Through Nala interception / sewer line	
(b). Transport Nagar	1	7 MLD	2.40 MLD		
6.Kaladhungi	0	0	0	No STP installed.	
7. Nainital				Through Sewer Line	
(a). Harinagar	1	0.45 MLD	0.32 MLD		
(b) Krishnapur	1	0.80 MLD	0.56 MLD		
(c) Rusi	1	10 MLD	7.00 MLD		
(d) Narayan Nagar	1	0.45 MLD	0.25 MLD		
Total	**9 Nos.**	**49.45 MLD & 10 KLD**	**25.93 MLD**		

(Annexure- A)

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	(d) Quantity of discharged treated sewage from each STP, particularly for fecal coliform.	**Name of town & location**	**Quantity of discharged treated sewage**	**Fecal Coliform**
		1. Haldwani-Kathgodam	14 MLD	170 MPN/100 ML
		2. Lalkuan	Sewage treated as per frequency of receiving septage	Test report for the mentioned data is awaited.
		3. Bhimtal	0.70 MLD	49.00 MPN/100 ML
		4. Bhowali	None	None
		5. Ramnagar		
		a. Puchdi	0.70 MLD	76 MPN/ 100 ML
		b. Transport Nagar	2.4 MLD	64 MPN/100 ML
		6. Kaladhungi	None	No STP installed.
		7. Nainital		
		a. Harinagar	0.32 MLD	98 MPN/100 ML
		b. Krishnapur	0.56 MLD	115 MPN/100 ML
		c. Rusi	7.00 MLD	10^6No/100 ML
		d. Narayan Nagar	0.25 MLD	122 MPN/100 ML

(Annexure- A)

	(e) Time bound plan to meet the gap, if any, in generation and treatment of sewage.	1.Haldwani-Kathgodam	There are 60 Wards in Haldwani – Kathgodam City. For 33 Wards (Ward No. 1 to 33) out of these 60 Wards, a 28 MLD Capacity Sewage Treatment Plant was recently constructed at Gola Raukhad, Indra Nagar. This STP is presently under Operation & Maintenance stage. It is receiving 12 to 15 MLD waste water at present. A 20 KLD Septage Co-Treatment unit is also proposed to be constructed in the same campus. The sewerage network coverage in this area is 52%. For balance 48% areas, following 5 projects have been prepared & sent to Government of Uttarakhand for approval –

% Coverage	Plan for balance coverage				Status of scheme
	S. No	Name of Scheme	Expected % Increase	Sewage generation in MLD	
	1.	Sewerage and	12%	4.46	Sanctionin

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					Pollution Abatement works in the catchment of Indranagar Nala			g in final stage
				2.	Haripur Colonel, Awas Vikas & Subhash Nagar Sewerage Scheme	4%	0.78	Sanctioning in final stage
				3.	I&D Works of Rajpura Nala &Golcha Compound			Sent to NMCG, New Delhi
				4.	Haldwani Septage Co-Treatment (20 KLD) of 28 MLD STP, Scheme	5%	1.62	
				5.	Rajpura Sewerage Scheme	3%	0.85	Sent to Govt. of Uttarakhand
				6.	Ranibagh - Kathgodam Sewerage Scheme	6%	0.54	
				7.	Haldwani Bazar, Shivpuri Bhawaniganj& Bareilly Road	5%	0.84	

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	Sewerage Scheme			
8.	Heera Nagar, Rampur Road, Parvtiy Mohalla & Himalaya Farm Swerage Scheme	5%	0.93	
9.	Left out area due to Encroachment of Railway Land	8%	3.98	Railway encroachment land is under trial in Hon'ble Supreme Court.
Total		**48%**	**14 MLD**	

For balance 27 wards (Ward no 34 to 60), a 10.5 MLD capacity sewage treatment plant along with 140 KLD septage co-treatment unit is proposed by UUSDA (Uttarakhand Urban Sector Development Agency) near Awla Chowki Gate, Gola Raukhad, Indra Nagar. The project includes sewerage network & septage work in these 27 wards. This project is presently under tendering stage.

2.Lalkuan	Septage treatment plant is already working; hence no additional proposal is required at present.
3.Bhimtal	There are total 9 wards in Bhimtal. Town sewer lines on laid partially at ward no. 1, 2 & 5 and connected to STP capacity 1.25 MLD. Total Sewer network coverage in Bhimtal town is 15%

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			for partially area in ward no. 2, one project is proposed under Jila Yojana Scheme, Cost - Rs. 1.50 Crore. For balance area, proposal for sewerage / septage system is under consideration.
		4.Bhowali	Proposal for sewerage / septage system is under consideration.
		5. Ramnagar	Sewage treatment plant is already working; hence no additional proposal is required at present.
		6. Kaladhungi	Proposal for sewerage / septage system is under consideration.
		7.Nainital	17.5 MLD capacity Sewage Treatment Plant along with sewerage network is under construction through UUSDA (Uttarakhand Urban Sector Development Agency), Nainital which is expected to be completed by May 2025.
			(Annexure- A)
	(f) Details of Hotels, Dharamshala and Ashram operating without proper consent and discharging untreated effluent and the action taken against them.	As per board inventory, there are 424 hotels in Nainital district and 364 hotels have valid CCA (Consolidated Consent & Authorization) and 13 hotels application are under process, remaining 47 hotels have issued notice to obtain CCA of the Board. Out of 424 hotels, 150 number of hotels covered under Orange Category which have its own in house STP or connected with sewer line network. 273 hotels covered under Green Category. They are disposed sewer through Septic Tank/ Soak Pit or connected with Sewer line network. Rest of 01 number of hotels covered under Red Category which has its own in house STP. **(Annexure- C)**	

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	(g) Water quality in river and its tributaries in abutting districts/towns in terms of fecal coliform (MPN/100ml).	

S. N.	Name of Monitoring Point	pH	BOD	COD	Fecal Coliform	Designated Best Use (DBU) Water Quality Class
1.	Nainital Lake Water Intake, Nainital	7.63	2.0	6.0	110	B
2.	Bheemtal Lake Water Intake, Nainital	7.51	1.6	5.0	140	B
3.	Gola River at Haldwani, Nainital	7.66	2.4	6.0	150	B
4.	Sattal Lake, Nainital	7.75	1.0	4.0	120	B
5.	Naukichyatal Lake, Nainital	7.80	1.8	5.0	79	B
6.	River Shipra D/S near Neem Karoli Dam, Bhawali, Nainital	7.58	1.8	5.0	70	B

(Annexure- C)

2.Municipal Solid Waste disposal	**(a)** Per day generation of Solid Waste in each city/town within the district.	

Name of city/town	Per day generation of solid waste
1.Haldwani-Kathgodam	150 M.T.
2.Lalkuan	2.5 to 3.0 M.T.
3.Bhimtal	4 M.T.
4.Bhowali	2 M.T.
5.Ramnagar	13.6 M.T.
6.Kaladhungi	3.69 M.T.
7.Nainital	19-20 M.T.

(Annexure –B)

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(b) Quantity of Solid Waste treatment per day, in each city/town of the district.

Name of city/town	Quantity of solid waste treatment per day
1.Haldwani-Kathgodam	0 M.T. (At present there is no treatment plant).
2.Lalkuan	0 M.T. (At present there is no treatment plant).
3.Bhimtal	1.0 M.T. (Partially treated, at present there is no treatment plant).
4.Bhowali	0 M.T. (At present there is no treatment plant).
5.Ramnagar	5.89 M.T.(Partially treated ,at present there is no treatment plant)
6.Kaladhungi	1.6 M.T. (Partially treated ,at present there is no treatment plant)
7.Nainital	01 M.T.(Partially treated ,at present there is no treatment plant)

(Annexure –B)

(c) The gap in treatment of Solid Waste.

Name of city/town	Gap in treatment of solid waste
1.Haldwani-Kathgodam	**Gap= 150 M.T.** (Since, solid waste treatment plant is not available; the generated solid waste could not be treated.) Construction of a treatment plant is **proposed** in Haldwani for the treatment of solid waste under Haldwani-Rudrapur cluster for Haldwani-Kathgodam, Nainital, Bhowali, Bhimtal and Lalkuan cities of Nainital district, in which the waste received from all these bodies is to be treated. Tender was invited four times for the garbage treatment plant from 12.02.2021 to 25.07.2023, which was not successful. **Proposal-** Subsequently, in continuation of the proposal submitted by **NTPC Vidyut Vyapar Nigam Limited** for setting up S.W.M. plant/ development of municipal solid waste to torrefied charcoal plant facility (Capacity 500 T.P.D.), **Memorandum of Understanding** dated **30.11.2023** was signed between **Municipal Corporation Haldwani Kathgodam** and **NTPC Vidyut Vyapar Nigam Limited**. It has been signed in the presence of Honorable Chief Minister of Uttarkhand.(**Photocopy of the MOU is attached.**) It will take about 2 years to establish. **At present municipal solid waste is dumping in trenching ground (dumping yard) situated at Gaula Raukhar (Gaula bypass road) Haldwani.** At present there is no treatment facility .So the **gap** in treatment of municipal solid waste is due to non availability of treatment plant .

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2.Lalkuan	**Gap= 2.5 M.T. to 3.00 M.T.** (Since, solid waste treatment plant is not available; the generated solid waste could not be treated.) Nagar Panchayat Lalkuan is the part of Haldwani Rudrapur cluster. **Nagar Panchayat Lalkaun sends its municipal solid waste to the dumping yard of Nagar Nigam Haldwani – Kathgodam** .At present there is no treatment facility in Nagar Nigam Haldwani – Kathgodam. So the **gap** in treatment of municipal solid waste is due to non availability of treatment plant.
3.Bhimtal	**Gap= 3.00 M.T.** Nagar Panchayat Bhimtal is the part of Haldwani Rudrapur cluster . **Nagar Panchayat Bhimtal sends its municipal solid waste to the dumping yard of nagar nigam Haldwani – Kathgodam** .At present there is no treatment facility in Nagar Nigam Haldwani – Kathgodam . So the **gap** in treatment of municipal solid waste is due to non availability of treatment plant.
4.Bhowali	**Gap= 2.00 M.T.** (Since, solid waste treatment plant is not available; the generated solid waste could not be treated.) Nagar Palika Parishad Bhowali is the part of Haldwani-Rudrapur cluster. **Nagar Palika Parishad Bhowali sends its municipal solid waste to the dumping yard of Nagar Nigam Haldwani – Kathgodam.** At present, there is no treatment facility in Nagar Nigam Haldwani – Kathgodam. So the **gap** in treatment of municipal solid waste is non availability of treatment plant.
5.Ramnagar	**Gap =7.71 M.T.** Due to non-availability of adequate land for solid waste management in Nagar Palika Parishad Ramnagar, letter had been sent to the Forest Department and requested to provide land through letter no.7645 ,dated 10/09/2021, letter no.7216 ,dated 25/08/2022, letter no.7746 ,dated 05/09/2023, letter no.7855 ,dated 19/10/2023, letter no.7910 ,dated 29/11/2023 letter no.7820 ,dated 06/10/2023 letter no.7958 ,dated 1/01/2024 letter no.1815 ,dated 27/01/2024. At present, there is **no update regarding the letters sent to Forest Department.** The said **gap** will be closed

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			once land becomes available.
		6.Kaladhungi	**Gap= 2.09 M.T.** At present, compost being made from wet waste by making organic pits in 07 government colonies 67under the civic body. Due to non-availability of land for solid waste management with Nagar Panchayat Kaladhungi, garbage is being disposed on the vacant land of the Forest Department. For the transfer of the said land, Nagar Panchayat Kaladhungi sent letter number - 437/ स्था.नि./2022-23 dated 26/12/2022 and letter number - 158/ स्था.नि./स्व.भा.मि./2022-23 dated 27.07.2023 to Divisional Forest Officer Ramnagar Forest Division, Ramnagar for granting permission for transfer of the land .At present there is no **response/Update** from the Forest Department regarding the transfer of the said land.The said **gap** will be closed once land becomes available.
		7.Nainital	**Gap= 18 M.T. to 19 M.T.** Nagar Palika Parishad Nainital is the part of Haldwani Rudrapur cluster . **Nagar Palika Parishad Nainital sends its municipal solid waste to the dumping yard of Nagar Nigam Haldwani-Kathgodam .** At present there is no treatment facility in nagar nigam Haldwani – Kathgodam . So the **gap** in treatment of municipal solid waste is non availability of treatment plant .
			(Annexure –B)
	(d) Legacy waste and the time bound plan to treat legacy waste.	**Name of city/town**	**Time bound plan to treat legacy waste**
		1.Haldwani-Kathgodam	Work order dated 02.09.2022 issued to People's Association for Total Help & Youth Applause RZ- 05/9, KH No. 15/7, Gali No. 9, Mahavir enclave, New Delhi, the executing organization for disposal of 88750 metric ton of legacy waste collected in the trenching ground (new dump site) of Municipal Corporation Haldwani-Kathgodam (which also includes the waste of Municipal Council Nainital, Bhowali; Nagar Panchayat Lalkuan, Bhimtal) located at Gaula Raukhar Gaula Bypass Road, Haldwani. It was done and the work contract **(copy of contract attached)** was signed on 08.09.2022, as a result of which the disposal work of estimated 88750 metric ton of legacy waste has been completed by the

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	organization. The tender notice has been issued on 25.11.2023 for carrying out the work of disposal of legacy waste collected at the old dump site/ forest land(which is no longer in use) at the Municipal Corporation, Haldwani-Kathgodam located at Gaula Raukhar Bypass Road, Haldwani. Technical tender has been opened on date 05.01.2023 whose evaluation process is in progress. The treatment of legacy waste at the old dump site will be completed within **one year** after the contract done with the successful bidder.
2.Lalkuan	The legacy waste of Nagar Panchayat, Lalkuan is included in the dumping site of Haldwani. (Nagar Panchayat, Lalkuan dumps its garbage in the dump site of Municipal Corporation Haldwani- Kathgodam.)
3.Bhimtal	There is no availability of legacy waste under Nagar Panchayat, Bhimtal's border. The legacy waste of Nagar Panchayat, Bhimtal is included in the dumping site of Haldwani. (Nagar Panchayat, Bhimtal dumps its garbage in the dump site of Municipal Corporation Haldwani- Kathgodam.)
4.Bhowali	There is no availability of legacy waste under Nagar Palika Parishad, Bhowali's border. The legacy waste of Nagar Palika Parishad, Bhowali is included in the dumping site of Haldwani. (Nagar Palika Parishad, Bhowali dumps its garbage in the dump site of Municipal Corporation Haldwani-Kathgodam.)
5.Ramnagar	There is no legacy waste in Nagar Palika Parishad Ramnagar.
6.Kaladhungi	There is no legacy waste in Nagar Panchayat Kaladhungi .
7.Nainital	The legacy waste of Nagar Palika Parishad, Nainital is included in the dumping site of Haldwani. (Nagar Palika Parishad, Nainital dumps its garbage in the dump site of Municipal Corporation Haldwani-Kathgodam.)

Table

Name of city/Town	Quantity of Legacy Waste Treated	Remark
Haldwani-Kathgodam	88750 M.T.	
Nainital	—	The legacy waste of Nagar Palika

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				Parishad, Nainital is included in the dumping site of Haldwani.
		Bhowali	—	The legacy waste of Nagar Palika Parishad, Bhowali is included in the dumping site of Haldwani.
		Bhimtal	—	The legacy waste of Nagar Panchayat Bhimtal is included in the dumping site of Haldwani.
		Lalkuan	—	The legacy waste of Nagar Panchayat Lalkuan is included in the dumping site of Haldwani.
		Ramnagar	There is no legacy waste in Nagar Palika Parishad Ramnagar .	
		Kaladhungi	There is no legacy waste in Nagar Panchayat Kaladhungi .	

(Annexure –B)

(e) The manner of utilization of the treated waste as well as rejects arising out of remediation of legacy waste.	**Name of city/town**	**Manner of utilization of the treated waste**
	1.Haldwani-Kathgodam	The plastic, metal etc. received during legacy waste disposal has been disposed of by the executing agency at its own level under the contract (**contract dated 08/09/2022 is attached**).
	2.Lalkuan	Nagar Panchayat Lalkuan is the part of Haldwani Rudrapur cluster . Nagar Panchayat Lalkaun send their municipal solid waste to the dumping yard of nagar nigam Haldwani – Kathgodam . The plastic, metal etc. received during legacy waste disposal has been disposed of by the executing agency at its

NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL Regd. No. 20 (3)(10)/2013 GOVT. OF UTTARAKHAND (INDIA)

	own level under the contract (**contract dated 08/09/2022 is attached**).
3.Bhimtal	Nagar Panchayat Bhimtal is the part of Haldwani Rudrapur cluster . Nagar Panchayat Bhimtal send their municipal solid waste to the dumping yard of nagar nigam Haldwani – Kathgodam . The plastic, metal etc. received during legacy waste disposal has been disposed of by the executing agency at its own level under the contract (**contract dated 08/09/2022 is attached**).
4.Bhowali	Nagar Palika Parishad Bhowali is the part of Haldwani Rudrapur cluster . Nagar Palika Parishad Bhowali send their municipal solid waste to the dumping yard of nagar nigam Haldwani – Kathgodam . The plastic, metal etc. received during legacy waste disposal has been disposed of by the executing agency at its own level under the contract (**contract dated 08/09/2022 is attached**).
5.Ramnagar	There is no legacy waste in Nagar Palika Parishad Ramnagar .
6.Kalaghungi	There is no legacy waste in Nagar Panchayat Kaladhungi .
7.Nainital	Nagar Palika Parishad Bhowali is the part of Haldwani Rudrapur cluster . Nagar Palika Parishad Bhowali send their municipal solid waste to the dumping yard of nagar nigam Haldwani – Kathgodam . The plastic, metal etc. received during legacy waste disposal has been disposed of by the executing agency at its own level under the contract (**contract dated 08/09/2022 is attached**).

(Annexure –B)

(f) Current status of dumping of solid waste with reference to location.

Name of city/town	**Current status of dumping of solid waste**
1.Haldwani-Kathgodam	At present, solid waste is dumped on one side of the trenching ground (new dump site) of Municipal Corporation Haldwani- Kathgodam located at Gaula Raukhar Gaula Bypass road, Haldwani. (**Latitude-29.200144^0, Longitude-79.533008^0). Photograph is attached.**
2.Lalkuan	Presently, the solid waste is being dumped at the trenching ground of Municipal Corporation Haldwani-Kathgodam located on Gaula Rokhad Bypass Road, Haldwani. (**Latitude-29.200144^0, Longitude- 79.533008^0). Photograph is attached.**
3.Bhimtal	Presently, the solid waste is being dumped at the trenching ground of Municipal Corporation Haldwani-Kathgodam located on Gaula Rokhad Bypass Road, Haldwani. (**Latitude-29.200144^0, Longitude- 79.533008^0). Photograph is attached.**
4.Bhowali	Presently, the solid waste is being dumped at the

Dr. P. S. Bhakuni Advocate HQ-NAINITAL Regd. No. 30 (1)(10)/2011 GOVT. OF UTTARAKHAND (INDIA)

			trenching ground of Municipal Corporation Haldwani-Kathgodam located on Gaula Rokhad Bypass Road, Haldwani. (**Latitude-29.200144^0, Longitude- 79.533008^0). Photograph is attached.**
		5.Ramnagar	The remaining waste from the processed waste is disposed at the garbage disposal site at Village Puchdi (0.9555 Hectare)**[Latitude- 29.371861^0, Longitude- 79.132179^0]. Photograph is attached.**
		6.Kaladhungi	Due to non-availability of land for solid waste management with Nagar Panchayat Kaladhungi, the garbage generated by the civic body for 20-25 years on the vacant land **(Latitude—29.275431^0, Longitude- 79.349205^0, Photograph is attached.)** of the Forest Department at a distance of 500 meters from the city is being disposed of by filling it in its garbage vehicles. After separating the garbage produced at the site, plastic and other inorganic waste is sorted out and the remaining garbage is buried by digging a pit by JCB in the garbage disposal site. The civic body has also made organic pits in the government colony in which organic fertilizers are also made.
		7.Nainital	Nagar Palika Parishad, Nainital has the M.R.F. (Material Recovery Facility) centre in which compost is prepared by separating the organic waste from the garbage produced daily and the remaining garbage is sent to the trenching ground, Haldwani, for disposal. **(Seven photographs of the M.R.F. centre are attached).**

(Annexure –B)

3.Construction and Demolition waste	**(a)** Total per day generation of C&D Waste within the district.	**Name of city/town**	**Per day generation of C&D waste**
		1.Haldwani-Kathgodam	Municipal Corporation Haldwani- Kathgodam is not able to get the details of Construction and Demolition waste due to the citizens using the waste in the city for filling etc. as per their requirement.
		2.Lalkuan	Nagar Panchayat Lalkuan is not able to get the details of C&D waste due to citizens using it for filling etc. as per their own needs.
		3.Bhimtal	Nagar Panchayat, Bhimtal has not marked any place for disposal of C&D waste. This type of waste is generally used in plinth of buildings and filling of public roads etc.
		4.Bhowali	Nagar Palika Parishad, Bhawali does not have land available to collect waste. The waste falling within the municipal limits is used by the local people themselves.
		5.Ramnagar	Waste is not produced on daily basis under Nagar Palika, Ramnagar's border. If it is generated at any

Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL

			place within the municipal limits, then it is shifted to the Gas Godam Road (Unt Padav) near the filling point of the municipality.
		6.Kalaghungi	In Kaladhungi Nagar Panchayat, the waste is used by the citizens themselves and the remaining waste is dumped at the garbage disposal site which is used by the citizens as per their need.
		7.Nainital	C&D waste **will be** disposed of at sites designated by the administration outside the city.
			(Annexure –B)
	(b) The details of plant established for the treatment of C&D waste including the existing capacity and capacity utilization.	**Name of city/town**	**Details of plant established**
		1.Haldwani-Kathgodam	At present, the process of setting up a C&D waste treatment plant is not in progress. However, the Municipal Corporation Haldwani-Kathgodam has selected a site for waste disposal and constructed a temporary site.**(Photograph is attached).** **Name and address of C&D plant-** Nagar Nigam Construction and Demolition Waste Plant, near Gaula Rokhad bypass, Haldwani.
		2.Lalkuan	At present the process of setting up a C&D waste treatment plant is in progress. **(Proposal is attached.)**
		3.Bhimtal	At present no C&D waste treatment plant is available.
		4.Bhowali	At present no C&D waste treatment plant is available.
		5.Ramnagar	At present no C&D waste treatment plant is available.
		6.Kalaghungi	There is no land available for waste in Kaladhungi Nagar Panchayat area. Correspondence is being maintained with Revenue Department and Forest Department for availability of land.
		7.Nainital	At present, the process of setting up a C&D waste treatment plant is in progress.
			(Annexure –B)
4.Industiral Effluent discharge	**(a)** Number of industrial unit discharging their effluent treated/untreated in river Ganga and its tributaries and details of defaulting industrial units.	Total number of industries Effluent Discharging outside Premises – 01 (Century Pulp and Paper –Lalkuan, Distict-Nainital). **(Annexure- C)**	

	(b) Total daily generation of such industrial waste within the district.	Industrial effluent generated – 21838 m^3/Day Total registered industries – 01 **(Annexure- C)**
	(c) The manner of treatment of the industrial waste so generated.	There are total 221 industries in the district Nainital. Those industries which generate waste water in excess quantity have installed treatment plants like STP, ETP, sock pits, septic tanks etc. **(Annexure- C)**
	(d) The discharge effluent analysis from the CETP and ETP treating the industrial waste from each outlet.	Zero discharge. **(Annexure- C)**
	(e) The per day generation of industrial solid waste and manner of its treatment and disposal in the district.	19.14 MT/ Annum (0.052 MT/day) disposed through T.S.D.F. (Treatment, Storage, and Disposal Facility)/ Authorised recyclers/Land fill. **(Annexure- C)**
5.Regulation of flood Plain Zone	**(a)** If the flood plain zone has been demarcated and the extent of encroachment on the flood plain zone in the district.	The study work of Flood Plain Zoning of Gola river has been completed. The report and maps of different return period flood has been completed. Marking of flood extent on the ground on the basis of point table supplied, is to be done and marking of flood zones on Shajra sheet is to be done. **The report of Flood plain zoning is attached.** There is no violation for implementing the Flood Plain Zone. **(Annexure- D)**
	(b) The details of direct discharge of pollutants by the encroachers by the side of the river Ganga and its tributaries in the district.	The details of direct discharge of pollutants by the encroachers by the side of the river Ganga's tributaries in the district are not estimated. **(Annexure- D)**
6. Bio medical waste	**(a)** The per day total generation of bio medical waste in the district.	The total estimated daily production of bio medical waste in the district is 895.54 Kg. categorised as:- Government Hospitals- 433.54 Kg. Private Hospitals- 462.00 Kg. **(Annexure- E)**
	(b) The manner of its treatment and disposal.	• In District hospital/Sub District hospital/ Private Hospitals, bio medical waste disposal is done by C.B.M.W.T.F. (Common Bio-medical Waste Treatment Facility) (Global Environmental Solution, Gadarpur). In S.T.G.H. (Sushila Tiwari Government

10/12/2024

Hospital), bio-medical waste disposal is also done through C.B.M.W.T.F. (situated in Sushila Tiwari Government Hospital).

- In Community Health Centre/ Primary Health Centre Type-B/ Primary Health Centre Type-A/ Health/ Wellness Centre, the biomedical waste disposal is done through Deep Burial Pit (situated in hospital/wellness centre campus).
- The entire bio-medical waste generated in the hospitals is disposed off as per the guidelines.
- Since, the entire bio-medical waste generated in the hospitals is disposed off as per the guidelines, hence there is no gap.

The list given below:

Sr.No.	Facility Type	No. Of Facility	Per- day total Quantity (in Kg)	Mode of Disposal
1.	District Hospital	1	53.35	Common Bio-Medical Waste Treatment Facility (Global Environmental Solution, Gadarpur)
2.	Sub District Hospital	3	87.75	
3.	Sushila Tiwari Government Hospital (S.T.G.H.)	1	280	Common Bio-Medical Waste Treatment Facility (situated in Sushila Tiwari Government Hospital campus).
4.	Community Health Centre	10	8.95	Deep Burial Pit (situated in Hospital campus).
5.	Primary Health Centre Type- B	5	3.01	
6.	Primary Health Centre Type- A	40	0.380	
7.	Health & Wellness Centre	103	0.100	Deep Burial Pit (situated in Hospital campus).
8.	Private	203	462	Common Bio-Medical Waste Treatment Facility (Global Environmental Solution, Gadarpur)
	Total	**366**	**895.54**	

(Annexure- E)

7.Mining	Number of cases registered within a year against illegal mining in the bed or flood plains of river Ganga and its tributaries and details of enforcement of mining policy of state	There are 08 cases registered within a year against illegal mining in the bed or flood plains of river Ganga and its tributaries and the action taken according to Prevention of Illegal Mining Transportation and Storage Rules 2021. Following are the details related to 08 registered cases:

Dt. P. S. Bhakuni Advocate HQ-NAINITAL

and "Enforcement & Monitoring Guidelines for Sand Mining" (EMGSM) and Sustainable Sand Mining Management Guidelines 2016.

Details of illegal mining in the river bed in district Nainital from 01.01.2023 to 31.12.2023

S.N.	Date of Inspection	Name of Place/ River	Details of Illegal Mining	Quantity of Illegal Mining	Penalty (In Rupees)	Status of Recovery
1.	21.04.2023	Village-Odadadar, Tehsil-Betalghat/ Kosi River	Shri Amit Aggrawal	466.2 Cubic Meter (1025.64 Ton)	1,43,590.00	Deposited
2.	09.05.2023	Village-Malla Vardho, Tehsil-Betalghat/ Kosi River	Kumaun Mandal Vikas Nigam Limited	576 Cubic Meter (12,672 Quintal)	1,77,408.00	Deposited
3.	06.06.2023	Village-Vardho, Tehsil-Betalghaat/ Kosi River	Kumaun Mandal Vikas Nigam Limited	756 Cubic Meter (16,632 Quintal)	2,32,848.00	Deposited
4.	07.06.2023	Village-Amia, Tehsil & District-Nainital/ Gaula River	Kumaun Mandal Vikas Nigam Limited	1857 Cubic Meter (33,426 Quintal)	4,67,964.00	Deposited
5.	23.06.2023	Village Chhada and Doba of Tehsil Koshyakutauli /	Ms. Shilpa Nainwal	570 Cubic Meter (10,260 Quintal)	1,43,640.00	Deposited
6.	24.06.2023	Village-Murkudiya, Tehsil & District-Nainital/ Gaula	Shri Sanjay Kumar Verma	610 Cubic Meter (10,980 Quintal)	1,53,720.00	Deposited

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			River				
		7.	27.06.2023	Village-Ghodiyahalso and Ghirauli Tehsil Betalghat District-Nainital/ Kosi River	Shri Inder Singh Rawat S/o- Shri Heera Singh	630 Cubic Meter (11,340 Quintal)	1,58,760.00	Deposited
		8.	27.06.2023	Village-Mallipali, Tehsil-Betalghat, District-Nainital/ Kosi River	Shri Vishambhar Dutt Paldia S/o Shri Jaikishan	1680 Cubic Meter (30240 Quintal)	4,23,360.00	Deposited
								(Annexure- F)
8.Ecological flow of River	The concerned hydro project set up on river Ganga and its tributaries will ensure maintaining and complying with minimum 15% of flow of water in the river Ganga and its tributaries.	There are no hydro project set up on river Ganga and its tributaries with respect to district Nainital.						

5. In view of the facts and circumstances as explained hereinabove sincere efforts are taken by the District Ganga Protection Committee, District Nainital, in compliance of the directions passed by this Hon'ble Tribunal, the same may kindly be accepted by this Hon'ble Tribunal and the deponent hereby undertakes to comply with every direction passed by this Hon'ble Tribunal.

DEPONENT

NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL GOVT. OF UTTARAKHAND (INDIA)

VERIFICATION

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

Verified by me at Naintal, Uttarakhand on this 09th day of Februrary, 2024.

DEPONENT

SHO Nagshir
REGISTERED
76

Vandana D/o Nain Pal Singh
Identified by me the Deponent
Signed & Verified the contents of
this Affidavit at Naintal
Date 9/2/2024 at Naintal
District Magistrate Naintal Uttarakhand

(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ—NAINITAL
Distt. Nainital (UK)

Filed by:

[KAUSHAL GAUTAM]
Additional Advocate General for the State of Uttarakhand / Respondent
Office: C-203, LGF,
Defence Colony, New Delhi-110024
Mobile No. 9811101934
Email- officeofkaushalgautam@gmail.com

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
9/2/2024

31206

ANNEXURE-A

☎/Fax No. 05946-222103
piuhaldwani@gmail.com

कार्यालय अधिशासी अभियन्ता

प्रोजेक्ट इम्प्लीमेंटेशन यूनिट (अमृत)
उत्तराखण्ड पेयजल निगम, हल्द्वानी (नैनीताल) उत्तराखण्ड।

पत्रांक :- 177 / नमामि गंगे / 14 दिनांक :- 2-2-24

सेवा में,

सदस्य संयोजक/प्रभागीय वनाधिकारी,
जिला गंगा समिति, नैनीताल,
तराई पूर्वी वन प्रभाग,
हल्द्वानी।

विषय :- <u>मा0 राष्ट्रीय हरित अधिकरण (एन0जी0टी0), प्रधान पीठ, नई दिल्ली द्वारा मूल आवेदन–पत्र (ओ0ए0) सं0 200, वर्ष–2014, एम0सी0 मेहता बनाम् गंगा प्रदूषण एवं सफाई आदि के मामले में पारित आदेश दिनांक 24.11.2023 के अनुपालन के सम्बन्ध में।</u>

महोदय,

उपरोक्त विषयक आपके पत्रांक 4760/26–1 (हल्द्वानी) दिनांक 01.02.2024 के द्वारा मा0 राष्ट्रीय हरित अधिकरण (एन0जी0टी0), प्रधान पीठ, नई दिल्ली में मूल आवेदन–पत्र (ओ0ए0) सं0 200, वर्ष–2014, एम0सी0 मेहता बनाम् गंगा प्रदूषण एवं सफाई आदि के मामले में दिनांक 24.11.2023 को पारित आदेशों के अनुपालन में आपके उक्त पत्र से प्राप्त संकलित सूचना के कतिपय बिन्दुओं पर उल्लिखित त्रुटियों का निराकरण कर वांछित सूचना पुनः प्रेषित किये जाने के निर्देश दिये गये है, इसी क्रम में इस कार्यालय के कार्य क्षेत्रान्तर्गत हल्द्वानी–काठगोदाम नगर निगम एवं नगर पंचायत लालकुँआ से सम्बन्धित सूचना एवं अधिशासी अभियन्ता, निर्माण शाखा, उत्तराखण्ड पेयजल निगम, भीमताल के पत्रांक 79/204/2 दिनांक 05.01.2024 एवं 352/903/12 दिनांक 31.01.2024 से प्राप्त **नगर पालिका परिषद, भवाली एवं नगर पंचायत भीमताल** की सूचना, अधिशासी अभियन्ता, निर्माण शाखा, उत्तराखण्ड पेयजल निगम, रामनगर के पत्रांक 01/कैम्प–रामनगर/01 दिनांक 05.01.2024 एवं 86/पेयजल–11/01 दिनांक 09.01.2024 से प्राप्त **नगर पालिका परिषद, रामनगर एवं नगर पंचायत, कालाढूंगी** की सूचना एवं परियोजना प्रबन्धक, पी0आई0यू0, यू0यू0एस0डी0ए0, नैनीताल के पत्रांक 15/कार्य सामान्य/01 दिनांक 02.01.2024 से **नगर पालिका परिषद, नैनीताल** की आख्या प्राप्त करने के उपरान्त उल्लेखित त्रुटियों का निराकरण अंकित कर संशोधित सूचना पुनः संकलित कर प्रेषित की जा रही है।

कार्यालय तराई पूर्वी वन प्रभाग
हल्द्वानी
प्राप्ति सं० 8871
पंजी० सं० 26-1
दिनांक .. 3/2/24

संलग्नक :- उपरोक्तानुसार।

भवदीय

2/2/24
(एन0के0 कटारिया)
अधिशासी अभियन्ता

पृ0सं0 एवं दिनांक उपरोक्तानुसार।
प्रतिलिपि :-

1. अध्यक्ष/जिलाधिकारी महोदया, जिला गंगा समिति, नैनीताल को सादर सूचनार्थ प्रेषित।
2. अधिशासी अभियन्ता, निर्माण शाखा, उत्तराखण्ड पेयजल निगम, भीमताल को सूचनार्थ प्रेषित।
3. अधिशासी अभियन्ता, निर्माण शाखा, उत्तराखण्ड पेयजल निगम, रामनगर को सूचनार्थ प्रेषित।
4. परियोजना प्रबन्धक, पी0आई0यू0, यू0यू0एस0डी0ए0, नैनीताल को सूचनार्थ प्रेषित।

Dr. B. S. Bisht
Advocate
HQ-NAINITAL
Regn. No. 20 (UK)/2011

अधिशासी अभियन्ता

2/2/2024

Compliance report of Hon'ble NGT order dated 24.11.2023 in O.A. 200/2014, MC Mehta vs. Union of India and Others District-Nainital (Uttarakhand)

<table>
<tr><th>Issues</th><th>Information Sought</th><th>Implementstion and Compliance</th></tr>
<tr><td rowspan="3">1. Sewage</td><td>(a) Per day generation of sewage in each city/town within the District.</td><td>
<table>
<tr><th>Name of town</th><th>Per day sewage generation</th></tr>
<tr><td>1. Haldwani-Kathgodam</td><td>45.30 MLD</td></tr>
<tr><td>2. Lalkuan</td><td>1.28 MLD</td></tr>
<tr><td>3. Bhimtal</td><td>2.25 MLD</td></tr>
<tr><td>4. Bhowali</td><td>1.5 MLD</td></tr>
<tr><td>5. Ramnagar</td><td>3.3 MLD</td></tr>
<tr><td>6. Kaladhungi</td><td>2.6 MLD</td></tr>
<tr><td>7. Nainital</td><td>14.27 MLD</td></tr>
</table>
</td></tr>
<tr><td>(b) Quantity of sewage treated per day, city/town wise.</td><td>
<table>
<tr><th>Name of town</th><th>Per day treated sewage</th></tr>
<tr><td>1. Haldwani-Kathgodam</td><td>14.00 MLD</td></tr>
<tr><td>2. Lalkuan</td><td>Sewage treated as per frequency of receiving septage</td></tr>
<tr><td>3. Bhimtal</td><td>0.70 MLD</td></tr>
<tr><td>4. Bhowali</td><td>Sewage / Septage treatment facility is not available at present.</td></tr>
<tr><td>5. Ramnagar</td><td>3.1 MLD</td></tr>
<tr><td>6. Kaladhungi</td><td>Sewage / Septage treatment facility is not available at present.</td></tr>
<tr><td>7. Nainital</td><td>a. Harinagar - 0.32 MLD
b. Krishnapur - 0.56 MLD
c. Rusi - 7.00 MLD
d. Narayan Nagar - 0.25 MLD</td></tr>
<tr><td></td><td>Total of town Nainital - 8.13 MLD</td></tr>
</table>
</td></tr>
<tr><td>(c) The number of sewage treatment plant existing and their capacity utilization and mode of disposal in each city/town.</td><td>
<table>
<tr><th>City/Town</th><th>No. of existing sewage treatment plant</th><th>Capacity of STP</th><th>Capacity utilization</th><th>Mode of Disposal</th></tr>
<tr><td>1. Haldwani-Kathgodam</td><td>1</td><td>28 MLD</td><td>14 MLD</td><td>Through existing sewer line</td></tr>
<tr><td>2. Lalkuan .</td><td>1</td><td>10 KLD</td><td>As per frequency of receiving septage</td><td>Septic Tank</td></tr>
<tr><td>3. Bhimtal</td><td>1</td><td>1.25 MLD</td><td>0.70 MLD</td><td>Through existing sewer line</td></tr>
<tr><td>4. Bhowali</td><td>0</td><td>0</td><td>0</td><td>-</td></tr>
<tr><td>5. Ramnagar</td><td></td><td></td><td></td><td></td></tr>
<tr><td>(a) Puchdi</td><td>1</td><td>1.5 MLD</td><td>0.70 MLD</td><td rowspan="2">Through Nala interception / sewer line</td></tr>
<tr><td>(b) Transport Nagar</td><td>1</td><td>7 MLD</td><td>2.40 MLD</td></tr>
<tr><td>6. Kaladhungi</td><td>0</td><td>0</td><td>0</td><td>-</td></tr>
<tr><td>7. Nainital</td><td></td><td></td><td></td><td rowspan="5">Through sewer line</td></tr>
<tr><td>(a) Harinagar</td><td>1</td><td>0.45 MLD</td><td>0.32 MLD</td></tr>
<tr><td>(b) Krishnapur</td><td>1</td><td>0.80 MLD</td><td>0.56 MLD</td></tr>
<tr><td>(c) Rusi</td><td>1</td><td>10 MLD</td><td>7.00 MLD</td></tr>
<tr><td>(d) Narayan Nagar</td><td>1</td><td>0.45 MLD</td><td>0.25 MLD</td></tr>
<tr><td>Total</td><td>9 Nos.</td><td>49.45 MLD & 10 KLD</td><td>25.93 MLD</td><td></td></tr>
</table>
</td></tr>
</table>

Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL

(d) Quantity of discharged treated sewage from each STP, particularly for fecal coliform.

Name of town & location	Quantity of discharged treated sewage	Fecal coliform as per latest reports
1. Haldwani-Kathgodam	14 MLD	170 MPN/100 ML
2. Lalkuan	Sewage treated as per frequency of receiving septage	Data not available
3. Bhimtal	0.70 MLD	Data not available
4. Bhowali	None	None
5. Ramnagar		
(a) Puchdi	0.70 MLD	76 MPN/ 100 ML
(b) Transport Nagar	2.4 MLD	64 MPN/100 ML
6. Kaladhungi	None	None
7. Nainital		
(a) Harinagar	0.32 MLD	98 MPN/100 ML
(b) Krishnapur	0.56 MLD	115 MPN/100 ML
(c) Rusi	7.00 MLD	10^6 MPN/100 ML
(d) Narayan Nagar	0.25 MLD	122 MPN/100 ML

(e) Time bound plan to meet the gap, if any, in generation and treatment of sewage.

1. Haldwani-Kathgodam

There are 60 Wards in Haldwani – Kathgodam City. For 33 Wards (Ward No. 1 to 33) out of these 60 Wards, a 28 MLD Capacity Sewage Treatment Plant was recently constructed at Gola Raukhad, Indra Nagar. This STP is presently under Operation & Maintenance stage. It is receiving 12 to 15 MLD wastewater at present. A 20 KLD Septage Co-Treatment unit is also proposed to be constructed in the same campus. The sewerage network coverage in this area is 52%. For balance 48% areas, following 5 projects have been prepared & sent to Government of Uttarakhand for approval -

% Coverage till now	Plan for balance coverage				Status of scheme
	S. No.	Name of Scheme	Expected % Increase	Sewage generation in MLD	
52% (14 MLD)	1.	Sewerage and Pollution Abatement works in the catchment of Indranagar Nala	12%	4.46	Sanctioning in final stage
	2.	Haripur Colonel, Awas Vikas & Subhash Nagar Sewerage Scheme	4%	0.78	Sanctioning in final stage
	3.	I&D Works of Rajpura Nala & Golcha Compound	5%	1.62	Sent to NMCG, New Delhi
	4.	Haldwani Septage Co-Treatment (20 KLD) of 28 MLD STP, Scheme			
	5.	Rajpura Sewerage Scheme	3%	0.85	Sent to Government of Uttarakhand
	6.	Ranibagh - Kathgodam Sewerage Scheme	6%	0.54	
	7.	Haldwani Bazar, Shivpuri Bhawaniganj & Bareilly Road Sewerage Scheme	5%	0.84	
	8.	Heera Nagar, Rampur Road, Parvtiy Mohalla & Himalaya Farm Sewerage Scheme	5%	0.93	
	9.	Left out area due to Encroachment of Railway Land	8%	3.98	-
Total			48%	14 MLD	

(Annexure - A)

NOTARY GOVT. OF UTTARAKHAND (INDIA) Dr. P. S. Bhakuni Advocate HQ-NAINITAL

			For balance 27 Wards (Ward No. 34 to 60), a 10.5 MLD Capacity Sewage Treatment Plant along with 140 KLD septage Co-Treatment unit is proposed by UUSDA (Uttarakhand Urban Sector Development Agency) near Awla Chowki Gate, Gola Raukhad, Indra Nagar. The project includes sewerage network & septage works in these 27 Wards. This project is presently under Tendering stage. **(Annexure - B)**
		2. Lalkuan	Septage treatment plant is already working.
		3. Bhimtal	There are total 9 wards in Bhimtal. Town sewer lines on laid partially at ward no. 1, 2 & 5 and connected to STP capacity 1.25 MLD. Total Sewer network coverage in Bhimtal town is 15% for partially area in ward no. 2, one project is proposed under Jila Yojana Scheme, Cost - Rs. 1.50 Crore. For balance area, proposal for sewerage / septage system is under consideration.
		4. Bhowali	Proposal for sewerage / septage system is under consideration.
		5. Ramnagar	Sewage treatment plant is already working.
		6. Kaladhungi	Proposal for sewerage / septage system is under consideration.
		7. Nainital	17.5 MLD capacity Sewage Treatment Plant along with sewerage network is under construction through UUSDA, Nainital which is expected to be completed by May 2025.

Executive engineer
PIU (AMRUT),
Uttarakhand Peyjal Nigam,
Haldwani

NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL Regd. No. 30 (UK)10/2011 UTTARAKHAND (INDIA)

ATTESTED
(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

ANNEXURE– A (1/1)

बैठक/आवश्यक/महत्वपूर्ण
संख्या– 84 /150/रा0यो0आ0/2014 टी0सी0–11

प्रेषक,

तकनीकी विशेषज्ञ,
राज्य योजना आयोग,
उत्तराखण्ड शासन।

सेवा में,

1. अपर मुख्य सचिव, वित्त विभाग, उत्तराखण्ड शासन।
2. सचिव, मत्स्य विभाग, उत्तराखण्ड शासन।
3. सचिव, नियोजन विभाग, उत्तराखण्ड शासन।
4. सचिव, पेयजल विभाग, उत्तराखण्ड शासन।
5. सचिव, लोक निर्माण विभाग, उत्तराखण्ड शासन।
6. प्रमुख अभियन्ता, लोक निर्माण विभाग, देहरादून।

राज्य योजना आयोग। देहरादूनः दिनांक 23, जनवरी, 2024

विषयः– व्यय वित्त समिति की प्रस्तावित बैठक के सम्बन्ध में।

विचारणीय प्रकरण :–

क्र0 सं0	योजना का नाम	लागत (रू0 लाख में)	स्थान	अध्यक्षता	बैठक हेतु तिथि एवं समय
01	02	03	04	05	06
1	जनपद ऊधमसिंहनगर के सितारगंज प्रहलाद पलसिया में प्रस्तावित राज्य स्तरीय इन्टीग्रेटेड एक्वापार्क की स्थापना।	5339.00	मुख्य सचिव सभा कक्ष	मुख्य सचिव महोदय	24 जनवरी, 2024 सायं 3.30 बजे
2	Sewerage and Pollution Abatement Works in the Catchment of Indranagar Nala in Haldwani, Kathgodam Nagar Nigam Area	2334.90			
3	राज्य योजना वर्ष 2023–24 अन्तर्गत जनपद पौड़ी गढ़वाल के विधानसभा क्षेत्र कोटद्वार में पिल्लरखाल– सिगड्डी– कोटद्वार– पाखरो मुख्य जिला मार्ग के कि0मी0 08 मोटाढ़ाक के निकट मालन नदी पर 325.00 मी0 विस्तार के पूर्वनिर्मित आर0सी0सी0 बॉयडेड स्लैब सेतु का सुरक्षात्मक कार्य।	2618.25			

महोदय,

उपर्युक्त प्रस्ताव को प्रशासकीय विभाग द्वारा व्यय वित समिति के समक्ष प्रस्तुत किये जाने का अनुरोध किया गया है।

2– अतः उक्त क्रम में मुझे आपसे यह अनुरोध करने की अपेक्षा की गयी है कि उक्त प्रस्तावों पर व्यय वित समिति में विचार–विमर्श हेतु उक्तानुसार निर्धारित तिथि एवं समय पर बैठक में प्रतिभाग करने का कष्ट करें।

भवदीय

(जी0पी0 पंत)
तकनीकी विशेषज्ञ

NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL GOVT. OF UTTARAKHAND (INDIA)

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(2/14)

संo 84 /150/राoयोoअoप्रo/2014 टीoसीo–II–तद्दिनांक

प्रतिलिपि – निम्न को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

1. वरिष्ठ प्रमुख निजी सचिव, मुख्य सचिव को मुख्य सचिव महोदय के संज्ञानार्थ प्रेषित।
1. अपर सचिव, नियोजन विभाग, उत्तराखण्ड शासन।
2. मुख्य महाप्रबन्धक, निर्माण विंग, उत्तराखण्ड पेयजल निगम, देहरादून।
3. प्रमुख अभियन्ता, सिंचाई विभाग, उत्तराखण्ड शासन।
4. मुख्य अभियन्ता, लोक निर्माण विभाग, गढ़वाल क्षेत्र, उत्तराखण्ड शासन।
5. सलाहकार (अभियन्त्रण), राज्य योजना आयोग, उत्तराखण्ड शासन।
6. टीoएoसीo, नियोजन विभाग को इस आशय से प्रेषित कि सम्बन्धित अधिकारी उक्त बैठक में अनिवार्यतः प्रतिभाग करना सुनिश्चित करें।

तकनीकी विशेषज्ञ

ATTESTED
28/2/2024
(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL

28/2/2024

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सचिव, पेयजल एवं स्वच्छता विभाग, उत्तराखण्ड शासन की अध्यक्षता में 07 पेयजल/जलोत्सरण योजनाओं के सम्बन्ध में विभागीय समिति की दिनांक 03 जनवरी, 2024 को अपरान्ह 03:30 बजे सम्पन्न बैठक का कार्यवृत्त –

उपस्थिति :–

1. श्रीमती दीप्ति मिश्रा, उप सचिव, वित्त विभाग, उत्तराखण्ड शासन।
2. श्रीमती नीलिमा गर्ग, मुख्य महाप्रबन्धक, उत्तराखण्ड जल संस्थान, देहरादून।
3. श्री एच0के0 पाण्डे, सलाहकार, नियोजन, उत्तराखण्ड शासन।
4. श्री संजय सिंह, मुख्य अभियन्ता (गढ़वाल), उत्तराखण्ड पेयजल निगम, पौड़ी।
5. श्री मनीष सेमवाल, सचिव (अप्रैजल), उत्तराखण्ड जल संस्थान, देहरादून।
6. मोहम्मद वसीम अहमद, अधीक्षण अभियन्ता, उत्तराखण्ड पेयजल निगम, देहरादून।
7. श्री विजय कुमार पाल, अधिशासी अभियन्ता, उत्तराखण्ड पेयजल निगम, चम्पावत।
8. श्री ए0के0 कटारिया, अधिशासी अभियन्ता, उत्तराखण्ड पेयजल निगम, हल्द्वानी।
9. श्री नरेश पाल, अधिशासी अभियन्ता, उत्तराखण्ड जल संस्थान, देवप्रयाग।
10. श्री दीपक नौटियाल, अधिशासी अभियन्ता, उत्तराखण्ड पेयजल निगम, देहरादून।

बैठक में निम्न योजनाओं के सम्बन्ध में विचार–विमर्श किया गया :–

1– जनपद टिहरी गढवाल में देवप्रयाग शाखा की कोटेश्वर सिल्काखाल पम्पिंग पेयजल योजना अन्तर्गत जलापूर्ति हेतु ऊर्जा कुशल मल्टी स्टेज सेंटीफ्यूगल पम्प सेटों के क्रय एवं अधिष्ठान के कार्यों की योजना –

योजना के सम्बन्ध में उत्तराखण्ड जल संस्थान द्वारा अवगत कराया गया है कि जनपद टिहरी गढवाल में देवप्रयाग शाखा की कोटेश्वर सिल्काखाल पम्पिंग पेयजल योजना अन्तर्गत जलापूर्ति हेतु ऊर्जा कुशल मल्टी स्टेज सेंटीफ्यूगल पम्प सेटों के क्रय एवं अधिष्ठान के कार्यों को योजना हेतु ₹ 183.18 लाख का प्राक्कलन तैयार किया गया है।

(ii) योजना के सम्बन्ध में उत्तराखण्ड जल संस्थान द्वारा अवगत कराया गया कि विकासखण्ड देवप्रयाग के अन्तर्गत कोटेश्वर–सिल्काखाल ग्रामीण पम्पिंग पेयजल योजना उत्तराखण्ड जल संस्थान द्वारा अनुरक्षित है, इस योजना का निर्माण वर्ष, 2006–2007 में हुआ था, यह योजना गंगा नदी श्रोत से निर्मित है। उक्त योजना से 9 ग्राम पंचायतें लाभान्वित हैं। वर्तमान में योजना से लाभान्वित जनसंख्या 11008 (फ्लो0 जन0 5000 को छोड़ते हुये) है तथा श्रोत का श्राव 1500 एल0पी0एम0 है। इस प्रकार योजना से 55.94 एल0पी0सी0डी की दर से पेयजल उपलब्ध कराया जा रहा था, किन्तु पम्प–मोटर के पुराने एवं दक्षता क्षमता कम होने के कारण 35 एल0पी0सी0डी0 की दर से पेयजल आपूर्ति की जा रही है। ग्रीष्मकाल में पेयजल की माँग बढ़ने के कारण टैंकरों द्वारा जलापूर्ति करनी पड़ती है। यहां पर अन्य कोई गुरूत्व पेयजल श्रोत उपलब्ध नहीं है, यूनिवर्सिटी ऑफ पेट्रोलियम एंड एनर्जीस्टडीज (यूपीईएस) द्वारा कोटेश्वर–सिल्काखाल ग्रामीण पम्पिंग पेयजल योजना के मौजूदा पम्पिंग प्लांट, का ऑडिट किया गया, उनके अध्ययन तथा डेटा के आधार पर पाया गया कि वर्तमान में मौजूदा पम्पिंग प्लांट बहुत अधिक ऊर्जा की खपत कर रहे है, पम्प–मोटर की दक्षता क्षमता कम होने के कारण, पम्प–मोटरों को 16 घण्टे के स्थान पर 19–20 घण्टे संचालित करने के उपरान्त जलापूर्ति का भरा जा रहा है, इन पम्प–मोटरों को लगातार रखरखाव की आवश्यकता हो रही है, जिसके परिणामस्वरूप इनके रखरखाव में अधिक धनराशि व्यय हो रही है। उनके द्वारा

Dr. B. S. Bhakuni Advocate HQ-MAINIT Allahabad GOVT. OF UTTARAKHAND NOTARY

01/2024

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विद्युत खपत में कमी लाये जाने हेतु उक्त पुराने पम्प–मोटरों के स्थान पर नये कुशल मल्टी स्टेज सेंट्रीफ्यूगल पम्प सेटों का अधिष्ठापन किये जाने की आवश्यकता से अवगत कराया गया है। जिसके परिणामस्वरूप योजना से लाभान्वित निवासियों को ग्रामीण मानकों के अनुसार पेयजल उपलब्ध कराने हेतु 05 नग ऊर्जा कुशल मल्टी स्टेज सेंटीफ्यूगल पम्प–मोटरों सेटों, स्लुइस वाल्व, स्टार्टर एवं कन्ट्रोल पैनल की आपूर्ति एवं अधिष्ठापन किये जाने का प्राविधान किया गया है।

(iii) विभागीय समिति के संज्ञान में यह तथ्य आया है कि उक्त योजना में उत्तराखण्ड जल संस्थान द्वारा सुपर विजन चार्जेज 12.50 प्रतिशत लिया गया है जबकि योजना के अन्तर्गत मुख्य कार्य पम्प मोटरों की अधिप्राप्ति का है।

अतः समिति द्वारा सम्यक विचारोपरान्त इस प्रतिबन्ध के साथ योजना को अनुमोदित किया गया है कि उत्तराखण्ड जल संस्थान द्वारा पम्प मोटरों की अधिप्राप्ति की लागत पर सुपर विजन चार्जेज 12.50 प्रतिशत लिये जाने के सम्बन्ध में स्थिति स्पष्ट की जानी होगी।

2– जनपद टिहरी गढवाल में देवप्रयाग शाखा की भरपूर पम्पिंग पेयजल योजनों के अन्तर्गत जलापूर्ति हेतु ऊर्जा कुशल मल्टी स्टेज सेंटीफ्यूगल पम्प सेटों के क्रय एवं अधिष्ठान के कार्यों की योजना –

योजना के सम्बन्ध में उत्तराखण्ड जल संस्थान द्वारा अवगत कराया गया है कि जनपद टिहरी गढवाल में देवप्रयाग शाखा की भरपूर पम्पिंग पेयजल योजनों के अन्तर्गत जलापूर्ति हेतु ऊर्जा कुशल मल्टी स्टेज सेंटीफ्यूगल पम्प सेटों के क्रय एवं अधिष्ठान के कार्यों की योजना हेतु ₹ 196.49 लाख का प्राक्कलन तैयार किया गया है।

(ii) योजना के सम्बन्ध में उत्तराखण्ड जल संस्थान द्वारा अवगत कराया गया कि विकासखण्ड देवप्रयाग के अन्तर्गत भरपूर ग्रामीण पम्पिंग पेयजल योजना उत्तराखण्ड जल संस्थान द्वारा अनुरक्षित है, इस योजना का निर्माण वर्ष, 1994–95 में हुआ था, यह योजना गंगा नदी तथा भरपूर श्रोत से निर्मित है। योजना अपनी डिजायन अवधि पूर्ण कर चुकी है। उक्त योजना से 36 ग्राम पंचायतें लाभान्वित हैं। वर्तमान में योजना से 8864 जनसंख्या लाभान्वित है तथा श्रोत का श्राव 1000 एल0पी0एम0 है। इस प्रकार योजना से 67.68 एल0पी0सी0डी की दर से पेयजल उपलब्ध कराया जा रहा था, किन्तु पम्प–मोटर के पुराने एवं दक्षता क्षमता कम होने के कारण 35 एल0पी0सी0डी0 की दर से पेयजल आपूर्ति की जा रही है। ग्रीष्मकाल में पेयजल की माँग बढ़ने के कारण टैंकरों द्वारा जलापूर्ति करनी पड़ती है। यहां पर अन्य कोई गुरूत्व पेयजल श्रोत उपलब्ध नहीं है, यूनिवर्सिटी ऑफ पेट्रोलियम एंड एनर्जीस्टडीज (यूपीईएस) द्वारा भरपूर ग्रामीण पम्पिंग पेयजल योजना के मौजूदा पम्पिंग प्लांट, का ऑडिट किया गया, उनके अध्ययन तथा डेटा के आधार पर पाया गया कि वर्तमान में मौजूदा पम्पिंग प्लांट बहुत अधिक ऊर्जा की खपत कर रहे है, पम्प–मोटर की दक्षता क्षमता कम होने के कारण पम्प–मोटरों को 16 घण्टे के स्थान पर 19–20 घण्टे संचालित करने के उपरान्त जलाशयों का भरा जा रहा है, इन पम्प–मोटरों को लगातार रखरखाव की आवश्यकता हो रही है, जिसके परिणामस्वरूप इनके रखरखाव में अधिक धनराशि व्यय हो रही है। उनके द्वारा विद्युत खपत में कमी लाये जाने हेतु उक्त पुराने पम्प–मोटरों के स्थान पर नये कुशल मल्टी स्टेज सेंट्रीफ्यूगल पम्प सेटों का अधिष्ठापन किये जाने की आवश्यकता से अवगत कराया गया है। जिसके परिणामस्वरूप योजना से लाभान्वित निवासियों को ग्रामीण मानकों के अनुसार पेयजल उपलब्ध कराने हेतु 07 नग ऊर्जा कुशल

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मल्टी स्टेज सैंटीफ्यूगल पम्प–मोटरों सेटों, स्लुइस वाल्व, स्टार्टर एवं कन्ट्रोल पैनल की आपूर्ति एवं अधिष्ठापन किये जाने का प्राविधान किया गया है।

(iii) विभागीय समिति के संज्ञान में यह तथ्य आया है कि वर्तमान में जल जीवन मिशन कार्यक्रम के अन्तर्गत उत्तराखण्ड पेयजल निगम द्वारा भरपूर पम्पिंग योजना (लागत रू0 3312.44 लाख) का निर्माण किया जा रहा है जोकि अपने अन्तिम चरण में है। उत्तराखण्ड पेयजल निगम द्वारा अवगत कराया गया कि उक्त योजना के बनने के पश्चात् उत्तराखण्ड जल संस्थान द्वारा अनुरक्षित योजना निष्प्रयोज्य हो जायेगी इसलिए उत्तराखण्ड जल संस्थान द्वारा अनुरक्षित योजना में पम्प मोटर सैटों के अधिष्ठापन की आवश्यकता नहीं है। इस सम्बन्ध में समिति द्वारा उत्तराखण्ड पेयजल निगम एवं उत्तराखण्ड जल संस्थान के अधिकारियों को यह निर्देश दिये गये कि उक्त योजना का संयुक्त निरीक्षण कर निरीक्षण आख्या के आधार पर प्रस्ताव शासन को उपलब्ध कराया जायेगा तदोपरान्त् ही प्रस्ताव पर विचार किया जायेगा। उक्त निर्देशों के साथ योजना का स्थगित किया गया।

3– मा0 मुख्यमंत्री घोषणा सं0 1211/2021 के परिपालन में देहरादून शहर के जैन प्लाट वाणी विहार पेयजल योजना –

योजना के सम्बन्ध में उत्तराखण्ड पेयजल निगम द्वारा मा0 मुख्यमंत्री घोषणा संख्या–1211/2021 के परिपालन में देहरादून शहर के जैन प्लाट वाणी विहार पेयजल योजना हेतु ₹ 891.07 लाख का प्राक्कलन तैयार किया गया है, जिस पर टी0ए0सी0 नियोजन विभाग द्वारा ₹ 888.51 लाख की धनराशि औचित्यपूर्ण पायी है।

(ii) योजना के सम्बन्ध में उत्तराखण्ड पेयजल निगम द्वारा अवगत कराया गया कि जनपद देहरादून के विधान सभा क्षेत्र रायपुर की जैन प्लॉट वाणी विहार पेयजल योजना में वर्तमान में वाणी विहार वार्ड के वाणी विहार, शान्ति विहार एवं जैन प्लॉट क्षेत्र, बद्रीश कॉलोनी वार्ड का शिवपुरी क्षेत्र एवं भगत सिंह कालोनी वार्ड का भगत सिंह कॉलोनी क्षेत्र में पूर्व निर्मित योजनाओं से मानकों के अनुसार पेयजल उपलब्ध न होने के कारण पेयजल योजना का निर्माण प्रस्तावित है। योजना के अन्तर्गत वितरण प्रणाली के माध्यम से पेयजल उपलब्ध कराया जाना प्रस्तावित है।

(iii) अधिशासी अभियन्ता, उत्तराखण्ड पेयजल निगम द्वारा प्रस्तुतीकरण में यह अवगत कराया गया कि उक्त योजना के अन्तर्गत डी0आई0 पाईप का प्रयोग किया जा रहा है जिस पर विभागीय समिति द्वारा आपत्ति व्यक्त की गयी साथ ही विभागीय समिति द्वारा जैन प्लॉट के अतिक्रमित क्षेत्रों के सम्बन्ध में भी जिज्ञासा की गयी कि संदर्भित योजना उक्त अतिक्रमित क्षेत्रों को आच्छादित तो नहीं कर रही है। विभागीय समिति द्वारा उक्त के सम्बन्ध में स्थिति स्पष्ट कर योजना को पुनः परीक्षण किये जाने के निर्देश दिये गये तद्नुसार योजना को स्थगित किया गया।

4– जनपद नैनीताल के विकासखण्ड हल्द्वानी की हरिपुर कर्नल, आवास विकास एवं सुभाष नगर वार्ड के अवशेष भाग हेतु सीवरेज योजना –

योजना के सम्बन्ध में उत्तराखण्ड पेयजल निगम द्वारा जनपद नैनीताल के विकासखण्ड हल्द्वानी की हरिपुर कर्नल, आवास विकास एवं सुभाष नगर वार्ड के अवशेष भाग हेतु सीवरेज योजना हेतु ₹ 1011.10 लाख का प्राक्कलन तैयार किया गया है, जिस पर टी0ए0सी0 नियोजन विभाग द्वारा ₹ 912.21 लाख की धनराशि औचित्यपूर्ण पायी है।

(ii) योजना के सम्बन्ध में उत्तराखण्ड पेयजल निगम द्वारा अवगत कराया गया कि योजना से 1424 परिवारों को सीवर संयोजन प्रदान किया जायेगा, जिस कारण

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हल्द्वानी–काठगोदाम नगर निगम हेतु क्षेत्र में भारत सरकार के द्वारा सीवरेज मद में प्रस्तावित Indicators यथा Coverage Status में लगभग 1.18 प्रतिशत की तथा Efficiency collection of sewage में 1.18 प्रतिशत की वृद्धि होगी। योजना से हल्द्वानी शहर के अन्तर्गत हरिपुर कर्नल, आवास विकास एवं सुभाष नगर के अवशेष क्षेत्र के लक्षित 1424 परिवार/7122 जनसंख्या, क्षेत्र में स्थित प्रतिष्ठानों/कार्यालय को सीवरेज नेटवर्क से जोड़ा जायेगा।

(iii) योजना से हरिपुर कर्नल, आवास विकास एवं सुभाष नगर के अवशेष क्षेत्रों के सीवेज का Existing ट्रंक सीवर में जोड़ते हुए 28 एम0एल0डी0 एस0टी0पी0 में शोधन हेतु ले जाया जायेगा। योजना के अन्तर्गत 150 mm dia से 200 mm dia RCC NP3 पाईप का प्रयोग किया जायेगा।

अवगत कराना है कि योजना के प्राक्कलन में 12 प्रतिशत जी0एस0टी0 आगणित किया गया है जबकि वर्तमान में जी0एस0टी0 की दर 18 प्रतिशत हो गयी है। अतः समिति द्वारा इस प्रतिबन्ध के साथ योजना को अनुमोदित किया गया कि उक्त योजना के प्राक्कलन में जी0एस0टी0 को 18 प्रतिशत की दर से आगणित कर प्राक्कलन उपलब्ध कराया जायेगा। अतः सम्यक विचारोपरान्त मानको/गुणवत्ता सुनिश्चित करने के निर्देश के साथ योजना को अनुमोदित किया गया।

5– मा0 मुख्यमंत्री घोषणा सं0 708/2021 के परिपालन में जनपद चम्पावत के विकासखण्ड चम्पावत की श्री ब्यानधूरा मेला क्षेत्र पेयजल योजना –

योजना के सम्बन्ध में उत्तराखण्ड पेयजल निगम द्वारा अवगत कराया गया है कि मा0 मुख्यमंत्री घोषणा सं0 708/2021 के परिपालन में जनपद चम्पावत के विकासखण्ड चम्पावत की श्री ब्यानधूरा मेला क्षेत्र पेयजल योजना हेतु ₹ 358.18 लाख का प्राक्कलन तैयार किया गया है।

(ii) योजना के सम्बन्ध में उत्तराखण्ड पेयजल निगम द्वारा अवगत कराया गया कि श्री ब्यानधुरा मन्दिर उत्तर भारत का एक प्रसिद्ध धाम है जहां वर्तमान में 20,000 से अधिक श्रद्धालु मेला अवधि में प्रतिदिन दर्शन हेतु आते है। मेला अवधि में आने वाल श्रद्धालुओं हेतु पेयजल आवश्यकता हेतु श्री ब्यानधुरा मेला क्षेत्र पेयजल योजना का निर्माण किया जाना आवश्यक है। वर्तमान समय में पूर्व निर्मित पेयजल योजना में श्रोत सूख जाने एवं योजना क्षतिग्रस्त हो जाने के कारण श्रद्धालुओं को पेयजल आपूर्ति नहीं हो पा रही है, जिसका समाधान इस योजना के निर्माण के उपरान्त हो जायेगा।

(iii) योजना के अन्तर्गत धारापानी गधेरे से 01 फैन्चवैल का निर्माण कर गुरूत्व द्वारा 1615 कि0मी0 लम्बाई की गुरूत्व प्रणाली द्वारा 70 कि0ली0 के मुख्य जलाशय तक पेयजल लाया जायेगा तत्पश्चात् 1.77 कि0मी0 वितरण प्रणाली द्वारा 05 नग टैंक टाइप स्टैण्ड पोस्ट से पेयजल आपूर्ति की जायेगी एवं सम्पूर्ण मेला क्षेत्र को पेयजल से लाभान्वित किया जाना प्रस्तावित है।

अतः समिति द्वारा सम्यक विचारोपरान्त मानको/गुणवत्ता सुनिश्चित करने के निर्देश के साथ योजना को अनुमोदित किया गया।

6– मा0 मुख्यमंत्री घोषणा सं0 363/2023 के परिपालन में जनपद देहरादून की रायपुर शाखा के अन्तर्गत ओली रायपुर वार्ड नं0 66 जलापूर्ति योजना में ट्यूबवैल, सी0डब्ल्यू0आर0 और पाईप लाईन निर्माण की योजना –

योजना के सम्बन्ध में उत्तराखण्ड जल संस्थान द्वारा अवगत कराया गया है कि मा0 मुख्यमंत्री घोषणा सं0 363/2023 के परिपालन में जनपद देहरादून की रायपुर शाखा

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Regd. No. 20 of 2011

के अन्तर्गत ओली रायपुर वार्ड नं0 66 जलापूर्ति योजना में ट्यूबवैल, सी0डब्ल्यू0आर0 और पाईप लाईन निर्माण की योजना हेतु ₹ 492.91 लाख का प्राक्कलन तैयार किया गया है।

(ii) योजना के सम्बन्ध में उत्तराखण्ड जल संस्थान द्वारा अवगत कराया गया कि वर्ष 1978 में 14/20 पेयजल योजना के अन्तर्गत रायपुर क्षेत्र के अपर रायपुर, लोअर रायपुर, खादर, किद्दूवाला, नेहरूग्राम, रांझावाला आदि क्षेत्र में जलापूर्ति की गयी। वर्ष 2007 में रायपुर पेयजल योजना का पुर्ननिर्माण किया गया जिसमें अपर रायपुर, लोअर रायपुर, खादर, किद्दूवाला, नेहरूग्राम, रांझावाला आदि क्षेत्रों हेतु जलापूर्ति की गयी। जिसके अन्तर्गत रायपुर में 02 नलकूपों व 01 जलाशय का निर्माण कर उपरोक्त क्षेत्रों में जलापूर्ति करायी गयी। योजना के द्वारा रायपुर में स्थित विभिन्न कालोनियों में विभिन्न व्यास की जी0आई0 पाईप लाईन बिछाकर जलापूर्ति करायी गयी। वर्तमान समय में उपरोक्त क्षेत्रों के अतिरिक्त कई नई आवासीय कलोनियों मेहतावाला, औली बस्ती आदि क्षेत्र में पेयजल व्यवस्था हेतु नई योजना का निर्माण कराया जाना अत्यन्त आवश्यक हो गया है। वर्तमान में उक्त नई आवासीय कालोनियों में पाईप लाईन व पेयजल श्रोत उपलब्ध न होने के कारण कालोनी के निवासियों द्वारा निजी पेयजल टैंकरों के माध्यम से स्वयं के द्वारा जलापूर्ति की जा रही है। जिसके कारण उपभोक्ताओं को पेयजल आपूर्ति हेतु अधिक मात्रा में धन की हानि हो रही है एवं कम मात्रा में पेयजल प्राप्त हो रहा है।

(iii) योजना के अन्तर्गत औली क्षेत्र पहाड़ी पर स्थित एवं साल के जंगल के मध्य में स्थित होने के कारण उक्त क्षेत्र में पेयजल समस्या के निदान हेतु नलकूप निर्माण के लिए हाईड्रोलाजिकल सर्वे कराया गया। सर्वे रिपोर्ट के अनुसार उक्त क्षेत्र में भूमिगत जल उपलब्ध नही है तत्पश्चात क्षेत्र को पेयजल से आच्छादित करने हेतु केसरवाला स्थित विभागीय भूमि पर नलकूप निर्माण किया जाना प्रस्तावित है। योजना के अन्तर्गत निम्न कार्य प्रस्तावित हैं:-

क्र0 सं0	प्रस्तावित कार्य	विवरण	लागत
1.	सतही जलाशय निर्माण	01 नग, 200 कि0ली0 क्षमता	2116937.70
2.	नलकूप निर्माण/ पम्पिंग प्लांट	01 नग, 1000 एल0पी0एम0 क्षमता	9712419.02
3.	डिस्ट्रिव्यूसन मेन/राईजिंग मेन	विभिन्न व्यासों की 7632.00 मीटर	27355915.37
4.	पम्प हाउस	01 नग	636020.53
5.	स्टोर रूम	01 नग	1248252.79
6	चाहरदीवारी, अप्रोच रोड़ आदि	249 मी0	2312872.71
7.	हायरिंग आफ गोडाउन	01 नग	42480.00
		कुल	43423998.12
		कन्टीनजेन्सी 3 प्रतिशत	1102164.56
		लेबर सेस 1 प्रतिशत	316787.93
		Sub Total	44842950.62
		सेन्टेज 12.50 प्रतिशत	4448301.97
		कुल योग	49291152.54
		Say	492.91(लाख)

(iv) विभागीय समिति द्वारा इस प्रतिबन्ध के साथ योजना का अनुमोदित किया गया कि योजना के घटकों में से उक्त तालिका के क्रमांक–07 में उल्लिखित हायरिंग आफ गोडाउन की आवश्यकता न होने के कारण उसका निर्माण नहीं किया जायेगा साथ ही

Dr. P. S. Bhakuni Advocate HQ-NAINITAL Regd. No. 20 (5)(10)/2011

(8/14)

के अन्तर्गत ओली रायपुर वार्ड नं0 66 जलापूर्ति योजना में ट्यूबवैल, सी0डब्ल्यू0आर0 और पाईप लाईन निर्माण की योजना हेतु ₹ 492.91 लाख का प्राक्कलन तैयार किया गया है।

(ii) योजना के सम्बन्ध में उत्तराखण्ड जल संस्थान द्वारा अवगत कराया गया कि वर्ष 1978 में 14/20 पेयजल योजना के अन्तर्गत रायपुर क्षेत्र के अपर रायपुर, लोअर रायपुर, खादर, किद्दूवाला, नेहरूग्राम, रांझावाला आदि क्षेत्र में जलापूर्ति की गयी। वर्ष 2007 में रायुपर पेयजल योजना का पुर्ननिर्माण किया गया जिसमें अपर रायपुर, लोअर रायपुर, खादर, किद्दूवाला, नेहरूग्राम, रांझावाला आदि क्षेत्रों हेतु जलापूर्ति की गयी। जिसके अन्तर्गत रायपुर में 02 नलकूपों व 01 जलाशय का निर्माण कर उपरोक्त क्षेत्रों में जलापूर्ति करायी गयी। योजना के द्वारा रायपुर में स्थित विभिन्न कालोनियों में विभिन्न व्यास की जी0आई0 पाईप लाईन बिछाकर जलापूर्ति करायी गयी। वर्तमान समय में उपरोक्त क्षेत्रों के अतिरिक्त कई नई आवासीय कलोनियों मेहतावाला, औली बस्ती आदि क्षेत्र में पेयजल व्यवस्था हेतु नई योजना का निर्माण कराया जाना अत्यन्त आवश्यक हो गया है। वर्तमान में उक्त नई आवासीय कालोनियों में पाईप लाईन व पेयजल श्रोत उपलब्ध न होने के कारण कालोनी के निवासियों द्वारा निजी पेयजल टैंकरों के माध्यम से स्वयं के द्वारा जलापूर्ति की जा रही है। जिसके कारण उपभोक्ताओं को पेयजल आपूर्ति हेतु अधिक मात्रा में धन की हानि हो रही है एवं कम मात्रा में पेयजल प्राप्त हो रहा है।

(iii) योजना के अन्तर्गत औली क्षेत्र पहाड़ी पर स्थित एवं साल के जंगल के मध्य में स्थित होने के कारण उक्त क्षेत्र में पेयजल समस्या के निदान हेतु नलकूप निर्माण के लिए हाईड्रोलाजिकल सर्वे कराया गया। सर्वे रिपोर्ट के अनुसार उक्त क्षेत्र में भूमिगत जल उपलब्ध नही है तत्पश्चात क्षेत्र को पेयजल से आच्छादित करने हेतु केसरवाला स्थित विभागीय भूमि पर नलकूप निर्माण किया जाना प्रस्तावित है। योजना के अन्तर्गत निम्न कार्य प्रस्तावित हैं:-

क्र0 सं0	प्रस्तावित कार्य	विवरण	लागत
1.	सतही जलाशय निर्माण	01 नग, 200 कि0ली0 क्षमता	2116937.70
2.	नलकूप निर्माण/ पम्पिंग प्लांट	01 नग, 1000 एल0पी0एम0 क्षमता	8712419.02
3.	डिस्ट्रिब्यूसन मेन/राईजिंग मेन	विभिन्न व्यासों की 7632.00 मीटर	27355915.37
4.	पम्प हाउस	01 नग	635020.53
5.	स्टोर रूम	01 नग	1248252.79
6	चाहरदीवारी, अप्रोच रोड़ आदि	249 मी0	2312872.71
7.	हायरिंग आफ गोडाउन	01 नग	42480.00
		कुल	43423898.12
		कन्टीनजेन्सी 3 प्रतिशत	1102164.56
		लेबर सेस 1 प्रतिशत	316787.93
		Sub Total	44842850.62
		सैन्टेज 12.50 प्रतिशत	4449301.97
		कुल योग	49291152.54
		Say	492.91(लाख)

(iv) विभागीय समिति द्वारा इस प्रतिबन्ध के साथ योजना का अनुमोदित किया गया कि योजना के घटकों में से उक्त तालिका के क्रमांक-07 में उल्लिखित हायरिंग आफ गोडाउन की आवश्यकता न होने के कारण उसका निर्माण नहीं किया जायेगा साथ ही

NOTARY Dr. P. S. Bhakuni Adv. Distt. HQ-NAINITAL R. No. 30 (3)10/2011 GOVT. OF UTTARAKHAND INDIA

(9/24)

तालिका के क्रमांक–04 एवं 05 में उल्लिखित पम्प हाउस एवं स्टोररूम का एकाकृत निर्माण कर उसकी लागत को तदनुसार संशोधित कर प्राक्कलन शासन को उपलब्ध कराया जायेगा।

7– **जनपद नैनीताल हल्द्वानी–काठगोगाम नगर निगम क्षेत्रान्तर्गत** Sewerage and Pollution Abatement Works in the catchment of Indranagar Nala **योजना –**

योजना के सम्बन्ध में उत्तराखण्ड पेयजल निगम द्वारा जनपद नैनीताल हल्द्वानी–काठगोगाम नगर निगम क्षेत्रान्तर्गत Sewerage and Pollution Abatement Works in the catchment of Indranagar Nala योजना हेतु ₹ 2454.13 लाख का प्राक्कलन तैयार किया गया है, जिस पर टी0ए0सी0 नियोजन विभाग द्वारा ₹ 2334.90 लाख की धनराशि औचित्यपूर्ण पायी है।

(ii) योजना के सम्बन्ध में उत्तराखण्ड पेयजल निगम द्वारा अवगत कराया गया कि योजना से 8098 परिवारों को सीवर संयोजन प्रदान किया जायेगा जिस कारण हल्द्वानी–काठगोदाम नगर निगम क्षेत्र में भारत सरकार के द्वारा सीवरेज मद में प्रस्तावित Indicators यथा Coverage Status में लगभग 12.00 प्रतिशत की तथा Efficiency collection of sewage में 12.00 प्रतिशत की वृद्धि होगी। योजना से हल्द्वानी–काठगोदाम नगर निगम के अन्तर्गत वार्ड नं0 21–23, 26–31 क्षेत्र के सीवेज को प्रस्तावित Existing ट्रंक सीवर में जोड़ते हुए निर्माणाधीन 28 एम0एल0डी0 एस0टी0पी0 में शोधन हेतु ले जाया जायेगा। योजना के अन्तर्गत 150 mm dia से 600 mm dia RCC NP3 पाईप का प्रयोग किया जायेगा।

अतः समिति द्वारा सम्यक विचारोपरान्त मानकों/गुणवत्ता सुनिश्चित करने के निर्देश के साथ योजना को अनुमोदित किया गया।

अन्त में बैठक में उपस्थित सभी प्रतिभागियों के प्रति धन्यवाद ज्ञापित करते हुए बैठक का समापन किया गया।

Signed by Karmendra Singh
Date: 06-01-2024 16:37:27
(कर्मेन्द्र सिंह)
अपर सचिव।

उत्तराखण्ड शासन
पेयजल एवं स्वच्छता अनुभाग–2
संख्या /उन्तीस(2)/2024–2(149पे0)/2016
देहरादून दिनांक 08. जनवरी, 2024

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :–

1. प्रबन्ध निदेशक, उत्तराखण्ड पेयजल निगम, देहरादून।
2. मुख्य महाप्रबन्धक, उत्तराखण्ड जल संस्थान, देहरादून।
3. सम्बन्धित अधिकारीगण।
4. गार्ड फाईल।

आज्ञा से
Signed by Dhruve Mohan Singh Rana
Date: 08-01-2024 10:24:51
(डी0एम0एस0 राणा)
संयुक्त सचिव।

ATTESTED
08/01/2024
(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

Dr. P. S. Bhakuni Advocate HQ-NAINITAL

08/01/2024

31219

10/14

State Program Management Group
Namami Gange
Dehradun, Uttarakhand

Letter No. 02 */SPMG/Namami Gange/I&D and STP* *Dated:* 02/01/2024

Ganga's purity is our responsibility
Save Ganga, Save Water, Save Life

To,

The Director General,
National Mission for Clean Ganga,
New Delhi.

Sub.: Regarding Interception & Diversion works of Nallas & Drains discharging in Gaula River at Haldwani-Kathgodam Nagar Nigam area, Distt. Nainital.

Respected Sir,

Kind reference is invited to SPMG, Uttarakhand letter no. 276/SPMG/Namami Gange/I&D and STP dated 15.05.2023 vide which the Detail Project Report for the project of "Interception & Diversion (I&D) of Nallas discharging in Gaula River at Haldwani Kathgodam Nagar Nigam area (Rajpura Area)" was submitted for approval under Namami Gange program.

2. After evaluation of the DPR, a visit was done by representatives of NMCG on 8th - 9th June, 2023 of the proposed project area and observations were received on the DPR. In this context, Uttarakhand Peyjal Nigam (UKPJN) has submitted the revised DPR incorporating the comments of NMCG at the revised estimated cost of Rs. 27.97 Cr (Rs. 25.77 Cr. proposed under Namami Gange Program).

3. Also, vide letter no. 822/नागर अनु/नमामि गंगे/129 dated 19.12.2023, the UKPJN has submitted proposal for construction of 20 KLD Co-treatment plant of Fecal Sludge & Septage with Sewage at existing 28 MLD STP in Haldwani. The estimate of Septage Co-treatment has been prepared on the recommendation of Chairman/District Magistrate - District Ganga Committee, Nainital for the works of Haldwani area with the estimated cost of Rs. 2.40 Cr (Rs. 2.17 Cr. proposed under Namami Gange Program).

In regards of the above, the revised estimate of "I&D of Nallas discharging in Gaula River at Haldwani Kathgodam Nagar Nigam area (Rajpura Area)" along with proposal of 20 KLD Co-treatment plant at existing 28 MLD STP in Haldwani are being submitted with the request to issue administrative approval and expenditure sanction under Namami Gange Program.

Encl.: -As Above.

With Regards,

Yours Sincerely,

(Ranvir Singh Chauhan)
Program Director

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND (INDIA)

Copy to:-

1. Secretary, Drinking Water Department, Govt. of Uttarakhand, Dehradun.
2. Director (Technical), National Mission for Clean Ganga, New Delhi.
3. Managing Director, Uttarakhand Peyjal Nigam, Dehradun.
4. Chief Engineer (Kumaon), Uttarakhand Peyjal Nigam, Haldwani.

Program Director

Address: 105 (New no. 545/941), IInd Floor, Rajpur Road, Opposite RTO Office, Dehradun
Office: 0135-2769932/2763436; Fax no. 0135-2763434
e-mail: spmgagrba.ukd1@gmail.com

कार्यालय- 2078070 फैक्स- : 0135-2672367

उत्तराखण्ड पेयजल संसाधन विकास एवं निर्माण निगम
प्रधान कार्यालय : 11–मोहिनी रोड़, देहरादून

पत्रांक 222 / अप्रैजल अनु0/अधि0-नैनीताल/17 दिनांक 10/5/2023

सेवा में,

सचिव (पेयजल),
उत्तराखण्ड शासन,
देहरादून।

विषयः–जनपद नैनीताल में विशेष योजनागत सहायता कार्यक्रम (SPA) के अन्तर्गत हल्द्वानी–काठगोदाम नगर निगम क्षेत्र में राजपुरा सीवरेज योजना के प्राक्कलन के सम्बन्ध में।

महोदय,

अपर सचिव, पेयजल, उत्तराखण्ड शासन देहरादून के पत्र संख्या 307/उन्नीस(2)/2015 दिनांक 23.02.15 के आदेशानुसार रू0 5.00 करोड़ तक की लागत की योजनाओं के प्राक्कलनों का तकनीकी परीक्षण विभागीय स्तर पर होना है। इस हेतु विभागीय तकनीकी सम्परीक्षा प्रकोष्ठ (TAC) का गठन किया गया है। मुख्य अभियन्ता (मु0) के पत्र सं0 2025/अप्रै0अनु0–अधि0सामान्य/01, दिनांक 01.10.15 के अनुपालन में जनपद नैनीताल में विशेष योजनागत सहायता कार्यक्रम (SPA) के अन्तर्गत हल्द्वानी–काठगोदाम नगर निगम क्षेत्र में राजपुरा सीवरेज योजना (अनु0 लागत रू0 366.82 लाख) से सम्बन्धित विस्तृत प्राक्कलन टी0ए0सी0 हेतु प्राप्त हुआ है। जांचोपरान्त पायी गयी योजना की औचित्यपूर्ण धनराशि का विवरण निम्नानुसार है :–

(धनराशि रू0 लाख में)

क्र0सं0	योजना का नाम	आंगणन की धनराशि	औचित्यपूर्ण पायी गयी धनराशि			
			निर्माण कार्य (SI)	उत्तराखण्ड अधिप्राप्ति नियमावली –2017 (NSI)	सैटेज (12.5 %)	कुल लागत सैटेज सहित
01	02	03	04	05	06	07
1	जनपद नैनीताल में विशेष योजनागत सहायता कार्यक्रम (SPA) के अन्तर्गत हल्द्वानी–काठगोदाम नगर निगम क्षेत्र में राजपुरा सीवरेज योजना के कार्य हेतु प्राक्कलन।	366.82	322.82	2.47	32.93	358.27

अतः उपरोक्त प्राक्कलन अग्रिम आवश्यक कार्यवाही एवं धनावंटन हेतु आपको प्रेषित किया जा रहा है।

संलग्नकः–उपरोक्तानुसार (प्राक्कलन एक प्रति में)

भवदीय,

(एस0सी0 पन्त) 03/5/23
मुख्य अभियन्ता (मु0)

पृ0सं0 एवं दिनांक तदैव :–

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :–

1. मुख्य अभियन्ता (मु0), उत्तराखण्ड पेयजल निगम, हल्द्वानी।
2. अधीक्षण अभियन्ता, निर्माण मण्डल, उत्तराखण्ड पेयजल निगम, नैनीताल।
3. अधिशासी अभियन्ता, पी0आई0यू0 (अमृत), उत्तराखण्ड पेयजल निगम, हल्द्वानी।
4. अधिशासी अभियन्ता (नागर), प्रधान कार्यालय, उत्तराखण्ड पेयजल निगम, देहरादून।

मुख्य अभियन्ता (मु0) 03/5/23

ATTESTED
(Dr. Pooran Singh Bhakuni)
Advocate
HQ-NAINITAL
Distt. Nainital (U.K.)

Scanned with OKEN Scanner

Annexure - 2 (12/14)

☎ कार्यालय–2676070
2672404
फैक्स–: 0135–2672337
ई–मेल : upsvnn@gmail.com

उत्तराखण्ड पेयजल संसाधन विकास एवं निर्माण निगम
प्रधान कार्यालय : 11–मोहिनी रोड़, देहरादून

पत्रांक : 386 /नागर अनुभाग– नगीय/सा०/124 दिनांक 05/11/2022

सेवा में,
सचिव (पेयजल),
उत्तराखण्ड शासन,
देहरादून।

विषय– विशेष योजनागत सहायता के अन्तर्गत जनपद नैनीताल के विकासखण्ड हल्द्वानी के हरिपुर कर्नल, आवास विकास एवं सुभाषनगर के अवशेष भाग हेतु सीवरेज योजना तथा रानीबाग काठगोदाम सीवरेज योजना के प्राक्कलन प्रेषण के संबंध में।

महोदय,

उपरोक्त विषयक विशेष योजनागत सहायता के अन्तर्गत जनपद नैनीताल के विकासखण्ड हल्द्वानी के हरिपुर कर्नल, आवास विकास एवं सुभाषनगर के अवशेष भाग हेतु सीवरेज योजना तथा रानीबाग काठगोदाम सीवरेज योजना के प्राक्कलन इस कार्यालय को प्राप्त हुआ।

उक्त प्राक्कलन आपको इस अनुरोध के साथ प्रेषित है कि प्राक्कलन की प्रशासनिक एवं वित्तीय स्वीकृति हेतु आवश्यक कार्यवाही कराने की कृपा करे। प्राक्कलन का विवरण निम्नानुसार है :–

धनराशि (रू० लाख में)

क्र० सं०	जनपद/नगर	योजना का नाम	अनु० लागत (सैन्टेज सहित)
01	नैनीताल	हरिपुर कर्नल, आवास विकास एवं सुभाषनगर के अवशेष भाग हेतु सीवरेज योजना	1011.10
02	नैनीताल	रानीबाग काठगोदाम सीवरेज योजना	1706.43

संलग्नक–प्राक्कलन एक–एक प्रति में।

भवदीय,

(एस०सी० पंत) एक्स०ई०
मुख्य अभियन्ता (मु०)

पृ०सं० एवं दिनांक तदैव :–

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित:

1. मुख्य अभियन्ता (वृं०), उत्तराखण्ड पेयजल निगम, नैनीताल।
2. अधीक्षण अभियन्ता, निर्माण मण्डल, उत्तराखण्ड पेयजल निगम, हल्द्वानी।
3. अधिशासी अभियन्ता, पी०आई०यू० (अमृत), उत्तराखण्ड पेयजल निगम, हल्द्वानी।

मुख्य अभियन्ता (मु०)

Dr. P. S. Bhakuni
HQ-NAINITAL
Regd. No. 30 of 2007/2008

ATTESTED
08/12/2024
(Dr. Pushan Singh Bhakuni)
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

41

Annexure - 5 (13/14)

☎ कार्यालय – 0135-2678078
0135-2672404

फैक्स : 0135-2672337
ई-मेल : upsvnn@gmail.com

उत्तराखण्ड पेयजल संसाधन विकास एवं निर्माण निगम
प्रधान कार्यालय 11–मोहिनी रोड, देहरादून

पत्रांक 716 नागर अनु0 /जगतीय सा0 /2023 दिनांक 04-11-2023

सेवा में,
सचिव (पेयजल),
उत्तराखण्ड शासन,
देहरादून।

विषय– एस0पी0ए0 कार्यक्रम के अन्तर्गत हल्द्वानी–काठगोदाम नगर क्षेत्रान्तर्गत सीवरेज योजनाओं के प्राक्कलन प्रेषण के संबंध में।

महोदय,

उपरोक्त विषयक एस0पी0ए0 कार्यक्रम के अन्तर्गत हल्द्वानी–काठगोदाम नगर क्षेत्रान्तर्गत सीवरेज योजनाओं का प्राक्कलन इस कार्यालय को प्राप्त हुआ है। उक्त प्राक्कलन आपको इस अनुरोध के साथ प्रेषित है कि प्राक्कलन की प्रशासनिक एवं वित्तीय स्वीकृति हेतु आवश्यक कार्यवाही कराने की कृपा करें। प्राक्कलन का विवरण निम्नानुसार है:–

धनराशि (रू0 लाख में)

क्र0 सं0	जनपद/नगर	योजना का नाम	अनु0 लागत
1	हल्द्वानी	Haldwani bazar & Shivpuri Bhavani Ganj (Remaining area of ward 16,18) Sewerage Scheme in Haldwani -Kathdodam Nagar Nigam area.	979.43

संलग्नक–प्राक्कलन एक–एक प्रति में

भवदीय
(सुजीत कुमार विकास)
मुख्य अभियन्ता (नु0)

पृ0सं0 एवं दिनांक तदैव :–
प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित:
1. मुख्य अभियन्ता (हुँ0), उत्तराखण्ड पेयजल निगम, हल्द्वानी।
2. अधीक्षण अभियन्ता, निर्माण मण्डल, उत्तराखण्ड पेयजल निगम, हल्द्वानी।
3. अधिशासी अभियन्ता, पी0आई0यू0 (अमृत), उत्तराखण्ड पेयजल निगम, हल्द्वानी।

मुख्य अभियन्ता (नु0)

NOTARY Dr. P. S. Bhakuni Adv. Cate HQ-NAINITAL GOVT. OF UTTARAKHAND (INDIA)

ATTESTED

(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

42

☎ कार्यालय– 2670078 फैक्स– 0135–2672737

(14/14)

उत्तराखण्ड पेयजल संसाधन विकास एवं निर्माण निगम
प्रधान कार्यालय : 11–मोहिनी रोड़, देहरादून

पत्रांक 552 / अप्रैजल अनु0/ऑडिट-नैनीताल/32 दिनांक 09/11/2023

सेवा में,

सचिव (पेयजल),
उत्तराखण्ड शासन,
देहरादून।

विषयः– जनपद नैनीताल में विशेष योजनागत सहायता कार्यक्रम (SPA) के अन्तर्गत Heera Nagar, Rampur Road & Parvatiya Mohalla, Himalaya Farm (Remaining areas in ward 17,19 & 20) Sewerage Scheme in Haldwani-Kathgodam Nagar Nigam area के प्राक्कलन के सम्बन्ध में।

महोदय,

आपर सचिव, पेयजल, उत्तराखण्ड शासन देहरादून के पत्र संख्या 307 / उन्तीस(2) / 2015 दिनांक 23.02.15 के आदेशानुसार रू0 5.00 करोड़ तक की लागत की योजनाओं के प्राक्कलनों का तकनीकी परीक्षण विभागीय स्तर पर होना है। इस हेतु विभागीय तकनीकी सम्परीक्षा प्रकोष्ठ (TAC) का गठन किया गया है। मुख्य अभियन्ता (मु0) के पत्र सं0 2028 / अप्रै0अनु0–अप्रै0सहायक्य / 91, दिनांक 01.10.15 के द्वारा किया गया है।

उक्त के क्रम में जनपद नैनीताल में विशेष योजनागत सहायता कार्यक्रम (SPA) के अन्तर्गत Heera Nagar, Rampur Road & Parvatiya Mohalla, Himalaya Farm (Remaining areas in ward 17,19 & 20) Sewerage Scheme in Haldwani-Kathgodam Nagar Nigam area से सम्बन्धित विस्तृत प्राक्कलन टी0एस0सी0 हेतु प्राप्त हुआ है। जांचोपरान्त पायी गयी योजना की औचित्यपूर्ण धनराशि का विवरण निम्नानुसार है :–

(धनराशि रू0 लाख में)

क्र0सं0	योजना का नाम	आंगणन की धनराशि	औचित्यपूर्ण पायी गयी धनराशि			
			निर्माण कार्य (SI)	उत्तराखण्ड अपिप्राप्ति नियमावली –2017 (NSI)	कैटेज (12.5 %)	कुल सम्पत कैटेज सहित
01	02	03	04	05	06	07
1	जनपद नैनीताल में विशेष योजनागत सहायता कार्यक्रम (SPA) के अन्तर्गत Heera Nagar, Rampur Road & Parvatiya Mohalla, Himalaya Farm (Remaining areas in ward 17,19 & 20) Sewerage Scheme in Haldwani-Kathgodam Nagar Nigam area का प्राक्कलन।	417.71	361.80	12.37	43.54	417.71

अतः उपरोक्त प्राक्कलन अग्रिम आवश्यक कार्यवाही एवं धनावंटन हेतु आपको प्रेषित किया जा रहा है।

संलग्नक–उपरोक्तानुसार (प्राक्कलन एक प्रति में)

भवदीय,

(एसाकेश विकास)
मुख्य अभियन्ता (मु0)

ATTESTED
(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

पत्रांक एवं दिनांक तदैव :–

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :–

1. मुख्य अभियन्ता (मु0), उत्तराखण्ड पेयजल निगम, हल्द्वानी।
2. महाप्रबन्धक (निर्मा0), प्रधान कार्यालय,उत्तराखण्ड पेयजल निगम, देहरादून।
3. अधीक्षण अभियन्ता, निर्माण मण्डल, उत्तराखण्ड पेयजल निगम, हल्द्वानी।
4. अधिशासी अभियन्ता, पी0आई0यू0 (अमृत), उत्तराखण्ड पेयजल निगम, हल्द्वानी।
5. अधिशासी अभियन्ता (नगर), प्रधान कार्यालय, उत्तराखण्ड पेयजल निगम, देहरादून।

मुख्य अभियन्ता(मु0)

ATTESTED
C:\Amit\TAC\Letter (TAC) 2019-20.docx
(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

ANNEXURE- B (4/1)

Uttarakhand Urban Sector Development Agency (UUSDA)
Urban Development Department, Government of Uttarakhand
777, Sadhvik Tower, Kaulagarh Road, Rajendra Nagar, Dehradun
Telephone +91-135-2753894, Tele-fax +91- 135-2754895
Email: uusdp@gmail.com, Website: www.uusdp.org

Adv. No: UUSDA/P-84/ 587

Date: 26.05.2023

NOTICE INVITING TENDER (NIT)

Urban Development Department, Government of Uttarakhand has applied for a loan from Asian Development Bank for financing the Uttarakhand Integrated & Resilient Urban Development Project- Additional Financing (UIRUDP-AF), in the State of Uttarakhand. The Project involves development of urban infrastructure facilities like 24X7 Water Supply, Wastewater Management including Road Restoration in the proposed Project and intends to apply part of the proceeds for works.

The "Program Director", Uttarakhand Urban Sector Development Agency (UUSDA), Government of Uttarakhand" (the Employer) invites online bids through the Uttarakhand state e-procurement portal https://uktenders.gov.in, from eligible Bidders for the design, execution, commissioning, and O&M of the work as detailed below:

S. No.	Name of Work	Package No.	Invitation of Bid No.	Last Date & Time of Submission
1.	(WS&S-HDW-01): Development of Water Supply and Sewerage System with 18 years O&M, in Haldwani, Uttarakhand. Package-1.	DBO-03	UIRUDP-AF/OCB - I/DBO-03/2023-24	10.07.2023 till 03:00 PM (15:00 Hrs.)
2.	(WS-HDW-03): Development of Water Supply System with 18 years O&M, in Haldwani, Uttarakhand. Package-3	DBO-05	UIRUDP-AF/OCB - I/DBO-05/2023-24	11.07.2023 till 03:00 PM (15:00 Hrs.)

Date of publication of bid document	27.05.2023 (For both bids)
Date of availability of the bid document	27.05.2023 (For both bids) at 05:00 PM, (17:00 Hrs.)
Date of Pre- Bid Meeting	For serial no. 1- 12.06.2023 at 02:30 PM, (14:30 Hrs.) For serial no. 2- 12.06.2023 at 03:30 PM, (15:30 Hrs.)
Bid document may be uploaded from	For serial no. 1- 28.06.2023 at 03:00 PM, (15:00 Hrs.) For serial no. 2- 28.06.2023 at 03:00 PM, (15:00 Hrs.)
Last Date/Time for downloading of the bid document	For serial no. 1- 10.07.2023 at 02:30 PM, (14:30 Hrs.) For serial no. 2- 11.07.2023 at 02:30 PM, (14:30 Hrs.)

The prospective bidders can download the detailed bid document in the prescribed format and upload the bid on the website, https://uktenders.gov.in. Program Director, UUSDA reserves the right to reject any or all the proposals or to cancel the entire process without assigning any reason thereof. Further details of the bid document including subsequent addendum/corrigendum/cancellation etc. may be downloaded from the website https://uktenders.gov.in.

Program Director
UUSDA

हमारासंकल्प आपकासहयोग बेहतरकल

ATTESTED
8/2/2024
(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
UTTARAKHAND (INDIA)
8/2/2024

31225

NOIDA TESTING LABORATORIES

(A Government of India Approved Testing Laboratory)

(An ISO : 9001 : 2015, ISO 45001 : 2018 (OH&S) Certified & NABL Accredited Laboratory)
MoEF & CC (Ministry of Environment, Forest & Climate Change), UPPCB Recognized Laboratory
☎ +91-9313611642, 8510081921, 7503031145, 8527870572, 7503031146, 9999794369

TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Waste Water	WW-020922-010	07/09/2022

Issued To: M/s. Nagar Panchayat
Address: Lalkuan, District –Nainital, Uttarakhand 262402

SAMPLING & ANALYSIS DATA

Sample Received On	:	02/09/2022
Sample Collected By	:	NTL
Sample Description	:	STP Outlet
Sample Quantity/Packing detail	:	1 lt/Plastic Cane
Weather Conditions	:	Normal
Analysis Duration	:	02/09/2022 to 06/09/2022

TEST RESULTS

S. No.	Parameter	Test Method	Results	Units	Limits as per CPCB norms
1.	pH	IS:3025(Part-11):2002	7.15	-	5.5 - 9.0
2.	Total Dissolved Solid (TDS)	IS:3025(Part-16):1984	1442	mg/l	Limit not specified
3.	Total Suspended Solid (TSS)	IS:3025(Part-17):1984	438	mg/l	100.0
4.	Chemical Oxygen Demand (as O_2)	IS:3025(Part-58):2006	16518	mg/l	250
5.	Biological Oxygen Demand (as O_2) (3 days at 27°C)	IS:3025(Part-44):2003	5120	mg/l	30
6.	Oil & grease	IS:3025(Part-39):2003	11.5	mg/l	10

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
4. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

NTL

CHECKED BY

AUTHORIZED SIGNATORY

ATTESTED

(Dr. Pooran Singh Bhakuni)
Advocate
HQ-NAINITAL
Notary
Distt. Nainital (U.K.)

Dr. P. S. Bhakuni
Adv cate
HQ-NAINITAL

Lab: Laboratory 137, Sector-117, NOIDA, Gautam Budh Nagar - 201316
Branch Office: IP-2, Haridwar, Uttarakhand | Gayatri Nagar, Kathgodam, Haldwani, Uttarakhand
E.: noida.laboratory@gmail.com, info@noidalabs.com W.: www.noidalabs.com

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31226

NOIDA TESTING LABORATORIES

(A Government of India Approved Testing Laboratory)

(An ISO : 9001 : 2015, ISO 45001 : 2018 (OH&S) Certified & NABL Accredited Laboratory)
MoEF & CC (Ministry of Environment, Forest & Climate Change), UPPCB Recognized Laboratory

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TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Waste Water	WW-020922-012	07/09/2022

Issued To: M/s. Nagar Panchayat
Address: Lalkuan, District –Nainital, Uttarakhand 262402

SAMPLING & ANALYSIS DATA

Sample Received On	:	02/09/2022
Sample Collected By	:	NTL
Sample Description	:	ETP Outlet
Sample Quantity/Packing detail	:	1 lt/Plastic Cane
Weather Conditions	:	Normal
Analysis Duration	:	02/09/2022 to 06/09/2022

TEST RESULTS

S. No.	Parameter	Test Method	Results	Units	Limits as per CPCB norms
1.	pH	IS:3025(Part-11):2002	7.50	-	5.5 - 9.0
2.	Total Dissolved Solid (TDS)	IS:3025(Part-16):1984	688	mg/l	Limit not specified
3.	Total Suspended Solid (TSS)	IS:3025(Part-17):1984	26.0	mg/l	100.0
4.	Chemical Oxygen Demand (as O_2)	IS:3025(Part-58):2006	52.0	mg/l	250
5.	Biological Oxygen Demand (as O_2) (3 days at 27°C)	IS:3025(Part-44):2003	15.0	mg/l	30
6.	Oil & grease	IS:3025(Part-39):2003	BDL (<1.0)	mg/l	10

Remarks: Test parameters coming in under limit, prescribe limits are given by MoEF/Central Pollution Control Board.
BDL- Below Detection Limit

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
4. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

NOIDA TESTING LABORATORIES NTL

CHECKED BY

AUTHORIZED SIGNATORY

ATTESTED
Dr. Puran Singh Bhakuni
Advocate
HQ-NAINITAL

NOTARY Dr. P. S. Bhakuni Adv. Cate HQ-NAINITAL (INDIA)

ANNEXURE-B

कार्यालय नगर निगम हल्द्वानी–काठगोदाम

नैनीताल रोड, हल्द्वानी पिन कोड– 263139

(www.Nagarnigamhaldwani.in)toll free no- 8882610000

E-Mail- haldwaninagarnigam@gmail.com दूरभाष– 05946–220035

पत्रांक - 2285 दिनांक - 02-2-24

सेवा में ,

प्रभागीय वनाधिकारी ,

तराई पूर्वी वन प्रभाग ,हल्द्वानी

विषय-मा. राष्ट्रीय हरित अधिकरण (एन.जी.टी.) ,प्रधान पीठ नै दिल्ली द्वारा मूल आवेदन पत्र (ओ०ए०) सं0 200 ,वर्ष -2014 एम्.सी.मेहता बनाम गंगा प्रदूषण एवं सफाई आदि के मामले में पारित आदेश दिनांक 24.11.2023 के अनुपालन के सम्बन्ध में ।

महोदय ,

उपरोक्त विषयक आपके पत्रांक 4760 /26-1 (हल्द्वानी) दिनांक 01/02/2024 के क्रम में सूचनाओं का अवलोकन कर रिपोर्ट में उल्लिखित त्रुटियों का निराकरण से सम्बंधित नैनीताल जनपद के स्थानीय निकायों से सम्बंधित सूचना इस पत्र के साथ संलग्न कर प्रेषित की जा रही है कृपया प्राप्ति स्वीकार करने का कष्ट करेंगे ।

कार्यालय तराई पूर्वी वन प्रभाग
हल्द्वानी
प्राप्ति सं० 8866
पंजी० सं० 26-1
दिनांक 2/2/24

भवदीय

for नगर आयुक्त

नगर निगम हल्द्वानी-काठगोदाम

प्रतिलिपि-अध्यक्ष /जिलाधिकारी जिला गंगा समिति जनपद नैनीताल को सादर सूचनार्थ ।

नगर आयुक्त

नगर निगम हल्द्वानी-काठगोदाम

NOTARY
Dr. P. S. Shakuni
Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND (INDIA)

2024

2.Municipal Solid Waste disposal	(a) Per day generation of Solid Waste in each city/town within the district.	

Name of city/town	Per day generation of solid waste
1.Haldwani-Kathgodam	150 M.T.
2.Lalkuan	2.5 to 3.0 M.T.
3.Bhimtal	4 M.T.
4.Bhowali	02 M.T.
5.Ramnagar	13.6 M.T.
6.Kaladhungi	3.69 M.T.
7.Nainital	19-20 M.T.

(Annexure –B)

(b) Quantity of Solid Waste treatment per day, in each city/town of the district.

Name of city/town	Quantity of solid waste treatment per day
1.Haldwani-Kathgodam	0 Tonne(at present there is no treatment plant)
2.Lalkuan	0 Tonne(at present there is no treatment plant)
3.Bhimtal	1.0 Tonne. (partially treated ,at present there is no treatment plant)
4.Bhowali	0 Tonne. (at present there is no treatment plant)
5.Ramnagar	5.89 Tonne(partially treated ,at present there is no treatment plant)
6.Kaladhungi	1.6 M.T. (partially treated ,at present there is no treatment plant)
7.Nainital	01 Ton(partially treated ,at present there is no treatment plant)

(Annexure –B)

(c) The gap in treatment of Solid Waste.

Name of city/town	Gap in treatment of solid waste
1.Haldwani-Kathgodam	Construction of a treatment plant is proposed in Haldwani for the treatment of solid waste under Haldwani-Rudrapur cluster for Haldwani-Kathgodam, Nainital, Bhowali, Bhimtal and Lalkuan cities of Nainital district, in which the waste received from all these bodies is to be treated. Tender was invited four times for the garbage treatment plant from 12.02.2021 to 25.07.2023, which was not successful. **Proposal-** Subsequently, in continuation of the proposal submitted by NTPC Vidyut Vyapar Nigam Limited for setting up S.W.M. plant/ development of municipal solid waste to torrefied charcoal plant facility (Capacity 500 T.P.D.), Memorandum of Understanding dated 30.11.2023 was signed between Municipal Corporation Haldwani Kathgodam and NTPC Vidyut Vyapar Nigam Limited. It has been signed in the presence of Honorable Chief Minister of

NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL Regd. No. 30 (Uttarakhand) GOVT. OF UTTARAKHAND (INDIA)

	Uttarkhand.(Photocopy of the MOU is attached.) It will take about 2 years to establish.At present municipal solid waste is dumping in trenching ground (dumping yard) situated at gaula raukhar (gaula bypass road) Haldwani, at present there is no treatment facility .So the gap in treatment of municipal solid waste is non availability of treatment plant .
2.Lalkuan	Nagar Panchayat Lalkuan is the part of Haldwani Rudrapur cluster . Nagar Panchayat Lalkaun send their municipal solid waste tothe dumping yard of nagar nigam Haldwani – Kathgodam .At present there is no treatment facility in nagar nigam Haldwani – Kathgodam ,So the gap in treatment of municipal solid waste is non availability of treatment plant .
3.Bhimtal	Nagar Panchayat Bhimtal is the part of Haldwani Rudrapur cluster . Nagar Panchayat Bhimtal send their municipal solid waste tothe dumping yard of nagar nigam Haldwani – Kathgodam .At present there is no treatment facility in nagar nigam Haldwani – Kathgodam ,So the gap in treatment of municipal solid waste is non availability of treatment plant .
4.Bhowali	Nagar Palika Parishad Bhowali is the part of Ha ldwani Rudrapur cluster . Nagar Palika Parishad Bhowali send their municipal solid waste tothe dumping yard of nagar nigam Haldwani – Kathgodam .At present there is no treatment facility in nagar nigam Haldwani – Kathgodam ,So the gap in treatment of municipal solid waste is non availability of treatment plant ..
5.Ramnagar	7.71 M.T. (their is total generation of solid waste is 13.6 M.T per day and 5.89 M.T per day is treated ,untreated waste remain 7.71 M.T.per day . Due to non-availability of adequate land for solid waste management in nagar palika parishad Ramnagar letter had been send to the forest department and requested to provide land through letter no.7645 ,dated 10/09/2021, letter no.7216 ,dated 25/08/2022, letter no.7746 ,dated 05/09/2023, letter no.7855 ,dated 19/10/2023, letter no.7910 ,dated 29/11/2023 letter no.7820 ,dated 06/10/2023 letter no.7958 ,dated 1/01/2024 letter no.1815 ,dated 27/01/2024.at present their is no updates regarding the letters . The said gap will be closed once land becomes available
6.Kaladhungi	At present, compost being made from wet waste by making organic pits in 07 government colonies 67under the civic body. Due to non-availability of land for solid waste management with Nagar Panchayat Kaladhungi, garbage is being disposed

Dr. P. S Bhakuni
Advocate
HQ-NAINITAL

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			on the vacant land of the Forest Department. For the transfer of the said land, Nagar Panchayat Kaladhungi sent letter number - 437/ स्था. नि./2022-23 dated 26/12/2022 and letter number - 158/ स्था. नि./ स्व.भा. मि./2022-23 dated 27.07.2023 to Divisional Forest Officer Ramnagar Forest Division, Ramnagar for granting permission for transfer of the land .At present their is no **response/Update** from the forest department regarding the transfer of the said land . The said **gap** will be closed once land becomes available.
		7.Nainital	Nagar Palika Parishad Nainital is the part of Haldwani Rudrapur cluster . Nagar Palika Parishad Nainital send their municipal solid waste tothe dumping yard of nagar nigam Haldwani – Kathgodam .At present there is no treatment facility in nagar nigam Haldwani – Kathgodam ,So the **gap** in treatment of municipal solid waste is non availability of treatment plant .
			(Annexure –B)
	(d) Legacy waste and the time bound plan to treat legacy waste.	**Name of city/town**	**Time bound plan to treat legacy waste**
		1.Haldwani-Kathgodam	Work order dated 02.09.2022 issued to People's Association for Total Help & Youth Applause RZ-05/9, KH No. 15/7, Gali No. 9, Mahavir enclave, New Delhi, the executing organization for disposal of 88750 metric ton of legacy waste collected in the trenching ground (new dump site) of Municipal Corporation Haldwani-Kathgodam (which also includes the waste of Municipal Council Nainital, Bhowali; Nagar Panchayat Lalkuan, Bhimtal) located at Gaula Raukhar Gaula Bypass Road, Haldwani. It was done and the work contract **(copy of contract attached)** was signed on 08.09.2022, as a result of which the disposal work of estimated 88750 metric ton of legacy waste has been completed by the organization. The tender notice has been issued on 25.11.2023 for carrying out the work of disposal of legacy waste collected at the old dump site/ forest land(which is no longer in use) at the Municipal Corporation, Haldwani-Kathgodam located at Gaula Raukhar Bypass Road, Haldwani. Technical tender has been opened on date 05.01.2023 whose evaluation process is in progress.The treatment of legacy waste at the old dump site will be completed with in **one year after the** contract done with the successful bidder .
		2.Lalkuan	The legacy waste of Nagar Panchayat, Lalkuan is included in the dumping site of Haldwani. (Nagar

NOTARY Dr. P. S. Bhakuni Adv. Gate HQ-NAINITAL GOVT. OF UTTARAKHAND (INDIA)

	Panchayat, Lalkuan dumps its garbage in the dump site of Municipal Corporation Haldwani-Kathgodam.)
3.Bhimtal	There is no availability of legacy waste under Nagar Panchayat, Bhimtal's border. The legacy waste of Nagar Panchayat, Bhimtal is included in the dumping site of Haldwani. (Nagar Panchayat, Bhimtal dumps its garbage in the dump site of Municipal Corporation Haldwani- Kathgodam.)
4.Bhowali	There is no availability of legacy waste under Nagar Palika Parishad, Bhowali's border. The legacy waste of Nagar Palika Parishad, Bhowali is included in the dumping site of Haldwani. (Nagar Palika Parishad, Bhowali dumps its garbage in the dump site of Municipal Corporation Haldwani-Kathgodam.)
5.Ramnagar	There is no legacy waste in Nagar Palika Parishad Ramnagar .
6.Kaladhungi	There is no legacy waste in Nagar Panchayat Kaladhungi .
7.Nainital	The legacy waste of Nagar Palika Parishad, Nainital is included in the dumping site of Haldwani. (Nagar Palika Parishad, Nainital dumps its garbage in the dump site of Municipal Corporation Haldwani- Kathgodam.)

Table

Name of city/Town	Quantity of Legacy Waste Treated	Remark
Haldwani-Kathgodam	88750 M.T.	
Nainital	—	The legacy waste of Nagar Palika Parishad, Nainital is included in the dumping site of Haldwani.
Bhowali	—	The legacy waste of Nagar Palika Parishad, Bhowali is included in the dumping site of Haldwani.
Bhimtal	—	The legacy

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Advocate
HQ-NAINITAL
Regd. No. 30 (UA) 2011

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				waste of Nagar Panchayat Bhimtal is included in the dumping site of Haldwani.
			Lalkuan	– The legacy waste of Nagar Panchayat Lalkuan is included in the dumping site of Haldwani.
			Ramnagar	There is no legacy waste in Nagar Palika Parishad Ramnagar .
			Kaladhungi	There is no legacy waste in Nagar Panchayat Kaladhungi .

(Annexure –B)

	(e) The manner of utilization of the treated waste as well as rejects arising out of remediation of legacy waste.	**Name of city/town** / **Manner of utilization of the treated waste**
		1.Haldwani-Kathgodam: The plastic, metal etc. received during legacy waste disposal has been disposed of by the executing agency at its own level under the contract (**contract dated 08/09/2022 is attached**).
		2.Lalkuan: Nagar Panchayat Lalkuan is the part of Haldwani Rudrapur cluster . Nagar Panchayat Lalkaun send their municipal solid waste to the dumping yard of nagar nigam Haldwani – Kathgodam . The plastic, metal etc. received during legacy waste disposal has been disposed of by the executing agency at its own level under the contract (**contract dated 08/09/2022 is attached**).
		3.Bhimtal: Nagar Panchayat Bhimtal is the part of Haldwani Rudrapur cluster . Nagar Panchayat Bhimtal send their municipal solid waste to the dumping yard of nagar nigam Haldwani – Kathgodam . The plastic, metal etc. received during legacy waste disposal has been disposed of by the executing agency at its own level under the contract (**contract dated**

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Adv. Regd.
HQ-NAINITAL
Govt. of Uttarakhand (India)

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	08/09/2022 is attached).
4.Bhowali	Nagar Palika Parishad Bhowali is the part of Haldwani Rudrapur cluster . Nagar Palika Parishad Bhowali send their municipal solid waste to the dumping yard of nagar nigam Haldwani – Kathgodam . The plastic, metal etc. received during legacy waste disposal has been disposed of by the executing agency at its own level under the contract (**contract dated 08/09/2022 is attached**).
5.Ramnagar	There is no legacy waste in Nagar Palika Parishad Ramnagar .
6.Kalaghungi	There is no legacy waste in Nagar Panchayat Kaladhungi .
7.Nainital	Nagar Palika Parishad Bhowali is the part of Haldwani Rudrapur cluster . Nagar Palika Parishad Bhowali send their municipal solid waste to the dumping yard of nagar nigam Haldwani – Kathgodam . The plastic, metal etc. received during legacy waste disposal has been disposed of by the executing agency at its own level under the contract (**contract dated 08/09/2022 is attached**).

(Annexure –B)

(f) Current status of dumping of solid waste with reference to location.

Name of city/town	Current status of dumping of solid waste
1.Haldwani-Kathgodam	At present, solid waste is dumped on one side of the trenching ground (new dump site) of Municipal Corporation Haldwani- Kathgodam located at Gaula Raukhar Gaula Bypass road, Haldwani.
2.Lalkuan	Presently, the solid waste is being dumped at the trenching ground of Municipal Corporation Haldwani-Kathgodam located on Gaula Rokhad Bypass Road, Haldwani.
3.Bhimtal	Presently, the solid waste is being dumped at the trenching ground of Municipal Corporation Haldwani-Kathgodam located on Gaula Rokhad Bypass Road, Haldwani.
4.Bhowali	Presently, the solid waste is being dumped at the trenching ground of Municipal Corporation Haldwani-Kathgodam located on Gaula Rokhad Bypass Road, Haldwani.
5.Ramnagar	The remaining waste from the processed waste is disposed at the garbage disposal site at Village Puchdi (0.9555 Hectare).
6.Kaladhungi	Due to non-availability of land for solid waste management with Nagar Panchayat Kaladhungi, the garbage generated by the civic body for 20-25 years on the vacant land of the forest department

NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL Regd. No. 30 (UA10)/2011 GOVT. OF UTTARAKHAND (INDIA)

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			at a distance of 500 meters from the city is being disposed of by filling it in its garbage vehicles. After separating the garbage produced at the site, plastic and other inorganic waste is sorted out and the remaining garbage is buried by digging a pit by JCB in the garbage disposal site. The civic body has also made organic pits in the government colony in which organic fertilizers are also made.
			7.Nainital	Nagar Palika Parishad, Nainital has the M.R.F. center in which compost is prepared by separating the organic waste from the garbage produced daily and the remaining garbage is sent to the trenching ground, Haldwani, for disposal.

(Annexure –B)

3.Construction and Demolition waste	(a) Total per day generation of C&D Waste within the district.	**Name of city/town**	**Per day generation of C&D waste**
		1.Haldwani-Kathgodam	Municipal Corporation Haldwani- Kathgodam is not able to get the details of Construction and Demolition waste due to the citizens using the waste in the city for filling etc. as per their requirement.
		2.Lalkuan	Nagar Panchayat Lalkuan is not able to get the details of C&D waste due to citizens using it for filling etc. as per their own needs.
		3.Bhimtal	Nagar Panchayat, Bhimtal has not marked any place for disposal of C&D waste. This type of waste is generally used in plinth of buildings and filling of public roads etc.
		4.Bhowali	Nagar Palika Parishad, Bhawali does not have land available to collect waste. The waste falling within the municipal limits is used by the local people themselves.
		5.Ramnagar	Waste is not produced on daily basis under Nagar Palika, Ramnagar's border. If it is generated at any place within the municipal limits, then it is shifted to the Gas Godam Road (Unt Padav) near the filling point of the municipality.
		6.Kaladhungi	In Kaladhungi Nagar Panchayat, the waste is used by the citizens themselves and the remaining waste is dumped at the garbage disposal site which is used by the citizens as per their need.
		7.Nainital	C&D waste will be disposed of at sites designated by the administration outside the city.

(Annexure –B)

NOTARY
Dr. P. S. Bhakuni
Advocate
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GOVT. OF UTTARAKHAND (INDIA)

(b) The details of plant established for the treatment of C&D waste including the existing capacity and capacity utilization.

Name of city/town	Details of plant established
1.Haldwani-Kathgodam	At present, the process of setting up a C&D waste treatment plant is not in progress. However, the Municipal Corporation Haldwani-Kathgodam has selected a site for waste disposal and constructed a temporary site.
2.Lalkuan	At present the process of setting up a C&D waste treatment plant is in progress.
3.Bhimtal	At present no C&D waste treatment plant is available.
4.Bhowali	At present no C&D waste treatment plant is available.
5.Ramnagar	At present no C&D waste treatment plant is available.
6.Kalaghungi	There is no land available for waste in Kaladhungi Nagar Panchayat area. Correspondence with letter number - 437/ स्था. नि./2022-23 dated 26/12/2022 and letter number - 158/ स्था. नि./ स्व.भा. नि./2022-23 dated 27.07.2023 to Divisional Forest Officer Ramnagar Forest Division, Ramnagar for granting permission for transfer of the land .At present their is no response/Update from the forest department regarding the transfer of the land .
7.Nainital	At present no C&D waste treatment plant is available.

(Annexure –B)

ATTESTED

(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

नगर आयुक्त
नगर निगम हल्द्वानी-काठगोदाम

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND (INDIA)

PROPOSAL

FOR

DEVELOPMENT

OF

MUNICIPAL SOLID WASTE

TO

TORREFIED CHARCOAL

PLANT FACILITY

CLIENT	NAGAR NIGAM HALDWANI-KATHGODAM
DEVELOPER	NTPC VIDYUT VYAPAR NIGAM (NVVN) LTD.
TECHNOLOGY	TORREFACTION
CAPACITY	500 TPD

NOTARY Govt. of Uttarakhand (India) Dr. P. S. Bhakuni Advocate HQ-NAINITAL

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PROPOSAL

1. COMPANY INTRODUCTION:

NTPC Vidyut Vyapar Nigam Ltd. (NVVN) was formed by NTPC Ltd in the year 2002, as its wholly owned subsidiary to tap the potential of power trading in the country. NTPC Limited is the biggest power producer in India with a total installed capacity of over 73,000 MW. In power trading business NVVN holds a highest Category 'I' trading license as per latest CERC regulation.

NVVN Limited has taken many New Initiatives to propel green technologies and to provide platforms for innovative enterprises, among which Waste to Energy is one of the verticals. Varanasi Harit Koyla Pariyojna was the milestone project and moving forward, NVVN limited has several Projects based on Municipal Waste and Agricultural Waste, in pipeline.

Waste-to-Energy projects provide a safe, technologically advanced means of waste disposal that reduces greenhouse gases, generates clean energy, and recycles metal. Waste-to-Energy (WTE) is widely recognized as a technology that can help mitigate climate change. Agro Waste based power has been included in the recent biomass policy for meeting non-solar renewable purchase obligation.

As a responsible Govt. of India Enterprise, NVVN Limited is committed to sustainable & clean energy solutions. It has taken various new initiatives in the development of green energy sources like solar, wind, co-firing biomass pellets along with coal in our conventional boilers.

BUSINESS AREAS OF NVVN LIMITED:

a) Waste to Energy
b) Power Trading (Domestic)
c) Cross Border Power Trading
d) Renewable Energy Solutions
e) E-Mobility Solutions
f) Consultancy & Advisory Services

NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL GOVT. OF UTTARAKHAND (INDIA)

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2. AREAS OF EXPERTISE IN SOLID WASTE MANAGEMENT:

NVVN has been a pioneer for using waste in power generating units and is actively working on the innovation, incubation and development of technologies in this segment.

NVVN and NTPC with its vast engineering experience have developed the technology such that it can be implemented on a large scale. Various first of its kind initiatives like conducting open technology challenge, procuring biomass pellets, etc. have catalysed the development of technology in this industry.

Waste to Torrefied Charcoal Facility of 600 TPD Capacity is under construction phase at Varanasi, Uttar Pradesh. Similar Plants for Bhopal (400 TPD), Hubballi – Dharwad (200 TPD) and Noida-Greater Noida (900 TPD) are in pipeline.

Following are the USP's of Varanasi Plant.

a) Swachh Bharat Abhiyan (SBM): Torrefaction process is a very clean technology ensures no harmful emissions

b) Make in India: Complete Plant's Equipment(s) will be manufactured in India

c) Aatma Nirbhar Bharat Abhiyan: 1st kind of WTE Facility making India a self-reliant nation in waste management.

d) Innovation: This plant is an example of Innovation in waste management



PLANT LAYOUT FOR WASTE TO CHARCOL FACILITY

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3. TECHNICAL PROPOSAL FOR MUNICIPAL SOLID WASTE (MSW):

Sustainable remediation of Waste from Nagar Nigam Haldwani-Kathgodam (NNHK) and conversion to resource can be achieved by following option, being proposed by NVVN. All activities shall be ensured by NVVN to comply Solid Waste Management (SWM) Rules 2016 and its amendment from time to time.

3.1.1. TORREFACTION PROCESS:

At the moment high levels of segregation cannot be achieved by authority, and thus a solution is needed which is not affected by the presence of inert fraction in Waste. NVVN proposes to install a Waste Torrefaction unit which can turn any type of waste having high Carbon Content like Plastic, Paper, Textile, Rubber, etc. into Torrefied Coal, which has been tested to be similar to Mineral Coal.

Torrefaction is a thermochemical treatment of biomass at 250 to 300 °C. It is carried out in the absence of oxygen. During the Torrefaction process, the moisture contained in the biomass as well as volatiles are released, and the final product is the remaining solid, dry, blackened material that is referred to as Torrefied coal. After the MSW is Torrefied, it can be densified, usually into briquettes or pellets which are easy to store and transport.

Required Parameters in Feedstock:

Feedstock	MSW without Inert
Segregation Efficiency	> 80%
Land Requirement	10 Acres for 500 TPD (excluding the green belt for this plant)
End Product / Output	Torrefied Coal
Gross Calorific Value (GCV) of MSW (received from NNHK)	>2000 KCal/kg
Moisture Content in MSW (received from NNHK)	< 20%
Water Requirement	~200 KL per day
Electricity Connection Requirement	~2 MVA

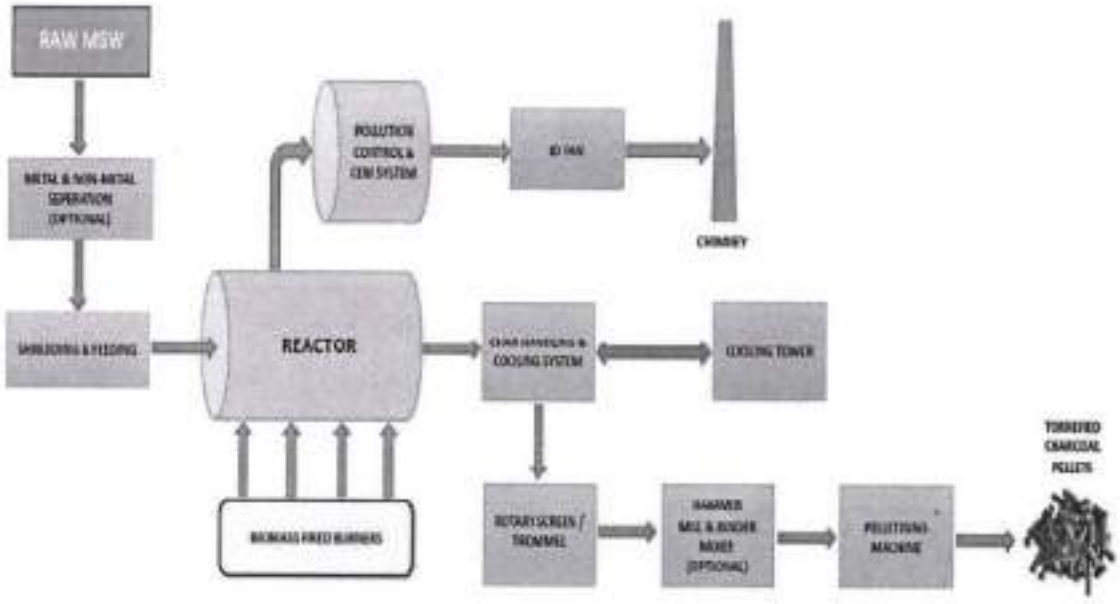
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3.1.2. ADVANTAGES OF TORREFACTION TECHNOLOGY:

Generation of High Calorific Value Fuel similar to the nature of Mineral Coal	Can be used for both organic and non-organic waste	No emissions of Dioxins and Furans due to Lower process temperature	Lower Capital cost in comparison to Mass Incinerators, Pyrolysis and Gasification Plants and Lower Operational Costs
Torrefied coal can be cofired with Existing burners of Boilers	Diversion of Municipal waste from Landfill, only non-reactive inert goes to Scientific Landfill	Project complies Sustainable development goals	Significant reduction in landfill requirement

TENTATIVE PROCESS FLOW DIAGRAM OF WASTE TORREFACTION PLANT



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GOVT. OF UTTARAKHAND (INDIA)

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4. FINANCIAL VIABILITY OF PROJECT:

4.1. MARKET FOR SALE FOR TORREFIED CHARCOAL

Torrefied charcoal was produced at various Pilot scales installations under incubation of NVVN where the output was tested by NABL accredited laboratories and it was observed that properties of Torrefied coal are similar to that of Mineral Coal.

Torrefied charcoal has a huge potential to be blended with mineral coal and can be fired in-house at the **Coal based plants of NTPC as well as nearby process industries**.

Assistance from Nagar Nigam Haldwani-Kathgodam will be necessary to facilitate the sale of Torrefied charcoal in nearby industries.

5. NAME OF PARTNER / GOVT. AGENCY INCLUDED:

NTPC Vidyut Vyapar Nigam Ltd. (NVVN) was formed by NTPC Ltd, as its wholly owned subsidiary and thus NVVN operates under the Umbrella of Technical and Financial Expertise of the Leading Power Generating Public Sector Undertaking of India.
Additionally, NVVN expects the support and commitment of NNHK in providing following mentioned utilities for Commissioning and Stable operation of Plant through the Plant life cycle (25 Years).

5.1. PRE-REQUISIT UTILITIES:

Legally binding agreements shall be signed between both the parties to ensure the following as per similar agreements signed with other Urban Local Bodies like Varanasi, Bhopal, Hubballi-Dharwad and Noida-Greater Noida:

5.1.1. Encumbrance and Litigation Free Land, free from water logging and above HFL of approx. 10 acre fit for installing MSW to Torrefied Charcoal Plant as per latest guidelines of MoEFCC and MoUD.

5.1.2. Land shall be provided for Concession period of 30 years free of cost along with boundary wall. On a mutually agreed-upon basis, the same shall be extended for similar terms and conditions.

5.1.3. Uninterrupted Supply of Municipal Solid Waste (MSW) at designated Waste Tipping Floor of plant premises free of cost.

5.1.4. Electricity Connection of ~2 MVA within Plant battery limit (min. 11 kVA) for operational period and ~150 kW within Plant battery limit for Construction Power.

Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
Reg. No. 30 (UK)10/2011

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5.1.5. Provide water supply connection for drinking water usage during plant construction and operation period within the plant battery limit.

5.1.6. Preferably Treated STP Water ~200 KL per day for process application during operation period and ~50 KL per day for construction activities within the plant battery limit.

5.1.7. Provide other basic amenities at the project site like All-weather approach road from existing road to plant boundary of minimum width 7.0 m, street lighting on approach road and outside plant premises, sewer line, Right of Way, drainage outside plant premises, and other basic facilities, etc.

5.1.8. NNHK shall take back the unutilized contents of MSW (Inert and process rejects) for safe disposal at its own cost.

5.1.9. Development and maintaining of green belt (as applicable) other than 10 acre for plant facility shall be in the scope of NNHK.

5.1.10. Diversion of any Electric Line passing through the proposed project site, cutting down the trees existing on the proposed site (if any) and their disposal and diversion of Forest Land (if any) before handing over the site to NVVN shall be done by NNHK.

5.1.11. NNHK shall obtain Environment Clearance (if applicable).

5.1.12. Development and maintaining Scientific Land Fill (SLF) facility (as applicable) shall be in the scope of NNHK. The Scientific Land Fill should not be in an adjacent area of the said MSW project.

5.1.13. NNHK shall provide the detailed Municipal Solid Waste characteristics report for designing of the project facility.

6. ROLES & RESPONSIBILITIES OF NVVN:

6.1. EPC of MSW to Torrefied Charcoal Plant Facility including installation and commissioning.

6.2. Smooth Operation & Maintenance of plant through deployment of third-party O&M contractor for 25 years.

6.3. Utilization of approx. 500 MT per day of MSW everyday while complying with CPCB guidelines.

6.4. Generating High Calorific Value Fuel similar to the nature of Mineral Coal for Co-firing in thermal power plants and nearby process industries.

6.5. NVVN shall have the ownership and right to sale all the products and by-products generated from the said plant including revenue from Carbon Credits, if any.

6.6. The proposed plant shall comply with latest environmental norms.

ATTESTED

(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND (INDIA)

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INDIA NON JUDICIAL

31243

IN-UP78853680439887V

Government of Uttar Pradesh

e-Stamp

Acc Name: Mohit Kumar

Certificate No.	:	IN-UP78853680439887V
Certificate Issued Date	:	22-Nov-2023 11:27 AM
Account Reference	:	NEWIMPACC (SV)/ up14014104/ GAUTAMBUDDH NAGAR 1/ UP-GBN
Unique Doc. Reference	:	SUBIN-UPUP14014104534454202317 70V
Purchased by	:	NTPC VIDYUT VYAPAR NIGAM LTD
Description of Document	:	Article 5 Agreement or Memorandum of an agreement
Property Description	:	Not Applicable
Consideration Price (Rs.)	:	
First Party	:	NTPC VIDYUT VYAPAR NIGAM LTD
Second Party	:	Not Applicable
Stamp Duty Paid By	:	NTPC VIDYUT VYAPAR NIGAM LTD
Stamp Duty Amount(Rs.)	:	100 (One Hundred only)

Please write or type below this line

Memorandum of Understanding

This Memorandum of Understanding ("MOU") is made and entered into on 30th day of November 2023 between:

NVVN (NTPC Vidyut Vyapar Nigam Ltd.); a wholly owned subsidiary of NTPC Ltd; duly registered under the Companies Act, 1956 and having its Registered Office at NTPC Bhawan, Core 7, SCOPE Complex, 7 Institutional Area, Lodhi Road, New Delhi-110003, INDIA, (herein after referred to as "NVVN", which expression shall mean and include unless repugnant to the context, its successors, and permitted assigns), of the **FIRST PART.**

AND

NAGAR NIGAM HALDWANI KATHGODAM, is the civic body that governs the city of Haldwani in Uttarakhand, India and having its office at Nagar Nigam , Nainital Road , Haldwani, Uttarakhand 263139 (hereinafter referred to as "NNHK"), which expression shall, unless the context otherwise specifies, means and include its successors and permitted assigns on the **SECOND PART.**

Dr. B. S. Bhakuni
Advocate
HC-NAINITAL

NTPC Vidyut Vyapar Nigam Limited

नगर आयुक्त
नगर निगम, हल्द्वानी-काठगोदाम

Statutory Alert:

1. The authenticity of this Stamp certificate should be verified at www.shcilestamp.com or using e-Stamp Mobile App of Stock Holding. Any discrepancy in the details on this Certificate and as available on the website/Mobile App renders it invalid.
2. The onus of checking the legitimacy is on the users of the certificate.

"Party" shall mean NVVN or NNHK individually. "Parties" shall mean NVVN and NNHK collectively.

This MOU between Nagar Nigam Haldwani-Kathgodam (NNHK) and NVVN is for setting up a Municipal Solid Waste (MSW) to Torrefied Charcoal Plant Facility in Haldwani, Uttarakhand.

WHEREAS;

1. NNHK expressed its interest in setting up a **MSW to Torrefied Charcoal Plant** facility based on Torrefaction technology at Haldwani to dispose of the carbonaceous component of MSW.
2. NVVN shall develop a MSW to Torrefied Charcoal plant on Build Own Operate (BOO) basis at a land allocated by NNHK free of cost.
3. NVVN shall have the ownership and right to sell all the products generated from the said plant.
4. NVVN shall have the right to use the Site for "**Setting up a 500 TPD, MSW to Torrefied Charcoal plant facility**" and its ancillary facilities including rooftop solar plant to meet the power requirement of the plant.
5. The other agreements like MSW Supply Agreement and Land Use Agreement between NVVN and NNHK shall be signed later on with major obligations summarized as under:

A. Obligations of NNHK:

I. NNHK shall provide approx. **10 acre** suitable land free of cost for the project along with boundary wall. The land should be free from water logging, above high flood level, and free from encumbrance.

II. NNHK shall ensure delivery of preferably pre-segregated Municipal Solid Waste (MSW) at designated Waste Tipping Floor of plant premises **free of cost.**

III. NNHK shall ensure that at least **500 MT preferably segregated MSW** is delivered daily to the plant.

IV. The delivered MSW shall not include inerts and prohibited items specifically mentioned in Annexure-I so as to ensure a minimum GCV of 2000 kcal/kg. NNHK shall provide preferably segregated dry waste to the extent possible.

V. NNHK shall also provide other basic amenities at the project site like All-weather approach road from existing road to plant boundary of minimum width 7.0 m, street lighting on approach road and outside plant premises, sewer line, Right of Way, drainage outside plant premises, and other basic facilities, etc.

NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhakuni Advocate HQ-NAINITAL

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VI. NNHK shall provide water supply connection for drinking water usage during plant construction and operation period. Additionally, NNHK shall provide ~50 KLD of preferably treated STP water for construction activities and ~200 KLD of preferably treated STP water for process application during the O&M period, within the plant battery limit.

VII. NNHK shall provide power connection of ~2 MVA (min. 11 kVA) and ~150 kW for Construction Power within plant battery limit. The plant machinery shall be powered by this connection on a pay-per-use basis.

VIII. Development and maintaining of green belt (as applicable) other than 10 acre for plant facility shall be in the scope of NNHK.

IX. Diversion of any Electric Line passing through the proposed project site, cutting down the trees existing on the proposed site (if any) and their disposal and diversion of Forest Land (if any) before handing over the site to NVVN shall be done by NNHK.

X. NNHK shall obtain Environment Clearance (if applicable).

XI. NNHK shall take back the unutilized contents of MSW (Inert and process rejects) for safe disposal **at its own cost.**

XII. Development and maintaining Scientific Land Fill facility (as applicable) shall be in the scope of NNHK. The Scientific Land Fill should not be in an adjacent area of the said MSW project.

XIII. The concession period of the project shall be 30 years initially. This may be extended further on similar terms and conditions with mutual consent of both the parties.

B. Obligations of NVVN:

I. NVVN shall set up a MSW to Torrefied Charcoal Plant on Build Own Operate (BOO) basis at a land allocated by NNHK.

II. EPC of MSW to Torrefied Charcoal Plant Facility including installation and commissioning.

III. Smooth Operation & Maintenance of plant through deployment of third-party O&M contractor for 25 years.

IV. Utilization of approx. 500 MT per day of MSW everyday while complying with CPCB guidelines.

V. Generating High Calorific Value Fuel similar to the nature of Mineral Coal for Co-firing in thermal power plants or nearby process industries.

NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhakuni Advocate HQ-NAINITAL

NTPC Vidyut Vyapar Nigam Limited NTPC

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VI. NVVN shall have the ownership and right to sell all the products and by-products generated from the said plant including revenue from Carbon Credits, if any.

VII. The proposed plant shall comply with the latest environmental norms.

The above is a non-binding MOU. However, both NVVN and NNHK shall enter into a legally binding agreement, subject to the approval of the respective management.

For and on behalf of :- NVVN Limited, New Delhi	**For and on behalf of :-** Nagar Nigam Haldwani-Kathgodam
Authorized Signatory	**Authorized Signatory** नगर आयुक्त नगर निगम, हल्द्वानी-काठगोदाम
Name: Ms. Renu Narang	**Name: Sh. Pankaj Kumar Upadhaya**
Designation: Chief Executive Officer	**Designation: Municipal Commissioner**
Contact Address: 5th Floor, EOC Complex, NTPC Ltd., A-8A, Sector 24, Noida, Uttar Pradesh 201307	**Contact Address:** Nagar Nigam , Nainital Road , Haldwani, Uttarakhand 263139

Witnesses	
1. Dr Yogender Pal Singh Rawlata MAYOR Municipal Corporation Hld-kgm	
2. Himanshu Phulosia	Engineer - NI(WTE) NVVN Ltd.

NOTARY
Dt. P. S. Bhakuni
Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND INDIA

NTPC Vidyut Vyapar Nigam Limited

ATTESTED
(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Dist. Nainital (U.K.)

Annexure-I

List of Banned Items in the Waste:-

- Construction & Demolition Waste
- Anatomical Hospital Waste
- Asbestos
- Bio Hazardous Waste
- Electronic Scrap / E Waste
- Battery Waste
- Explosives
- Waste free from Trace Elements and Heavy Metals i.e. Cyanide, Arsenic etc.
- Mineral Acids
- Radioactive Waste

NTPC Vidyut Vyapar Nigam Limited
NTPC
EOC Noida

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नगर निगम, हल्द्वानी-काठगोदाम

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND (INDIA)

ATTESTED
(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

कार्यालय नगरपालिका परिषद,रामनगर (नैनीताल)।

पत्रांक 1645/2–लेखा अनु0/21–22 दिनांक-10-08-2021

सेवा में,

प्रभागीय वनाधिकारी,
तराई पश्चिमी वन प्रभाग, रामनगर(नैनीताल)।

विषय :– जनपद नैनीताल में तराई पश्चिमी वन प्रभाग, रामनगर के अर्न्तगत नगरीय क्षेत्र में उत्पादित होने वाले अपशिष्ट के भण्डारण, प्रसंस्करण एवं निस्तारण हेतु 0.9555हैक्टेयर वन भूमि लीज का नगरपालिका परिषद रामनगर को 30वर्षो पर दिए जानें के सम्बन्ध में।

सन्दर्भ – आपका पत्रांक 3998/12–1 दिनांक 24–06–2021 एवं पत्रांक 442/12–1 दिनांक 30–07–2021

महोदय,

उपरोक्त विषयक सन्दर्भित वर्णित पत्रों के क्रम में अवगत कराना है कि नगरपालिका परिषद रामनगर द्वारा पूर्व में आपके पत्रांक 4295/4–स0–स्वा0अनु0/20–21 दिनांक 10–07–2021 के क्रम में इस कार्यालय के पत्रांक 6134/4–स0–स्वा0अनु0/20–21 दिनांक 10–07–2020 के द्वारा आपके कार्यालय की डिमाण्ड के अनुसार प्रस्तावित परियोजना के दोनो ओर रिक्त पड़े स्थानों पर 955 वृक्षों का वृक्षारोपण एवं 10वर्षो तक रख–रखाव हेतु अंकन 11,55,550=00रू0 की धनराशि का चैक संख्या–030392 दिनांक 08–07–2020 को प्रेषित किया गया था, जो आपके कार्यालय पत्रांक 207/12–1 दिनांक 14–07–2020 के द्वारा पालिका को अंकन 11,55,550=00रू0 का वर्णित चैक मूलरूप में वापस करते हुए अवगत कराया गया कि "उक्त धनराशि कैम्पा मद में ऑन लाईन चालान के द्वारा जमा की जानी है, नोडल अधिकारी कार्यालय में दूरभाष से सम्पर्क करनें पर उनके द्वारा अवगत कराया गया कि याचक विभाग द्वारा अपनी आई0डी0से उक्त धनराशि जमा कराये जाने हेतु ऑन लाईन रिक्वेस्ट भेजी जाएगी, तदोपरान्त ऑन लाईन आप्सन उपलब्ध हो पायेगा, जिसके क्रम में नगरपालिका परिषद रामनगर द्वारा आपके विभाग से समन्वय स्थापित करते हुए अपनी आई0डी0से ऑन लाईन रिक्वेस्ट भेजी गयी, परन्तु आज दिन तक धनराशि जमा किए जानें का कोई आप्सन प्राप्त नहीं हुआ है।

उक्त के क्रम में कई बार आपके विभाग के मानचित्रकार एवं लेखाकार महोदय से भी सम्पर्क स्थापित किया गया परन्तु कोई जानकारी प्राप्त नहीं हो पा रही है।

महोदय आपके उपरोक्त सन्दर्भित पत्रों के क्रम में 30वर्षो का वार्षिक लीज रेन्ट प्रीमियम बकाया धनराशि अंकन 58,63,295=00(अट्ठावन लाख तिरेसठ हजार दो सौ पिचानवे रूपये) व संशोधित स्टाम्प ड्यूटी एवं रजिस्ट्रेशन फीस जमा करानें के निर्देश दिए गए है।

अतः आपसे अनुरोध है कि कृपया इस कार्यालय को अवगत करानें का कष्ट करें कि वर्णित धनराशि किस माध्यम से किस हैड में जमा की जानी है, ताकि नगरपालिका परिषद रामनगर आप द्वारा मांग की गयी धनराशि को जमा कराते हुए धनराशि जमा किए जानें के साक्ष्य महोदय के समक्ष साक्ष्य प्रस्तुत किये जा सके।

भवदीय,

(भरत त्रिपाठी)
अधिशासी अधिकारी,
नगरपालिका परिषद,रामनगर।

क्रमशः 2 पर

NOTARY Dr. B. S. Bhakuni Advocate HQ-NAINITAL GOVT. OF UTTARAKHAND (INDIA)

कार्यालय नगरपालिका परिषद,रामनगर जिला–नैनीताल।

पत्रांक 72/6/4–स0–स्था0अनु0/22–23 दिनांक 21–08–2022

सेवा में,

तहसीलदार,
रामनगर जिला–नैनीताल।

विषय :– नगरपालिका परिषद, रामनगर की ठोस अपशिष्ट प्रबन्धन के अनुपालन हेतु मा0राष्ट्रीय हरित अधिकरण नई दिल्ली द्वारा पारित आदेशों के अनुपालन में नगर सीमान्तर्गत उत्पादित होने वाले अपशिष्ट के निस्तारण हेतु भूमि उपलब्धता के सम्बन्ध में।

महोदय,

उपरोक्त विषयक इस कार्यालय के पत्रांक 6604/4–स0–स्था0अनु0/21–22 दिनांक 23–08–2021 जो उपजिलाधिकारी महोदय, रामनगर को सम्बोधित एवं जिलाधिकारी महोदय को पृष्ठांकित है, पर जिलाधिकारी महोदय के पत्रांक 9203/23–स्थानीय निकाय/2021 दिनांक 27 अगस्त 2021 जो उपजिलाधिकारी महोदय को सम्बोधित एवं अधोहस्ताक्षरी को पृष्ठांकित है, पर उपजिलाधिकारी महोदय द्वारा आपको एवं अधोहस्ताक्षरी को "कार्यवाही कर कार्यवाही से अवगत कराये" के आदेश पारित किए गए है, के क्रम में अवगत कराना है कि नगरपालिका परिषद रामनगर की सीमान्तर्गत उत्पादित होने वाले अपशिष्ट के निस्तारण हेतु निर्धारित मानकानुसार राजस्व भूमि की उपलब्धता के आधार पर पालिका को स्वास्थ्यकर भरण स्थल (Sanitary Landfills) स्थापित किए जाने हेतु 1 हैक्टेयर राजस्व भूमि उपलब्ध कराये जानें के सम्बन्ध में अनुरोध किया गया था। महोदय शासन द्वारा नगरपालिका परिषद् रामनगर को निर्धारित मानकानुसार स्वास्थ्यकर भरण स्थल (Sanitary Landfills) स्थापित किए जाने के बार–बार निर्देश दिए जा रहे है।

उपरोक्त के वर्णित पत्रों के क्रम में इस कार्यालय के पत्रांक 6694/4–स0–स्था0अनु0/ 21–22 दिनांक 11–10–2021 का सन्दर्भ ग्रहण करनें का कष्ट करें, जिसके द्वारा आपसे स्वास्थ्यकर भरण स्थल (Sanitary Landfills) स्थापित किए जाने हेतु 1 हैक्टेयर राजस्व भूमि उपलब्ध कराये जानें के सम्बन्ध में अनुरोध किया गया था।

मा0राष्ट्रीय हरित अधिकरण नई दिल्ली एवं उत्तराखण्ड शासन द्वारा निकायों को ठोस अपशिष्ट प्रबन्धन के अर्न्तगत नगर सीमान्तर्गत उत्पादित होने वाले अपशिष्ट का निस्तारण वैज्ञानिक पद्धति से किए जाने के लगातार निर्देश दिए गए है, परन्तु पालिका के पास भूमि उपलब्ध ना होने के कारण अनुपालन किए जाने में विलम्ब हो रहा है। ठोस अपशिष्ट प्रबन्धन परियोजना संचालन हेतु 1 हैक्टेयर भूमि की आवश्यकता है।

महोदय के संज्ञान में यह भी लाना समीचीन होगा कि मा0उच्च न्यायालय उत्तराखण्ड नैनीताल में योजित writ petition (PIL) No-80 of 2012 में पारित निर्णय आदेश के बिन्दु स0–89 के पैरा Z में "All the District Magistrates, throughout the State of Uttarakhand, shall be held personally responsible for providing suitable land for setting up of solid waste management facilities within their jurisdiction."पारित किए गए है।

उपरोक्त के अतिरिक्त महोदय के संज्ञान में लाना है कि नगरीय ठोस अपशिष्ट प्रबन्धन नियम 2016 के अर्न्तगत भारत सरकार का राजपत्र असाधारण भाग– II – खण्ड–3 – उपखण्ड (ii) प्राधिकार से प्रकाशित अधिसूचना संख्या–861 दिनांक नई दिल्ली 8 अप्रैल 2016 में SCHEDULE I [see rule 15 (w), (zi), 16 (1) (b) (e), 16 (4)] Specifications for Sanitary Landfills (A) Criteria for site selection में Sanitary Landfills हेतु (vii) The landfill site shall be 100 meter away from river, 200 meter from a pond, 200 meter from Highways, Habitations, Public Parks and water supply wells and 20 km away from Airports or Airbase. However in a special case, landfill site may be set up within a distance of 10 and 20 km away from the Airport/Airbase after obtaining no objection certificate from the civil aviation authority/ Air force as the case may be. The Landfill site shall not be permitted within the flood plains as recorded for the last 100 years, zone of coastal regulation, wetland, Critical habitat areas, sensitive eco-fragile areas का प्राविधान रखा गया है एवं मा0एन0जी0टी0*There shall be no dumping or landfill sites for any kind of waste irrespective of any technology for waste processing, within 500 meters from the edge of the river Ganga and/or its tributaries* द्वारा प्राविधान किया गया है।

क्रमशः 2 पर

ATTESTED
8/12/2024
(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ Nainital
Distt. Nainital (U.K.)

NOTARY
Dr. B. S. Bhakuni
Advocate
HQ-NAINITAL
Govt. of Uttarakhand (India)
8/12/24

31250

कार्यालय नगरपालिका परिषद, रामनगर (नैनीताल)।

पत्रांक नन/ /4–स0–स्वा0अनु0/2023–24 दिनांक

सेवा में,

प्रभागीय वनाधिकारी,
रामनगर वन प्रभाग, रामनगर (नैनीताल)।

विषय :– नगरीय क्षेत्र में उत्पादित होने वाले अपशिष्ट (Solid waste) के भण्डारण, प्रसंस्करण एवं निस्तारण के निर्माण हेतु ग्राम पूण्ड़ी स्थित पालिका को हस्तान्तरित 0.9555हैक्टेयर आरक्षित वन भूमि का सीमांकन किए जानें के सम्बन्ध में।

महोदय,

उपरोक्त विषयक अवगत कराना है कि नगरपालिका परिषद रामनगर को proposal no-FP/UK/Others/13504/2015 के द्वारा नगरीय क्षेत्र में उत्पादित होने वाले अपशिष्ट (Solid waste) के भण्डारण, प्रसंस्करण एवं निस्तारण के निर्माण हेतु ग्राम पूण्ड़ी स्थित 0.9555हैक्टेयर आरक्षित वन भूमि नगरपालिका परिषद,रामनगर को 30वर्षो की लीज पर दिए जाने की भारत सरकार द्वारा विधियत् स्वीकृति पत्रांक 8बी0/यू0सी0पी0/09/228/2016/एफ0सी0/ 1800 दिनांक 01–01–2018 के द्वारा प्रदान की गयी, जिसकी धनराशि का भुगतान प्रस्तावानुसार नगरपालिका परिषद रामनगर द्वारा आपके विभाग को किया गया तत्पश्चात् अपर सचिव, उत्तराखण्ड शासन द्वारा अपनें पत्रांक 243/X-4–18/1(350)/2016 वन एवं पर्यावरण अनुभाग–4 देहरादून दिनांक 01 मई 2019 के द्वारा स्वीकृति प्रदान की गयी है, जिसके क्रम में आपके पत्रांक 4526/12–1 दिनांक 22–06–2019 के द्वारा नगरपालिका परिषद रामनगर को प्रीमियम धनराशि एवं लीज रेन्ट जमा करने एवं पट्टा विलेख निष्पादित करानें के निर्देश दिए गए थे जिसके अनुपालन में नगरपालिका परिषद रामनगर को प्रश्नगत भूमि की लीज डीड का निष्पादन किया, जिसके उपरान्त वन विभाग, उपजिलाधिकारी महोदय रामनगर पुलिस प्रशासन एवं नगरपालिका द्वारा प्रश्नगत भूमि के सीमांकन हेतु स्थल पर उपस्थित हुए, परन्तु प्रश्नगत स्थल पर अवैध अतिक्रमण एवं भूमि में कृषि कार्य होने के कारण सीमांकन कार्य में बाधा उत्पन्न की गयी ग्राम वासियों द्वारा उस समय सीमांकन किए जानें का विरोध किया गया, जिस पर वन विभाग एवं राजस्व विभाग द्वारा प्रश्नर्गत भूमि पर कूड़ा डालनें की सहमति दी गयी और आज दिन तक प्रश्नगत भूमि का सीमांकन नहीं हो पाया।

आपके कार्यालय पत्रांक 558/12–1 दिनांक 03–08–2023 के द्वारा दिए गए निर्देशों के अनुपालन में नगरपालिका परिषद रामनगर एवं वन विभाग द्वारा दिनांक 10–08–2023 को प्रातः 11 बजे प्रश्नगत भूमि के सीमांकन हेतु स्थल पर उपस्थित हुए, और सीमांकन कार्य के दौरान तीन बिन्दुओं पर सीमांकन हेतु निशान देही की गयी परन्तु चौथे बिन्दु पर निशान करनें पर ग्रामवासियों/अतिधारियों द्वारा विरोध किया गया, जिस कारण सीमांकन कार्य नहीं हो सका, जिस कारण प्रश्नगत योजना के संचालन हेतु शासन द्वारा उपलब्ध करायी गयी धनराशि से कार्य भी नहीं कराये जा सके है, और योजना का संचालन रूका हुआ है।

अतः आपसे अनुरोध है कि कृपया प्रश्नगत भूमि पर अतिधारियों द्वारा किए गए अतिक्रमण से मुक्त कराते हुए भूमि का सीमांकन करानें का कष्ट करें ताकि नगरपालिका परिषद रामनगर द्वारा निशानदेही बिन्दुओं पर आर0सी0सी0पिलर स्थापित कराते हुए, प्रश्नगत योजना का क्रियान्वयन किया जा सके।

भवदीय,

(महेन्द्र कुमार यादव)
अधिशासी अधिकारी,
नगरपालिका परिषद,रामनगर।

पत्रांक एवं दिनांक तदैव

प्रतिलिपि निम्नलिखित की सेवा में सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

1. जिलाधिकारी महोदय, नैनीताल।
2. अपर प्रमुख वन संरक्षक एवं नोडल अधिकारी महोदय, इन्दिरा नगर फारेस्ट कालौनी उत्तराखण्ड, देहरादून।
3. उपजिलाधिकारी महोदय, रामनगर।
4. तहसीलदार, रामनगर।
5. सम्बन्धित पत्रावली।

अधिशासी अधिकारी,
नगरपालिका परिषद,रामनगर।

NOTARY GOVT. OF UTTARAKHAND (INDIA) Dr. B.S. Bhakuni Advocate HQ-NAINITAL

5/9/2023 कार्यालय रामनगर वन प्रभाग, रामनगर

कार्यालय तहसीलदार दिनांक 5-9-23 रामनगर

पत्रांक एवं दिनांक तदैव

1. प्रतिलिपि वन क्षेत्राधिकारी, तराई पश्चिमी वन प्रभाग, रामनगर को सूचनार्थ प्रेषित।

2. प्रतिलिपि लेखाकार, नगरपालिका परिषद रामनगर को इस आशय से प्रेषित कि कार्यालय प्रभागीय वनाधिकारी, तराई पश्चिमी वन प्रभाग, रामनगर में समन्वय स्थापित कर वर्णित धनराशि जमा किए जानें हेतु सम्पूर्ण जानकारी प्राप्त कर धनराशि का भुगतान प्राथमिकता के आधार पर करना सुनिश्चित करें।

3. सम्बन्धित पत्रावली।

(भरत त्रिपाठी)
अधिशासी अधिकारी,
नगरपालिका परिषद,रामनगर।

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND (INDIA)

ATTESTED
(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

31252

कार्यालय नगरपालिका परिषद, रामनगर नैनीताल

पत्रांक 7855/4–स्वा0 अनु0/2023–24, रामनगर, दिनांक 19-10-23

सेवा में,

प्रभागीय वनाधिकारी,
तराई पश्चिमी वन प्रभाग, रामनगर नैनीताल

विषय– नगरीय क्षेत्र में उत्पादि होने के अपशिष्ट होने वाले अपशिष्ट (Solid waste) के भण्डारण, प्रसंस्करण एवं निस्तारण के निर्माण हेतु ग्राम पूछड़ी स्थित पालिका को हस्तान्तरित 0.9555 हैक्टेयर आरक्षित वन भूमि का सीमांकन किए जाने के सम्बन्ध में।

महोदय,

कृपया उपरोक्त के सम्बन्ध में इस कार्यालय के पत्रांक संख्या–7746/4–स्वा0 अनु0/23–24, दिनांक–05.09.23, तथा पत्रांक संख्या–7820/4–स्वा0 अनु0/23–24, दिनांक–06.10.23, के क्रम में पुनः में अवगत कराना हैं कि नगरपालिका परिषद को proposal no. FP/UK / Others/13504/2015 के द्वारा नगरीय क्षेत्र में उत्पादित होने वाले अपशिष्ट (Solid waste) के भण्डारण, प्रसंस्करण एवं निस्तारण के निर्माण हेतु ग्राम पूछड़ी स्थित 0.9555 हैक्टेयर आरक्षित वन भूमि नगरपालिका परिषद,रामनगर को 30 वर्षों की लीज पर दिए जाने की भारत सरकार द्वारा विधिवत स्वीकृत पत्रांक 8बी0/यू0सी0पी0/09/228/2016/एफ0सी0/1600 दिनांक 01–01–2018 के द्वारा प्रदान की गयी, जिसकी धनराशि का भुगतान प्रस्तावानुसार नगरपालिका परिषद रामनगर द्वारा आपके विभाग को किया गया तत्पश्चात् अपर सचिव, उत्तराखण्ड शासन द्वारा अपने पत्रांक 243/ग–4–18/1(350)/2016 वन एवं पर्यावरण अनुभाग –4 देहरादून दिनांक 01मई2019 के द्वारा स्वीकृति प्रदान की गयी है, जिसके क्रम में आपके पत्रांक 4526/12–1 दिनांक 22–6–2019 के द्वारा नगरपालिका परिषद रामनगर को प्रीमियम धनाराशि एवं लीज रेन्ट जमा करने एवं पट्टा विलेख निष्पादित कराने के निर्देश दिए गए थे जिसके अनुपालन में नगरपालिका परिषद रामनगर को प्रश्नगत भूमि की लीज डीड का निष्पादन किया, जिसके उपरान्त वन विभाग, उपजिलाधिकारी महोदय रामनगर पुलिस प्रशासन एवं नगरपालिका द्वारा प्रश्नगत भूमि के सीमांकन हेतु स्थल पर उपस्थित हुए, परन्तु प्रश्नगत स्थल पर अवैध अतिक्रमण एवं भूमि में कृषि कार्य होने के कारण सीमांकन कार्य में बाधा उत्पन्न की गयी ग्राम वासियों द्वारा उस समय सीमांकन किए जाने का विरोध किया गया, जिस पर वन विभाग एवं राजस्व विभाग द्वारा प्रश्नगत भूमि पर कूड़ा डालने की सहमति दी गयी और आज दिन तक प्रश्नगत भूमि का सीमांकन नहीं हो पाया।

आपके कार्यालय पत्रांक 558/12–1 दिनांक 03–08–2023 के द्वारा दिए निर्देशों के अनुपालन में नगरपालिका परिषद रामनगर एवं वन विभाग द्वारा दिनांक 10.8.2023 को प्रातः 11 बजे प्रश्नगत भूमि के सीमांकन हुतु स्थल पर उपस्थित हुए, और सीमांकन कार्य के दौरान तीन बिन्दुओं पर सीमांकन हेतु निशान देही की गयी परन्तु चौथे बिन्दु पर निशान करनें पर ग्रामवासियों–अतिचारियों द्वारा विरोध किया गया, जिस कारण सीमांकन कार्य नही हो सका, जिस कारण प्रश्नगत योजना का संचालन रुका हुआ है।

अतः आपसे अनुरोध है कि कृपया प्रश्नगत भूमि पर अतिचारियों द्वारा किए गए अतिक्रमण से मुक्त कराते हुए भूमि का सीमांकन कराने का कष्ट करें ताकि नगरपालिका परिषद रामनगर द्वारा निशानदेही बिन्दुओं पर आर0सी0सी0पिलर स्थापित कराते हुए, प्रश्नगत योजना का क्रियान्वयन किया जा सके।

21.10.2023

भवदीय

अधिशासी अधिकारी,
नगरपालिका परिषद,रामनगर

पत्रांक एवं दिनांक तदैव

प्रतिलिपि निम्नलिखित की सेवा में सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

जिलाधिकारी महोदय, नैनीताल।
अपर प्रमुख वन संरक्षक एवं नोडल अधिकारी महोदय, इन्दिरा नगर फॉरेस्ट कॉलोनी उत्तराखण्ड, देहरादून।
उपजिलाधिकारी महोदय, रामनगर।
तहसीलदार, रामनगर।
सम्बंधित पत्रावली।

NOTARY Dr. B. S. Bhakuni Advocate HQ-NAINITAL GOVT. OF UTTARAKHAND (INDIA)

21-10-2023
तराई प. वन प्रभाग रामनगर

अधिशासी अधिकारी,
नगरपालिका परिषद,रामनगर

72

31253

कार्यालय नगरपालिका परिषद, रामनगर (नैनीताल)।

पत्रांक 7910 / 4-स्वा0 अनु0/2023-24, रामनगर, दिनांक-29-11-23

सेवा में,

प्रभागीय वनाधिकारी,
तत्ताई पश्चिमी वन प्रभाग, रामनगर नैनीताल

विषय– नगरीय क्षेत्र में उत्पादि होने के अपशिष्ट होने वाले अपशिष्ट (Solid waste) के भण्डारण, प्रसंस्करण एवं निस्तारण के निमर्ण हेतु ग्राम पूछड़ी स्थित पालिका को हस्तान्तरित 0.9555 हैक्टेयर आरक्षित वन भूमि का सीमांकन किए जानें के सम्बन्ध में।

महोदय,

कृपया उपरोक्त के सम्बन्ध में इस कार्यालय के पत्रांक संख्या-7746/4-स्वा0 अनु/23-24, दिनांक-05.09.23, पत्रांक संख्या-7820/4-स्वा0 अनुव/23-24, दिनांक-06.10.23, तथा पत्रांक संख्या-7855/4-स्वा0 अनुव/23-24, दिनांक- 19.10.23 के क्रम में पुनः में अवगत कराना हैं, कि नगरपालिका परिषद को proposal no. FP/UK / Others/13504/2015 के द्वारा नगरीय क्षेत्र में उत्पादित होने वाले अपशिष्ट (Solid waste) के भण्डारण, प्रसंस्करण एवं निस्तारण के निर्माण हेतु ग्राम पूछड़ी स्थित 0.9555 हैक्टेयर आरक्षित वन भूमि नगरपालिका परिषद,रामनगर को 30 वर्षों की लीज पर दिए जाने की भारत सरकार द्वारा विधिवत स्वीकृत पत्रांक 8वी0 / यू0सी0पी0 / 09/ 228/ 2016/ एफ0सी0/1800 दिनांक 01-01-2018 के द्वारा प्रदान की गयी, जिसकी धनराशि का भुगतान प्रस्तावानुसार नगरपालिका परिषद रामनगर द्वारा आपके विभाग को किया गया तत्पश्चात् अपर सचिव, उत्तराखण्ड शासन द्वारा अपने पत्रांक 243/ग-4-18/1(350)/2016 वन एवं पर्यावरण अनुभाग -4 देहरादून दिनांक 01मई2019 के द्वारा स्वीकृति प्रदान की गयी है, जिसके क्रम में आपके पत्रांक 4526/12-1 दिनांक 22-6-2019 के द्वारा नगरपालिका परिषद रामनगर को प्रीमियम धनराशि एवं लीज रेन्ट जमा करने एवं पट्टा विलेख निष्पादित कराने के निर्देश दिए गए थे जिसके अनुपालन में नगरपालिका परिषद रामनगर को प्रश्नगत भूमि की लीज डीड का निष्पादन किया, जिसके उपरान्त वन विभाग, उपजिलाधिकारी महोदय रामनगर पुलिस प्रशासन एवं नगरपालिका द्वारा प्रश्नगत भूमि के सीमांकन हेतु स्थल पर उपस्थित हुए, परन्तु प्रश्नगत स्थल पर अवैध अतिक्रमण एवं भूमि में कृषि कार्य होने के कारण सीमांकन कार्य में बाधा उत्पन्न की गयी ग्राम वासियों द्वारा उस समय सीमांकन किए जाने का विरोध किया गया, जिस पर वन विभाग एवं राजस्व विभाग द्वारा प्रश्नगत भूमि पर कूड़ा डालने की सहमति दी गयी और आज दिन तक प्रश्नगत भूमि का सीमांकन नहीं हो पाया।

आपके कार्यालय पत्रांक 558/12-1 दिनांक 03-08-2023 के द्वारा दिए निर्देशों के अनुपालन में नगरपालिका परिषद रामनगर एवं वन विभाग द्वारा दिनांक 10.8.2023 को प्रातः 11 बजे प्रश्नगत भूमि के सीमांकन हुतु स्थल पर उपस्थित हुए, और सीमांकन कार्य के दौरान तीन बिन्दुओं पर सीमांकन हेतु निशान देही की गयी परन्तु चौथे बिन्दु पर निशान करने पर ग्रामवासियों–अतिचारियों द्वारा विरोध किया गया, जिस कारण सीमांकन कार्य नहीं हो सका, जिस कारण प्रश्नगत योजना का संचालन रुका हुआ है।

अतः आपसे अनुरोध है कि कृपया प्रश्नगत भूमि पर अतिचारियों द्वारा किए गए अतिक्रमण से मुक्त कराते हुए भूमि का सीमांकन कराने का कष्ट करें ताकि नगरपालिका परिषद रामनगर द्वारा निशानदेही बिन्दुओं पर आर0सी0सी0पिलर स्थापित कराते हुए, प्रश्नगत योजना का क्रियान्वयन किया जा सके।

भवदीय

(महेन्द्र कुमार यादव)
अधिशासी अधिकारी,
नगरपालिका परिषद,रामनगर

पत्रांक एवं दिनांक तदैव

प्रतिलिपि निम्नलिखित की सेवा में सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

1. जिलाधिकारी महोदय, नैनीताल।
2. अपर प्रमुख वन संरक्षक एवं नोडल अधिकारी महोदय, इन्दिरा नगर फॉरेस्ट कॉलोनी उत्तराखण्ड, देहरादून।
3. उपजिलाधिकारी महोदय, रामनगर।
4. तहसीलदार, रामनगर।
5. सम्बंधित पत्रावली।

अधिशासी अधिकारी,
नगरपालिका परिषद,रामनगर

NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL Regd. No. 30 (UK)09/2011 GOVT. OF UTTARAKHAND

31254

कार्यालय नगरपालिका परिषद, रामनगर (नैनीताल)।

पत्रांक 7820 /4–स0–स्वा0अनु0/2023–24 दिनांक 06–10–2023

सेवा में,

प्रभागीय वनाधिकारी,
तराई पश्चिमी वन प्रभाग, रामनगर (नैनीताल)।

विषय :– नगरीय क्षेत्र में उत्पादित होने वाले अपशिष्ट (Solid waste) के भण्डारण, प्रसंस्करण एवं निस्तारण के निर्माण हेतु ग्राम पूछड़ी स्थित पालिका को हस्तान्तरित 0.9555हैक्टेयर आरक्षित वन भूमि का सीमांकन किए जानें के सम्बन्ध में।

महोदय,

उपरोक्त विषयक अवगत कराना है कि नगरपालिका परिषद रामनगर को proposal no-FP/UK/Others/13504/2015 के द्वारा नगरीय क्षेत्र में उत्पादित होने वाले अपशिष्ट (Solid waste) के भण्डारण, प्रसंस्करण एवं निस्तारण के निर्माण हेतु ग्राम पूछड़ी स्थित 0.9555हैक्टेयर आरक्षित वन भूमि नगरपालिका परिषद,रामनगर को 30वर्षो की लीज पर दिए जाने की भारत सरकार द्वारा विधिवत् स्वीकृति पत्रांक 8वी0/यू0सी0पी0/09/228/2016/एफ0सी0/ 1800 दिनांक 01–01–2018 के द्वारा प्रदान की गयी, जिसकी धनराशि का भुगतान प्रस्तावानुसार नगरपालिका परिषद रामनगर द्वारा आपके विभाग को किया गया तत्पश्चात् अपर सचिव, उत्तराखण्ड शासन द्वारा अपनें पत्रांक 243/X-4–18/1(350)/2016 वन एवं पर्यावरण अनुभाग–4 देहरादून दिनांक 01 मई 2019 के द्वारा स्वीकृति प्रदान की गयी है, जिसके क्रम में आपके पत्रांक 4526/12–1 दिनांक 22–06–2019 के द्वारा नगरपालिका परिषद रामनगर को प्रीमियम धनराशि एवं लीज रेन्ट जमा करने एवं पट्टा विलेख निष्पादित करानें के निर्देश दिए गए थे जिसके अनुपालन में नगरपालिका परिषद रामनगर को प्रश्नगत भूमि की लीज डीड का निष्पादन किया, जिसके उपरान्त वन विभाग, उपजिलाधिकारी महोदय रामनगर पुलिस प्रशासन एवं नगरपालिका द्वारा प्रश्नगत भूमि के सीमांकन हेतु स्थल पर उपस्थित हुए, परन्तु प्रश्नगत स्थल पर अवैध अतिक्रमण एवं भूमि में कृषि कार्य होने के कारण सीमांकन कार्य में बाधा उत्पन्न की गयी ग्राम वासियों द्वारा उस समय सीमांकन किए जानें का विरोध किया गया, जिस पर वन विभाग एवं राजस्व विभाग द्वारा प्रश्नगत भूमि पर कूड़ा डालनें की सहमति दी गयी और आज दिन तक प्रश्नगत भूमि का सीमांकन नहीं हो पाया।

आपके कार्यालय पत्रांक 558/12–1 दिनांक 03–08–2023 के द्वारा दिए गए निर्देशों के अनुपालन में नगरपालिका परिषद रामनगर एवं वन विभाग द्वारा दिनांक 10–08–2023 को प्रातः 11 बजे प्रश्नगत भूमि के सीमांकन हेतु स्थल पर उपस्थित हुए, और सीमांकन कार्य के दौरान तीन बिन्दुओं पर सीमांकन हेतु निशान देही की गयी परन्तु चौथे बिन्दु पर निशान करनें पर ग्रामवासियों/अतिचारियों द्वारा विरोध किया गया, जिस कारण सीमांकन कार्य नहीं हो सका, जिस कारण प्रश्नगत योजना के संचालन हेतु शासन द्वारा उपलब्ध करायी गयी धनराशि से कार्य भी नहीं कराये जा सके है, और योजना का संचालन रूका हुआ है।

अतः आपसे अनुरोध है कि कृपया प्रश्नगत भूमि पर अतिचारियों द्वारा किए गए अतिक्रमण से मुक्त कराते हुए भूमि का सीमांकन करानें का कष्ट करें ताकि नगरपालिका परिषद रामनगर द्वारा निशानदेही बिन्दुओं पर आर0सी0सी0पिलर स्थापित कराते हुए, प्रश्नगत योजना का क्रियान्वयन किया जा सके।

06/10/2023

भवदीय,

(महेन्द्र कुमार यादव)
अधिशासी अधिकारी,
नगरपालिका परिषद,रामनगर।

–पत्रांक एवं दिनांक तदैव

प्रतिलिपि निम्नलिखित की सेवा में सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

1. जिलाधिकारी महोदय, नैनीताल।
2. अपर प्रमुख वन संरक्षक एवं नोडल अधिकारी महोदय, इन्दिरा नगर फारेस्ट कालोनी उत्तराखण्ड, देहरादून।
3. उपजिलाधिकारी महोदय, रामनगर।
4. तहसीलदार, रामनगर।

सम्बन्धित पत्रावली।

अधिशासी अधिकारी,
नगरपालिका परिषद,रामनगर।

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कार्यालय नगरपालिका परिषद,रामनगर (नैनीताल)

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Website : www.nagarpalikaramnagar.in

पत्रांक 7958 /4–स्वा०अनु०/2023–24 दिनांक 01-01-2024

सेवा मे,

प्रभागीय वनाधिकारी,
तराई पश्चिमी वन प्रभाग, रामनगर (नैनीताल)

विषय– नगरीय क्षेत्र में उत्पादित होने वाले अपशिष्ट (Solid waste) के भण्डारण, प्रसंस्करण एवं निस्तारण के निर्माण हेतु ग्राम पूछड़ी स्थित पालिका को हस्तान्तरित 0.9555 हैक्टेयर आरक्षित वन भूमि का सीमांकन किए जाने के सम्बन्ध में।

सन्दर्भ– पालिका कार्यालय पत्रांक 7910/4–स्वा०अनु०/2023–24 दिनांक 05.09.2023
पालिका कार्यालय पत्रांक 7746/4–स्वा०अनु०/2023–24 दिनांक 06.10.2023
पालिका कार्यालय पत्रांक 7820/4–स्वा०अनु०/2023–24 दिनांक 19.10.2023
पालिका कार्यालय पत्रांक 7855/4–स्वा०अनु०/2023–24 दिनांक 29.11.2023

महोदय,

कृपया उपरोक्त विषयक अधोहस्ताक्षरी के सन्दर्भित पत्रों का अवलोकन करने का कष्ट करें सन्दर्भित पत्रों के क्रम में महोदय को अवगत कराना है, कि proposal no. FP/UK/Others/13504/2015 के द्वारा नगरीय क्षेत्र में उत्पादित होने वाले अपशिष्ट (Solid waste) के भण्डारण, प्रसंस्करण एवं निस्तारण के निर्माण हेतु ग्राम पूछड़ी स्थित 0.9555 हैक्टेयर आरक्षित वन भूमि नगरपालिका परिषद,रामनगर को 30 वर्षों की लीज पर दिए जाने हेतु भारत सरकार द्वारा प्राप्त विधिवत स्वीकृति उपरान्त पालिका द्वारा प्रस्तावानुसार धनराशि का भुगतान आपके विभाग को कर प्रश्नगत भूमि के सम्बन्ध में लीज डीड का निष्पादन किये जाने के पश्चात भूमि के सीमांकन हेतु वन विभाग, उपजिलाधिकारी रामनगर, पुलिस प्रशासन एवं नगरपालिका प्रशासन स्थल पर उपस्थित हुए परन्तु प्रश्नगत स्थल पर अवैध अतिक्रमण/कृषि कार्य होने के कारण अतिचारियों द्वारा सीमांकन कार्य में बाधा उत्पन्न तथा सम्बन्धित ग्राम वासियों द्वारा सीमांकन किए जाने का विरोध किये जाने के कारण तत्समय भूमि का सीमांकन नही हो पाया था। वन विभाग एवं राजस्व विभाग द्वारा प्रश्नगत भूमि पर कूड़ा डालने की सहमति नगरपालिका परिषद,रामनगर को प्रदान की गयी थी।

उपरोक्तानुसार प्रश्नगत भूमि का सीमांकन किये जाने के क्रम में आपके कार्यालय पत्रांक 558/12–1 दिनांक 03–08–2023 में दिए निर्देशों के अनुपालन में नगरपालिका परिषद रामनगर एवं वन विभाग,रामनगर के अधिकारी/कर्मचारी दिनांक 10.8.2023 को प्रातः 11 बजे प्रश्नगत भूमि के सीमांकन हेतु स्थल पर उपस्थित हुए, और सीमांकन कार्य के दौरान तीन बिन्दुओं पर सीमांकन हेतु निशान देही की गयी परन्तु चौथे बिन्दु पर निशान करने के दौरान ग्रामवासियों–अतिचारियों द्वारा किये गये विरोध के कारण सीमांकन कार्य पूर्ण नहीं हो सका। सीमांकन कार्य पूर्ण ना हो पाने के कलस्वरूप प्रश्नगत योजना का संचालन रुका हुआ है।

अतः आपसे पुनः अनुरोध है कि कृपया प्रश्नगत भूमि को अतिचारियों द्वारा किए गए अतिक्रमण से मुक्त कराते हुए भूमि का सीमांकन कराकर विधिवत कब्जा पालिका को सौंपने का कष्ट करें ताकि नगरपालिका परिषद, रामनगर द्वारा सीमांकित भूमि के अन्तर्गत प्रश्नगत योजना का क्रियान्वयन किया जा सके।

संलग्नः– यथोक्त।

भवदीय,
(महेन्द्र कुमार यादव)
अधिशासी अधिकारी
नगरपालिका परिषद,रामनगर

पत्रांक एवं दिनांक तदैव।

प्रतिलिपि–निम्नलिखित की सेवा में सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित–

1 जनपदीय नगरपालिका परिषद,रामनगर/जिलाधिकारी महोदय, नैनीताल।
2 अपर प्रमुख वन संरक्षक एवं नोडल अधिकारी महोदय, इन्दिरा नगर फॉरेस्ट कॉलोनी उत्तराखण्ड, देहरादून।
3 प्रभारी अधिकारी नगरपालिका परिषद,रामनगर/उपजिलाधिकारी महोदय,रामनगर।
4 तहसीलदार, रामनगर।
5 सम्बन्धित पत्रावली।

अधिशासी अधिकारी
नगरपालिका परिषद,रामनगर

31256

कार्यालय नगरपालिका परिषद,रामनगर (नैनीताल)

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पत्रांक 8015 /4-स्वा०अनु०/2023-24 दिनांक 27-01-24

सेवा में,

प्रभागीय वनाधिकारी,
तराई पश्चिमी वन प्रभाग,रामनगर नैनीताल।

विषय- नगरीय क्षेत्र में उत्पादित होने वाले अपशिष्ट (Solid waste) के भण्डारण, प्रसंस्करण एवं निस्तारण के निर्माण हेतु ग्राम पूछड़ी स्थित पालिका को हस्तान्तरित 0.9555 हैक्टेयर आरक्षित वन भूमि का सीमांकन किए जानें के सम्बन्ध में।

सन्दर्भ- पालिका कार्यालय पत्रांक 7910/4-स्वा०अनु०/2023-24 दिनांक 05.09.2023
पालिका कार्यालय पत्रांक 7746/4-स्वा०अनु०/2023-24 दिनांक 06.10.2023
पालिका कार्यालय पत्रांक 7820/4-स्वा०अनु०/2023-24 दिनांक 19.10.2023
पालिका कार्यालय पत्रांक 7855/4-स्वा०अनु०/2023-24 दिनांक 29.11.2023
पालिका कार्यालय पत्रांक 7958/4-स्वा०अनु०/2023-24 दिनांक 01.01.2024

महोदय,

कृपया उपरोक्त विषयक आपको प्रेषित पालिका कार्यालय के सन्दर्भित पत्रों के क्रम में पुनः अवगत कराना है कि नगर पालिका परिषद को proposal no. FP/UK / Others/13504/2015 के द्वारा नगरीय क्षेत्र में उत्पादित होने वाले अपशिष्ट (Solid waste) के भण्डारण, प्रसंस्करण एवं निस्तारण के निर्माण हेतु ग्राम पूछड़ी स्थित 0.9555 हैक्टेयर आरक्षित वन भूमि नगरपालिका परिषद,रामनगर को 30 वर्षों की लीज पर दिए जाने हेतु भारत सरकार द्वारा प्राप्त विधिवत स्वीकृति पत्रांक 8बी०/डब्लू0पी0/09/228/2016/एफ0 सी0/1800 दिनांक 01.01.2018 के द्वारा प्रदान की गयी,जिसकी धनराशि का भुगतान प्रस्तावानुसार नगर पालिका परिषद रामनगर द्वारा आपके विभाग को किया गया, तत्पश्चात अपर सचिव उत्तराखण्ड शासन द्वारा अपने पत्रांक 243/ग-4-18/1(350)/2016 वन एवं पर्यावरण अनुभाग -4 देहरादून 1 मई 2019 के द्वारा प्रदान की गयी स्वीकृति के क्रम में आपके पत्रांक 4526/12-1 दिनांक 22.6.2019 के द्वारा नगरपालिका परिषद रामनगर को प्रीमियम धनराशि एवं लीज रेन्ट जमा करने एवं पट्टा विलेख निष्पादित कराने के निर्देशों के अनुपालन में नगरपालिका परिषद रामनगर द्वारा दिनांक 23 अक्टूबर, 2019 को प्रश्नगत भूमि की लीज डीड का निष्पादन कराया गया। उपरोक्त कार्यवाही सम्पादित किये जाने के उपरांत वन विभाग, उपजिलाधिकारी रामनगर, पुलिस प्रशासन एवं नगरपालिका प्रशासन प्रश्नगत भूमि के सीमांकन हेतु स्थल पर उपस्थित हुए, परन्तु प्रश्नगत स्थल पर अवैध अतिक्रमण एवं भूमि में कृषि कार्य होने के कारण सम्बन्धित अतिधारियों द्वारा सीमांकन कार्य का विरोध कर बाधा उत्पन्न की गयी जिस कारण तत्समय आवंटित भूमि का सीमांकन नही हो पाया। भूमि का सीमांकन न होने तथा पालिका को विधिवत भूमि का कब्जा प्राप्त ना होने के कारण अपशिष्ट का निस्तारण ना हो सकने की समस्या को दृष्टिगत रखते हुये वन विभाग एवं राजस्व विभाग द्वारा प्रश्नगत भूमि के अतिरिक्त भाग पर कूड़ा डालने की सहमति नगरपालिका परिषद रामनगर को प्रदान की गयी थी। आपके कार्यालय के पत्रांक 558/12-1 दिनांक 03-08-2023 के द्वारा दिए गये निर्देशों के अनुपालन में नगरपालिका परिषद रामनगर एवं वन विभाग,रामनगर द्वारा दिनांक 10.8.2023 को प्रातः 11 बजे प्रश्नगत भूमि के सीमांकन हेतु पुनः स्थल पर उपस्थित हुए और सीमांकन कार्य के दौरान तीन बिन्दुओं पर सीमांकन हेतु निशान देही की गयी परन्तु शेष बिन्दु पर निशानदेही करने के दौरान ग्रामवासियों-अतिधारियों द्वारा किये गये विरोध के कारण सीमांकन कार्य पूर्ण नही हो सका।

उपजिलाधिकारी कार्यालय,रामनगर के पत्र सं0-232/एस0पी0ए0/2023 दिनांक 28 दिसम्बर 2023 द्वारा प्रश्नगत भूमि के सीमांकन हेतु एक समिति गठित की गयी जिसमें तहसीलदार रामनगर, सम्बन्धित वनक्षेत्राधिकारी एवं अधिशासी अधिकारी नगरपालिका परिषद रामनगर को प्रश्नगत भूमि पर किये गये अतिक्रमण को चिन्हित कर नियमानुसार कार्यवाही करते हुए तत्काल आख्या उपलब्ध कराने हेतु आदेशित किया गया था जिसके क्रम में गठित समिति के सदस्य अपने अधीनस्थ कर्मचारियों सहित दिनांक 16.1.2024 को प्रश्नगत स्थल पर उपस्थित हुए। उपस्थित टीम द्वारा स्थल पर सीमांकन की कार्यवाही के दौरान पूर्व से स्थल पर मौजूद सम्बन्धित अतिधारियों तथा ग्राम वासियों द्वारा कार्यवाही का विरोध कर टीम के सदस्यों के साथ अभद्र व्यवहार किया गया जिसके फलस्वरूप टीम द्वारा पुलिस बल को भी मौके पर बुलवाया गया पर सम्बन्धित अतिधारियों तथा ग्रामवासियों के पुरजोर विरोध किये जाने के कारण मौके पर सीमांकन का कार्य पूर्ण नही हो पाया जिस कारण गठित टीम तथा पुलिस बल को स्थल से वापस लौटना पड़ा। शासन द्वारा प्रस्तावित योजना के क्रियान्वयन हेतु धनराशि का आवंटन भी पालिका को किया जा चुका है, पर उपरोक्तानुसार प्रश्नगत भूमि का विधिवत कब्जा पालिका को प्राप्त ना होने के कारण शासन से प्राप्त धनराशि का उपयोग निहित प्रयोजनार्थ नही हो पा रहा है। शासन द्वारा समय-समय पर परिषद बोर्ड की में इस सम्बन्ध में नाराजगी भी व्यक्त की जा रही है।

GOVT. OF UTTARAKHAND

24/1/2024

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अतः महोदय से अनुरोध है कि कृपया प्रश्नगत भूमि को अतिचारियों द्वारा किए गए अतिक्रमण से मुक्त कराते हुए भूमि का सीमांकन कराकर निर्बाध कब्जा पालिका को सौंपे जाने हेतु सम्बन्धित को आदेशित करने का कष्ट करें जिससे नगरपालिका परिषद, रामनगर द्वारा सीमांकित भूमि के अन्तर्गत प्रश्नगत योजना का क्रियान्वयन किया जा सके।

भवदीय,

(राहुल शाह)
प्रभारी अधिकारी/उप जिलाधिकारी
नगरपालिका परिषद,रामनगर

पत्रांक एवं दिनांक–उदैव

प्रतिलिपि निम्नलिखित की सेवा में सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

1. प्रशासक,नगरपालिका परिषद,रामनगर/जिलाधिकारी महोदय, नैनीताल ।
2. निदेशक,शहरी विकास निदेशालय,उत्तराखण्ड, देहरादून।

प्रभारी अधिकारी/उपजिलाधिकारी
नगरपालिका परिषद,रामनगर

27/01/2024

कार्यालय प्रभारी
रामनगर

NOTARY
Govt. of Uttarakhand (India)
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL

ATTESTED
28/12/2024
(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

28/12/2024

कार्यालय नगर पंचायत कालाढूँगी जनपद नैनीताल

पत्रांक 156 / स्था0 नि0 / स्व0भा0मि0 / 2023-24 दिनांक 21 / 7 / 2023

सेवा म

प्रभागीय वनाधिकारी महोदय,
रामनगर वन प्रभाग, रामनगर,
जनपद– नैनीताल।

विषय:– नगरीय ठोस अपशिष्ट प्रबन्धन योजनान्तर्गत नगर निकायो के कूड़े–कचरे को वैज्ञानिक विधि से निस्तारण हेतु भूमि चिन्हिकरण/हस्तान्तरण किये जाने के सम्बन्ध मे।

महोदय,

उपरोक्त विषयक महोदय को पूर्व में प्रेषित पत्र 437/स्था0 नि0/2022–23 दि0 26–12–2022, अपर जिलाधिकारी के पत्र सं0 46/23–स्था0नि0/2022 दि0 28 दिसम्बर 2022 तथा कार्यालय पत्र सं0 110/स्था0 नि0/स्वच्छ भारत मिशन/2023–24 दि0 21–6–2023 का सज्ञान लेने की कृपा करेगे।(छायाप्रति सलग्न) उपरोक्त पत्र द्वारा नगर पचायत कालाढूगी द्वारा जिस स्थान पर (हुड़कियाचौड़ स्थित वन भूमि) वर्तमान में कूड़ा निस्तारण किया जा रहा है, उस भूमि के भूमि हस्तान्तरण बावत प्रस्ताव की सहमति हेतु निवेदन किया गया था जो कि आतिथि तक महोदय के स्तर पर लम्बित है।

महोदय, उपरोक्त सम्बन्ध में सादर अनुरोध है कि नगर पंचायत कालाढूंगी को ठोस अपशिष्ट प्रबन्धन योजना के अन्तर्गत नगर पंचायत कालाढूंगी सीमान्तर्गत उत्पादित होने वाले कूड़े कचरे को वैज्ञानिक विधि से निस्तारण (कम्पोस्टिंग प्लान्ट/एम0 आर0 एफ0 सेन्टर) बनाये जाने हेतु हुड़कियाचौड़ स्थित वन भूमि ,जहाँ पूर्व से ही नगर पंचायत कालाढूंगी के कूड़े का निस्तारण किया जा रहा है, की भूमि हस्तान्तरण की अनुमति प्रदान करने हेतु अग्रिम आवश्यक कार्यवाही करने की कृपा करेंगे।

सलग्नक– उरोक्तानुसार

भवदीय,
21.7.2023
अधिशासी अधिकारी
नगर पंचायत कालाढूंगी
नैनीताल

ATTESTED
(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

प्रतिलिपि निम्नांकित की सेवा मे सूचनार्थ एव आवश्यक कार्यवाही हेतु सादर प्रेषित

1– जिलाधिकारी महोदया, नैनीताल।
2–निदेशक महोदया, शहरी विकास निदेशालय देहरादून।

Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
NOTARY GOVT. OF UTTARAKHAND (INDIA)

कार्यालय
रामनगर वन प्रभाग,
रामनगर

भवदीय,
21.7.2023
अधिशासी अधिकारी
नगर पंचायत कालाढूंगी
नैनीताल

31259

कार्यालय, नगर पंचायत कालाढूंगी (नैनीताल)।

पत्रांक– 433 /स्था0नि0/2022–23 दिनांक– 26 –12–2022

सेवा में,

प्रभागीय वनाधिकारी महोदय,
रामनगर वन प्रभाग, रामनगर
जिला–नैनीताल।

विषयः– नगरीय ठोस अपशिष्ठ प्रबन्धन योजनागर्त नगर निकायों के कुडे–कचरें के निस्तारण हेतु लैड फिल हेतु भूमि चिन्हीकरण/हस्तान्तरण किये जाने के सम्बन्ध में।

महोदय,

उपरोक्त विषयक आपके पत्र सं0– 1176/12– दिनांक– 10–11–2022 के कम में वन संरक्षण अधिनियम 1980 के अन्तर्गत वन एंव पर्यावरण मंत्रालय भारत सरकार द्वारा अपने पत्रांक 05–02/2017– एफ.सी. दिनांक– 28.03.2019 से जारी Handbook of Forest Conservation Act 1980 के प्रस्तर सं0 1.15 में Non-Site Specific Project के वन क्षेत्र में प्रस्तावित होने का औचित्य तथा विषयांकित प्रयोजन हेतु कोई अन्य वैकल्पिक भूमि के चयन/परिक्षण का विवरण एंव उनके अस्वीकृति के कारणों का सक्षम अधिकारी द्वारा प्रदत्त प्रमाण–पत्र उपलब्ध कराये जाने के निर्देश प्राप्त हुए है, जिसके कम में इस कार्यालय के पत्र सं0– 390/स्था0नि0/2022–23 दिनांक– 26–11–2022 के द्वारा उपजिलाधिकारी महोदय कालाढूंगी से कूडे निस्तारण हेतु टंचिग ग्राउण्ड के लिए राजस्व भूमि उपलब्धता के सम्बन्ध में पत्र प्रेषित किया गया, जिसके कम में उपजिलाधिकारी महोदय द्वारा तहसीलदार महोदय कालाढूंगी से नगर पंचायत कालाढूंगी के नगरीय ठोस अपशिष्ट प्रबन्धन योजनान्तर्गत नगर पंचायत कालाढूंगी के कूडे कचरे के निस्तारण/लैण्डफिड़ हेतु राजस्व भूमि उपलब्ध नही होने का प्रमाण पत्र दिया गया है। जिसकी छाया प्रति इस पत्र के साथ संलग्न है।

अतः महोदय आपसे सादर अनुरोध है, कि नगर पंचायत कालाढूंगी को नगरीय ठोस अपशिष्ठ प्रबन्धन योजना के अनुरूप नगर सीमान्तर्गत उत्पादित होने वाले कुडे–कचरें के वैज्ञानिक विधि से निस्तारण (कम्पोस्टिंग प्लान्ट)/एम.आर.एफ. सेन्टर बनाये जाने हेतु हुडकिया चौड स्थित भूमि, जहॉ पूर्व से ही नगर पंचायत कालाढूंगी के कूडे का निस्तारण किया जा रहा है, की भूमि हस्तान्तरण की अनुमति प्रदान करने हेतु अग्रिम आवश्यक कार्यवाही करने की कृपा करें।

भवदीय,

संलग्न–उपरोक्तानुसार

अधिशासी अधिकारी
नगर पंचायत कालाढूंगी

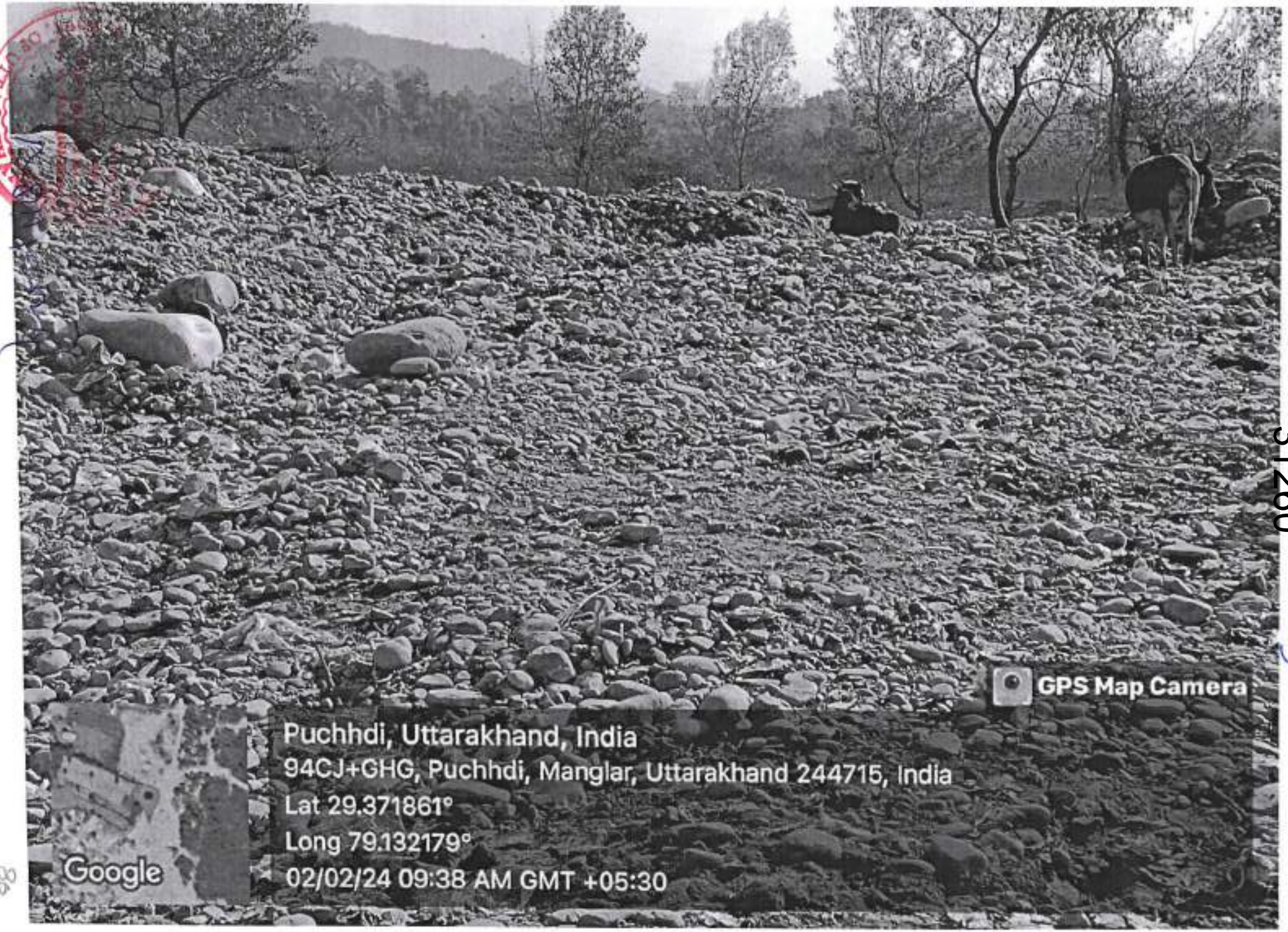
प्रतिलिपिः– जिलाधिकारी महोदय, नैनीताल की सेवा में सूचनार्थ एंव आवश्यक कार्यवाही हेतु प्रेषित।

अधिशासी अधिकारी
नगर पंचायत कालाढूंगी

ATTESTED

Dr. P. S. Bhakuni Advocate HQ-NAINITAL

(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

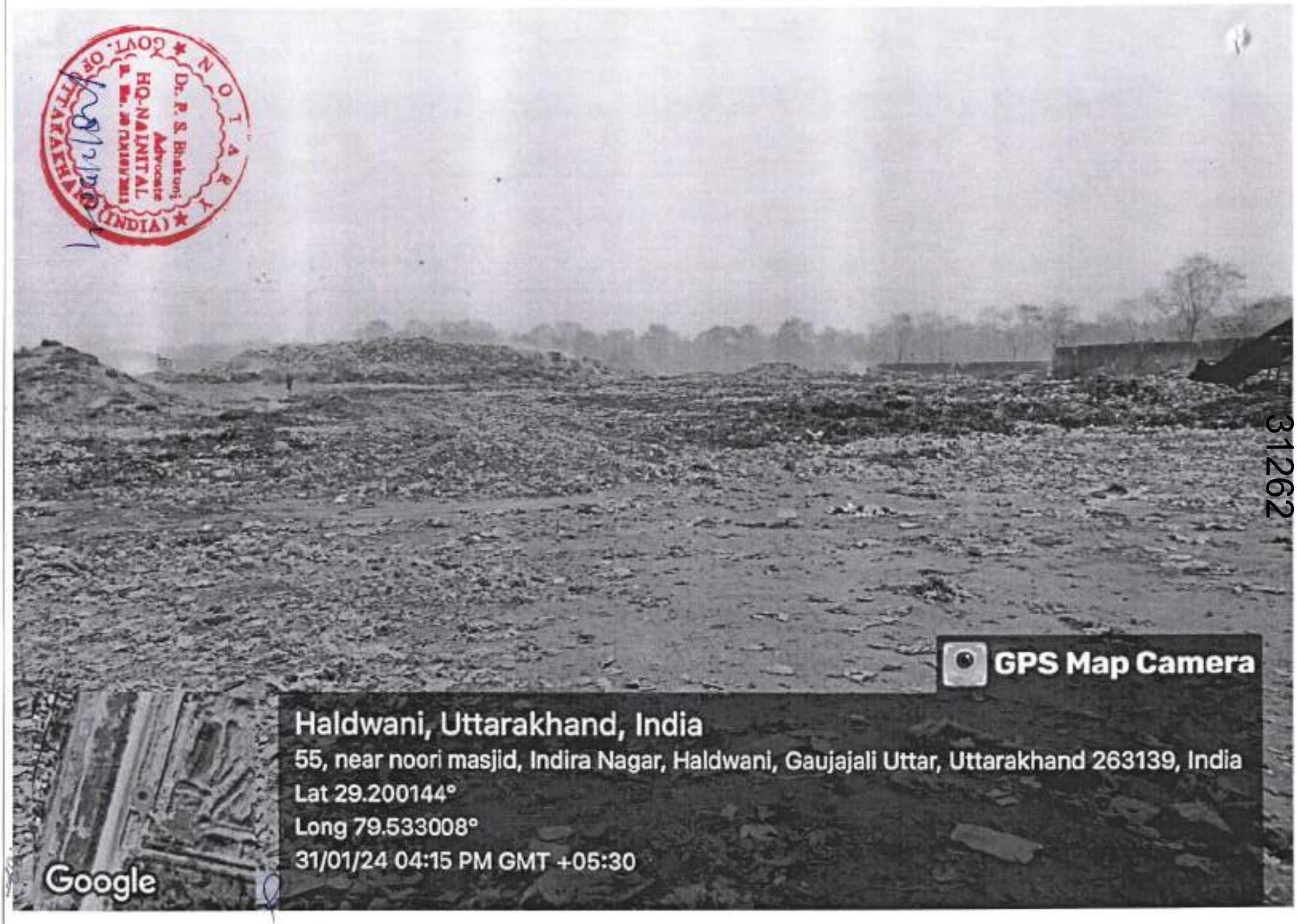

GPS Map Camera
Puchhdi, Uttarakhand, India
94CJ+GHG, Puchhdi, Manglar, Uttarakhand 244715, India
Lat 29.371861°
Long 79.132179°
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GPS Map Camera
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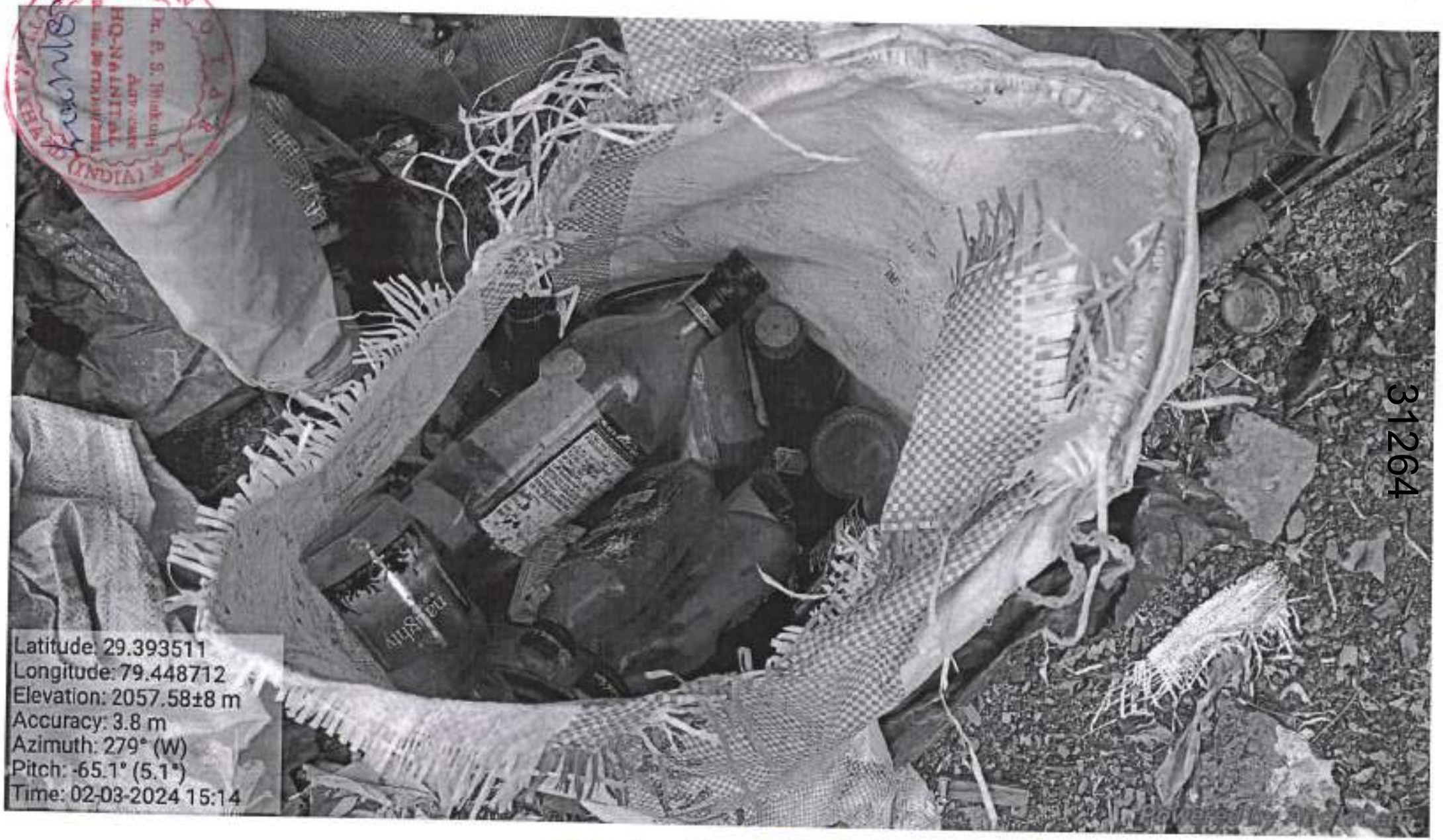


NOTARY GOVT. OF UTTARAKHAND (INDIA)
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL

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M.R.F. Centre, Nagar Palika Parishad, Nainital



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MRF Centre, Nagar Palika Parishad, Nainital



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M.R.F. Centre, Nagar Palika Parishad, Nainital

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Government of Uttarakhand

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Agreement

THIS AGREEMENT made the 08 day of September.2022 between Mr. Pankaj Kumar Upadhyay S/o Brahama Dev (Nagar Ayukt), Nagar Nigam Haldwani (here inafter NNK "the Procuring Entity") which expression shall, where the context so admits, be deemed to include his successors in office and assigns, of the one part, and Mr. Asheesh Mittal S/o Shri Mahvir Prashad, (Authorised Signatory) People's Association for Total Help & Youth Applause (hereinafter "the Contractor"),having its registered office at RZH-15/9,Gurudwara Road ,Mahavir Enclave Dabri- New Delhi which expression shall, where the context so admits, be deemed to include his heirs, successors, executors and administrators, of the other part:

WHEREAS the Procuring Entity desires that the Works known as Bio-Remediation/ Bio- Mining, Reclamation of Land And Scientific Treatment Of Existing Dumpsite Located at Gola Roukhad Haldwani By Adopting Suitable Technology, For A Period Of 06 Months, As Per NGT& CPCB Guidelines & Regulations. Bio-Remediation should be executed by the Contractor, and the procuring entity has accepted a Bid by the Contractor for the execution and completion of these Works and the remedying of any defects therein.

The Procuring Entity and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.

a. the Letter of Acceptance;
b. the Bid of the Contractor as accepted along with the correspondence done on it, if any;
c. the Special Conditions of Contract / Contract Data;
d. the General Conditions of Contract;
e. the Specifications/Procurement Entity Requirement;
f. the DPR, Drawings;
g. the Instructions to Bidders, Notice Inviting Bids and Corrigendum if any. And
h. the Government order/minutes of meeting headed by CS Uttarakhand dated 19.11.2020 and planning department of Uttarakhand order no.1271/654 EFC/SPC/2020 dated November 26,2020. And further order if any regarding it.

3. Total Value of Works (lump sum basis) = Rs 3.00 Cr.
   Total quantity of legacy waste to be remediated = approx. 88750.00 cum. or 88750.00 MT. (as per RFP)
   The site will be handed over on as is where is basis and shall be in Contractor's possession till completion of entire treatment of legacy waste present at site as on date of LOA/contract agreement. As per the guidelines issued by NGT 88750.00 MT quantity same rate shall apply. This rate shall apply upto 887500.00 MT quantity of legacy waste accumulated at Gola Roukhad Haldwani dumpsite till the date of possession of land to the contractor.

Dr. P. S. Bhakuni Advocate HQ-NAINITAL

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4. **WEIGH BRIDGE INSTALLATION** The Contractor shall install a Weighbridge to measure the quantity of Legacy Waste that needs to be treated for bio mining/bioremediation. The Contractor shall also give a report to the Procuring Entity about the Input Weighed, Processed materials and place where it is disposed.
5. **Measurement** Setting up & Operating Control Room at Dumping site to access online work progress and measurement (SCADA system).
6. **SITE SURVEY:-**The Contractor shall survey the site and submit a survey report, the site shall be divided in Blocks and remediation work will be carried out further.
7. **SCOPE OF WORK:- In consideration of the payments to be made by the Procuring Entity to the Contractors indicated in this Agreement, the contractor hereby covenants with the' Procuring Entity to execute the Works mentioned in RFP, DPR and mentioned as below and to remedy defects therein (and, if applicable), maintain the Works for a period of 06 Months in conformity in all respects with the provisions of the Contract.**

- To undertake the works required for Scientific dumpsite reclamation through Bio- Remediation of legacy waste/un-processed municipal solid waste by excavation of complete mixed MSW from the dumpsite which underwent biological and physical degradation,
- Resource recovery by using suitable innovation/ mechanical sieving machine or any other suitable equipment/method,
- Segregating, sorting, retrieving recoverable materials,
- Storing, diverting for recycling,
- Dumpsite land reclamation and proposal for disposal of post processing rejects,
- Scientific disposal of post processing rejects,
- Closure of Dumpsite at Gola Roukhad Haldwani dumpsite during contract period and hand back of reclaimed land to the Authority at the end of contract period, after leveling the ground and making it clean from any waste.
- Excavation, Screening & Resource Recovery
- Bio-mining of un-processed municipal solid waste
- Development of facility for Scientific disposal of residual Solid Waste
- Leachate treatment if any
- Utilization and disposal/ removal of recovered materials
- **Treated Waste material will be disposed off by the Contractor under its own arrangement.**
- **If any discrepancy in aforesaid point no. 07 RFP & DPR will prevail.**
- **Without any genuine reason no RDF stock will remain at site more than one month after continuous disposal otherwise it will be charge penalty as below.**

8. **PAYMENT TERMS:** - The Procuring Entity hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein (and,if applicable, maintain the Works for a period of 06 Months), for the work based on the quantity of waste processed and removed and percentage of proposed land to be reclaimed as per the achievement of the milestone mentioned in the table below.

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Milestone	Physical Progress (WP) (cumulative)	Broad Parameters of Physical Progress	% Release of Contract Value
First Milestone	20% of the proposed land to be reclaimed	Windrow preparation, transportation, processing & disposal of all output products & reclaiming 20% of proposed land.	20%
Second Milestone	40% of the proposed land to be reclaimed	Windrow preparation, transportation, processing & disposal of all output products & reclaiming 40% of proposed land.	20%
Third Milestone	60% of the proposed land to be reclaimed	Windrow preparation, transportation, processing & disposal of all output products & reclaiming 60% of proposed land.	20%
Fourth Milestone	80% of the proposed land to be reclaimed	Windrow preparation, transportation, processing & disposal of all output products & reclaiming 80% of proposed land.	20%
Fourth Milestone	100% of the proposed land to be reclaimed	Windrow preparation, transportation, processing & disposal of all output products & reclaiming 100 % of proposed land.	10%
Fifth Milestone	Certificate Submission	After Certificate /document submission to NN Haldwani regarding scientific disposal of RDF according to CPCB & NGT Guidelines	10%

The Contractor shall, on completion of the particular Milestone of the work, before the 20th (twentieth) day of the Month or in case the 20th (twentieth) day of a Month is a holiday then on the following working day of such Month, submit to the Authority a statement ("the Running Bill") providing the following details eg. Total waste disposed MT, approx land reclaimed percentage with Photographs, RDF disposal etc .

9. **PERFORMANCE SECURITY:**-The Contractor shall have to furnish Performance Security to the Authority:
10. a)The Contractor shall submit a Performance Bank Guarantee/FD issued by a nationalized bank located in Indiafor an amount equivalent to the amount of 5% of the Contract value. The validity of the Bank Guarantee should be not less than 180 days and renew after that if needed.
    Failure on part of Contractor to comply with the requirement of above clause shall constitute a breach of contract, cause under the extreme situation for annulment to the award, forfeiture of the EMD.
11. **PENALTY FOR DELAY and INCENTIVE OPPORTUNITY, NON-COMPLIANCE: -**
    Incentive Clause: Total time permissible is 6 months but if the treatment and disposal of 88750.00 cu.m. is treated and disposed in less than 6 months then there is an opportunity of 0.25% per day maximum upto 5%.
    And if there is delay in execution of project then there is a penalty clause of 0.50 % per day and maximum upto 20%.
    Beyond 40 day the delay in completion of the work, the decision of Executive Committee shall be final, a decision may be taken to execute the project or in force majeure circumstances decision may be taken accordingly.
    For bio soil and inert, a land or depression/ low lying area is to be provided by the Nagar Nigam, Haldwani and transportation cost for the above is to be borne by the concessionaire.
    The above 4 month is calculated from the commissioning of machines/ trommels etc. and one month is permissible for installation of above machines/ arrangements for "Treatment and Disposal of Legacy Waste, Haldwani" from the date of signing the agreement.
    If at the site the quantity of legacy waste is more that 88750.00 cu.m./ MT, then the Municipal Commissioner, Haldwani/ EC may take a call in the interest of the project.
12. **EXTENSION OF WORK:** -For any unforeseen reason or reason from the client for the delay, then the contractor shall be given a maximum of three months extra to complete the job as per the approval of Municipal Commissioner, Haldwani/ Executive Committee, SWM Project Haldwani.
13. **PERMITS AND CLEARANCES-:** Permits and clearance shall be obtained as per Applicable Law which includes but not limited to The Environment Protection Act 1986, The Air (Prevention and Control) Pollution Act 1981 and Water (Prevention and Control) Pollution Act1974 as amended from time to time.
    The NNK together with Contractor shall be solely responsible for taking various statutory and non- statutory clearances for the Project from all concerned authorities. The Procuring Entity ie, NNK shall reasonably assist the Contractor in procuring the clearances required for the Project.
14. **LABOUR LAW & REGULATIONS:** -The Contractor shall adhere to the requirements of the Workmen's Compensation Act and Labour Legislation in force from time to time and be responsible for and shall pay any compensation to his workmen which would be payable for injuries under the Workmen's Compensation Act, here-in after called the said Act. If such compensation is paid by the State as Principal Employer under sub section (1) of section 12 of the said Act, on behalf of the Contractor, it
    shall be recoverable b the state from the Contractor under sub section (2) of the said section. Such compensation shall be recovered in the manner laid down in clause 1 of the conditions of Contract.

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15. **FORCE MAJEURE:** -Any act of God, act of nature or the elements, terrorism, insurrection, revolution or civil strife, piracy, civil war, acts of public enemies, federal or state laws, rules and regulations of any governmental authorities having jurisdiction over the premises, Delays due to any of the above causes shall not be deemed to be a breach of or failure to perform under this Agreement.
16. **JURISDICTION:** - In the event of any dispute arising between the parties hereto, in respect of any of the matters comprised in this agreement the same shall be settled by a competent court having jurisdiction in Haldwani Distt- Dehradun and by no other court.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of India and NNK on the day, month and year indicated above.

Signed by .....
Pankaj Kumar Upadhyay
S/o Brahama Dev,
Nagar Ayukt Nagar Nigam Haldwani

Signed by .....
Asheesh Mittal
S/o Shri Mahvir Prashad,
People's Association for Total Help & Youth Applause

For and on behalf of the Governor/ Procuring Entity For and on behalf the Contractor In the presence of In the presence of

Signature

Witness Name- Ganesh Bhatt

Address- Nagar Nigam Hld.

Date-08.09.2022

Signature

Witness Name- Mohd Amir Sab Haldwani

Address-

ATTESTED
08/2/2024
(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
08/2/2024

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ATTESTED
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Advocate
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Distt. Nainital (U.K.)

NOTARY
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HQ-NAINITAL
GOVT. OF UTTARAKHAND (INDIA)

SWM Action Plan for Transforming Lalkuan into a Garbage Free City



ATTESTED

(Dr. Pooran Singh Bhakuni)
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

NOTARY
Dr. P. S. Bhakuni
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HQ-NAINITAL
GOVT. OF UTTARAKHAND (INDIA)

ENVIGROW
SUSTAINABLE SOLUTIONS

By ENVIGROW SUSTAINABLE SOLUTIONS

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1. Swachh Bharat Mission 2.0

1.1 Introduction

1st October 2021 Swachh Bharat Mission 2.0 has been launched and the government of India in partnership with States/ UTs and ULBs is committed to make all cities **'Garbage Free'** under SBM-Urban 2.0 in order to contribute to the achievement of the Sustainable Development Goals (SDG) 2030, which will ultimately improve the quality of life and ease of living of urban populations, thus leading to urban transformation. Urban need to be sustained in the long run with creation of adequate infrastructure, and their implementation needs to be accelerated manifold. SBM-U 2.0 is needed, with the following areas of focus.

- To achieve the vision of a "Garbage Free" Urban India, more focus is required to be given to issues such as source segregation, collection & transportation, and processing, including effective management of Construction & Demolition waste, plastic waste management including reduction in single use plastic, and remediating all legacy dumpsites.
- To sustain the ODF status and prevent slippage, there is a need to ensure that all fecal sludge and waste (used) water are safely contained, transported, processed and disposed off, so that no untreated fecal sludge or used water pollutes the ground or water bodies.
- Intensified focus is required to be given to IEC and behavior change through citizen outreach and *jan andolan*, as well as capacity building and skilling of all relevant stakeholders, towards achieving the Missions objectives.

1.2 Garbage free City

SBM-U 2.0 will be implemented with a vision of achieving **"Garbage Free"** status for all cities. This will involve the following

a) Sustainable Solid Waste Management	
a.	all households and premises segregate their waste into "wet waste" (from kitchen and gardens) and "dry waste" (including paper, glass, plastic, and domestic hazardous waste and sanitary waste wrapped separately);
b.	100% door to door collection of segregated waste from each household/ premise
c.	100% scientific management of all fractions of waste, including safe disposal in scientific landfills; all legacy dumpsites remediated and converted into green zones;
d.	Reducing air pollution arising out of SWM activities;
e.	Phased reduction in use of single-use plastic.

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B-Sustainable Sanitation and treatment of used water	
A	Used water including fecal sludge, especially in smaller cities are safely contained, transported, processed and disposed so that no untreated fecal sludge and used water pollutes the ground or water bodies.
B	holistic Sanitation, with end-to end solutions (from discharge, containment, evacuation, transportation to safe disposal of all effluents from toilets);
C	Treatment of used water before discharge into water bodies, and maximum reuse of treated used water.
D	Eradication of hazardous entry into sewers and septic tanks, and sustaining elimination of manual scavenging, through mechanization of sewer and septic tank cleaning operations.
C-Awareness creation along with large scale citizen outreach to create '*jan andolan*', and institutionalize 'swachh behaviour.	
D-Create institutional capacity to effectively implement programmatic interventions to achieve mission objectives.	

1.3 Solid Waste Management Rules 2016

Solid waste management rules 2016 are applicable for every citizen or waste generators as well as local government bodies. Roles and responsibilities of ULB are mentioned here

a. Prepare a solid waste management plan as per state policy and strategy on solid waste management
b. Arrange for door to door collection of segregated solid waste from all households including slums and informal settlements, commercial, institutional and other non-residential premises.
c. Frame bye-laws incorporating the provisions of these rules within one year from the date of notification of these rules and ensure timely implementation
d. Prescribe from time to time user fee as deemed appropriate and collect the fee from the waste generators on its own or through authorised agency
e. Setup material recovery facilities or secondary storage facilities with sufficient space for sorting of recyclable materials
f. Establish waste deposition centres for domestic hazardous waste and give direction for waste generators to deposit domestic hazardous wastes at this centre for its safe disposal.

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g. Ensure safe storage and transportation of the domestic hazardous waste to the hazardous waste disposal facility or as may be directed by the State Pollution Control Board or the Pollution Control Committee. collect separately waste from sweeping of streets, lanes and by-lanes daily, or on alternate days or twice a week depending on the density of population, commercial activity and local situation

h. Frame bye-laws and prescribe criteria for levying of spot fine for persons who litters or fails to comply with the provisions of these rules and delegate powers to officers or local bodies to levy spot fines as per the bye laws framed

i. Create public awareness through information, education and communication campaign and educate the waste generators

j. Investigate and analyse all old open dumpsites and existing operational dumpsites for their potential of Biomining and bio-remediation and whosesoever feasible, take necessary actions to bio-mine or bio-remediate the sites;

k. In absence of the potential of bio-mining and bio-remediation of dumpsite, it shall be scientifically capped as per landfill capping norms to prevent further damage to the environment.

1.4 Service Level Benchmarks:

Investment in infrastructure has not always resulted in commensurate outcomes. There is a need for a shift in focus from infrastructure creation to delivery of service outcomes. The service level benchmarks for the urban water and sanitation sector have been formulated in this context. Service level benchmarks can broadly be defined as a minimum set of standard performance parameters that are commonly understood and used by all stakeholders across the country.

Benchmarking is now well recognised as an important mechanism for performance management and accountability in service delivery. It involves the measuring and monitoring of service provider performance on a systematic and continuous basis. Sustained benchmarking can help utilities to identify performance gaps and introduce improvements through the sharing of information and best practices, ultimately resulting in better services to people. Recognising its importance, the Ministry of Urban Development (MoUD), Government of India, has launched the Service Level Benchmarking (SLB) initiative covering water supply, wastewater, solid waste management (SWM) and storm water drainage.

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Table 1 SLB for Solid Waste Management

S.N	SLB Indicator	Benchmarks
1.	Household level coverage of solid waste management services	100%
2.	Efficiency of collection of municipal solid waste efficiency	100 %
3.	Extent of segregation of municipal solid waste	100 %
4.	Extent of municipal solid waste recovered	80 %
5.	Extent of scientific disposal of municipal solid waste	100 %
6.	Efficiency in redressal of customer complaints	80%
7.	Extent of cost recovery in SWM services	100%
8.	Efficiency in collection of SWM charges	80%

2. Gap Analysis & Design of Integrated Solid Waste Management System

2.1 Quantification of waste generation

Waste generation by the city is the sum of waste generated by residential area, commercial area, street sweeping and drain cleaning activities.

MSW generated within the city is calculated as shown below,

Population of the city (2011): 7644

Population of the city (2024) @ 2% annual incremental growth rate: 7644*(1+2%)^13=9888

Per capita waste generation rate (Urban) = 0.35 kg/day

Per capita waste generation rate (Floating) = 0.1 kg/day

Total per capita waste generation rate=0.45 kg/day

Quantity of waste generated per day= 9888*0.45= 4450 kg/day = 4.5 TPD

2.2 D2D collection & transportation system

Design of collection and transportation system in depends on the number of waste generators coverage, frequency of waste collection, street network, road with etc. design calculation for daily D2D collection system is given below,

Population of the city (2024): 9888

Assuming number of person per family (semi urban): 6

Total number of households =1648

Number of commercial shops @ 30% of households =494

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Total number of waste collection points = 2142 Nos

Number of vehicles required @ 600 HH/vehicle (tipper) = 3.57=4 numbers

Number tipper required for residential waste collection=03

Number of tractor trolley required for commercial and street sweeping waste=01

Number vehicles required for backup=01

2.3 Gap analysis for C & T of waste

S.N	Type of vehicles	Crew size on vehicles (Driver + Helper)	Number of actual vehicles required as per design	Number of vehicles available	No vehicles required (Gap Analysis)	Remarks
1.	Tipper	1D + 1H	3	03	0	All the vehicle must have three compartments
2.	Tractor trolley	1D+2H	01	01	0	While transportation vehicles must be covered.

Therefore. Currently ULB has sufficient number of vehicles for 100% coverage of door to door collection system. But these vehicles need have one extra compartment for sanitary waste collection, one at the back of the vehicle (as shown in the fig). This new upgraded collection system is now knows as 3 bin collection system for wet, dry and sanitary waste as per solid waste management rules 2016.

2.4 Source Segregation and Segregated Collection of MSW

As per solid waste management rules 2016 and service level benchmark indicators 100% source segregated collection is mandatory. It is observed that existing vehicles need some modification in compartment to collect separate dry, wet and sanitary waste without which it is not possible to collect source segregated waste. Currently no or negligible source segregation is happening and there is need of holistic approach and strategy for source segregation which are as follows,

- Generating household database for coverage of door to door segregated waste collection.
- Capacity building of collection crew, making it mandatory for segregation and non-acceptance of mixed waste because collection crew is the main critical control point for collection of source segregated waste.

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- For achieving source segregation, model ward needs to develop for which identify a target ward and conduct one to one awareness and sensitize their citizen about need and impact of source segregation.
- Pamphlets must be distribute to every household for source segregation by collection crew.
- Behaviour change, ICE campaigns like school level swachhata competition with key focus on source segregation are must for improving source segregation.

3 Swachhata Control Room

Redressal of customer complaints is one of the important service level benchmark. Currently city do not have efficient formal complaint redressal system and complaint redressal system is people driven (councillors/official personal call driven). Therefore 'swachhata control room' is essential requirement of the city, where GPS monitoring of vehicles, CCTV monitoring, swachhata app complaint, telephonic complaint will be resolved within the 24 hours. Which builds a trust and respect for ULB, Swachhata control room must have following,

1. All vehicle must be GPS enabled
2. Display for monitoring of vehicle monitoring (LED screen)
3. Complaint registration number preferably prepaid number where citizen can register their complaints on whats app, call or through SMS
4. A computer for record keeping and social media handling.
5. Trained control room operator

Equipment/accessories required for swachhata control room proposed to be operated by women's of self-help group is summarized in the table below

S.N	Accessory	Purpose	Estimates
1.	LED 43" Smart TV	Monitoring of GPS enabled waste collection vehicles	35,000/-
2.	Computer with monitor, CPU and Printer	For day to day data analysis and swachhata app monitoring & social media account handling	40,000/-
3.	CCTV camera with monitor	For plant and parking	20,000/-

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4.	SIM for Swachhata control room	Sim charges with annual subscription	3000/-
5.	Cupboard, table, chairs and furniture	For document preparation & record maintenance	20,000/-
6.	Stationary	Files, paper etc	5,000/-
7.	GPS devices	5 number	30,000/-
		Total	**1,53,000/-**

4. Processing of MSW

Based on nature of waste and its potential treatment technology MSW, is categorized into 3 categories like dry waste (Non organic), wet waste (organic) and sanitary waste. For effective scientific processing of waste each fraction of waste needs to collect and process separately.

4.1 Hierarchy of integrated solid waste management

The Integrated Solid Waste Management (ISWM) proposes a waste management hierarchy with the aim to reduce the amount of waste being disposed, while maximizing resource conservation and resource efficiency. The ISWM hierarchy ranks waste management operations according to their environmental, economic, and energy impacts. Source reduction or waste prevention, which includes reuse, is considered the best approach (tier 1); followed by recycling (tier 2); and composting of organic matter of waste, resulting in recovery of material (tier 3). The components of waste that cannot be prevented or recycled can be processed for energy recovery (tier 4). Tier 5 is disposal of waste in sanitary landfill, which is the least preferred option.

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ATTESTED 08/2/2024 (Dr. Poorah Singh Bhakuni) Advocate Notary, HQ-NAINITAL Distt. Nainital (U.K.)

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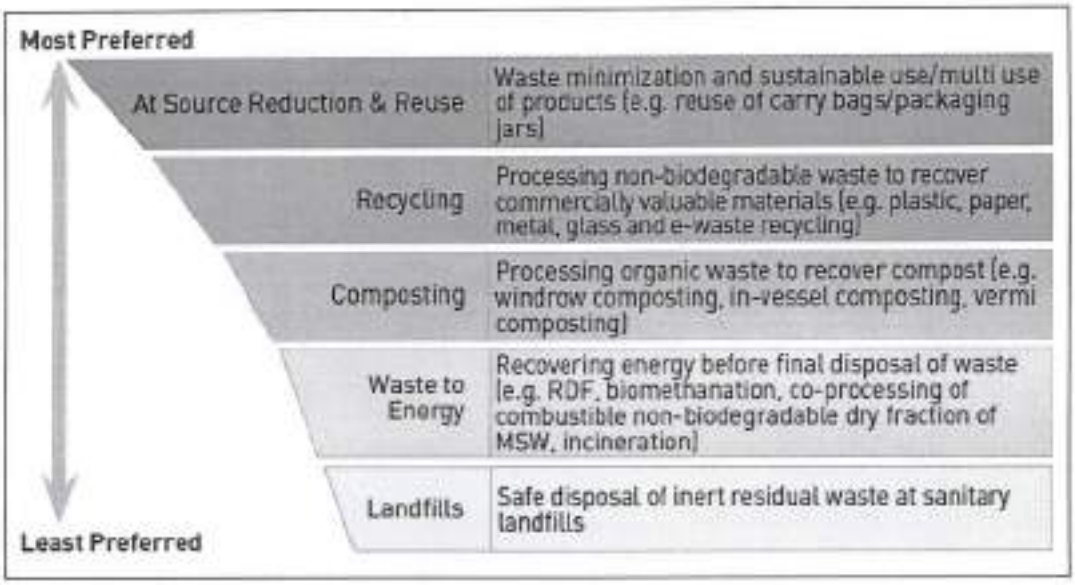


Figure 1 Integrated solid waste management hierarchy

4.2 Existing SWM processing facility and land availability:

Nagar panchayat has integrated MRF facility of 3700 SQFT. Only 50% of the plant is covered with tin shed and remaining facility is uncovered. Plant is equipped with bailing machine, shredder machine and has 12 compost pits of each size 3.7 ft x3.7 ft x 3.7 ft for organic waste management. At currently only less than 10% of the waste is processed and remaining waste is transported to Haldwani dumpsite which is around 20 km away from facility. Therefore nagar panchayat Lalkuan has vision to make their city garbage free.

Table 2 Existing scenario of SWM in Lalkuan





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5. Design of ISWM Facility

5.1 Composition of MSW

Understanding composition of waste and its nature is one of the essential part of design of solid waste management system. Waste characterization study has been carried out and it is observed that city MSW has 73% of mixed organic fraction, 15% dry waste, around 2% sanitary waste and remaining inerts. It is also observed city MSW has around 6.4% of plastic waste.



Figure 2 Composition of MSW at Lalkuan

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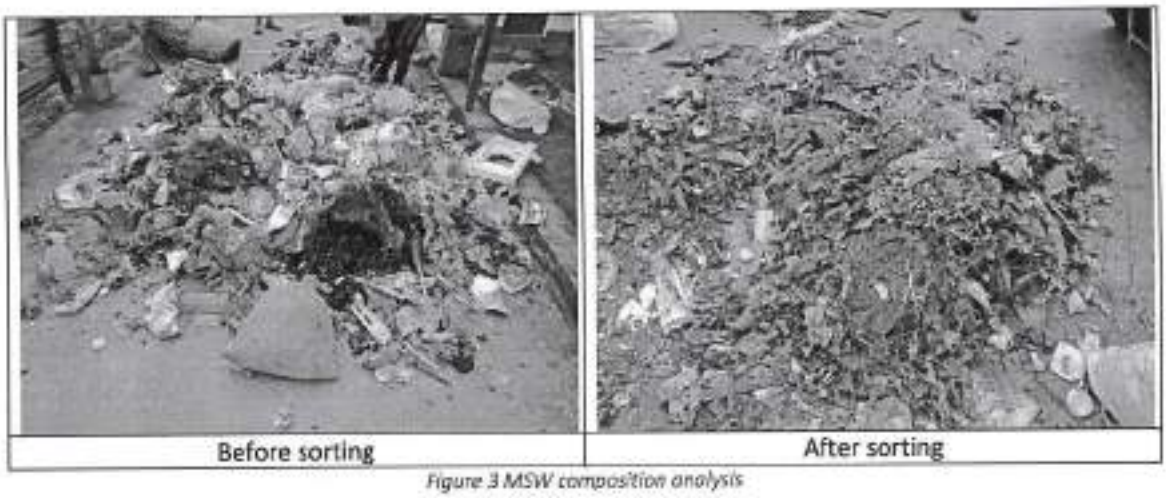


Figure 3 MSW composition analysis

5.2 Proposed Land & Construction of Shed for ISWM Facility

Land identified for upgradation and construction of integrated solid waste management facility is adjacent to existing MRF centre as shown in figure-3. Total land available for construction of ISWM facility is 11719 SQFT of which 1582 SQFT has constructed tin shed. For proposed ISWM facility, remaining area of 10,137 SQFT must be roof covered and height of the shed must be 20 ft minimum with proper roof ventilators to be installed.

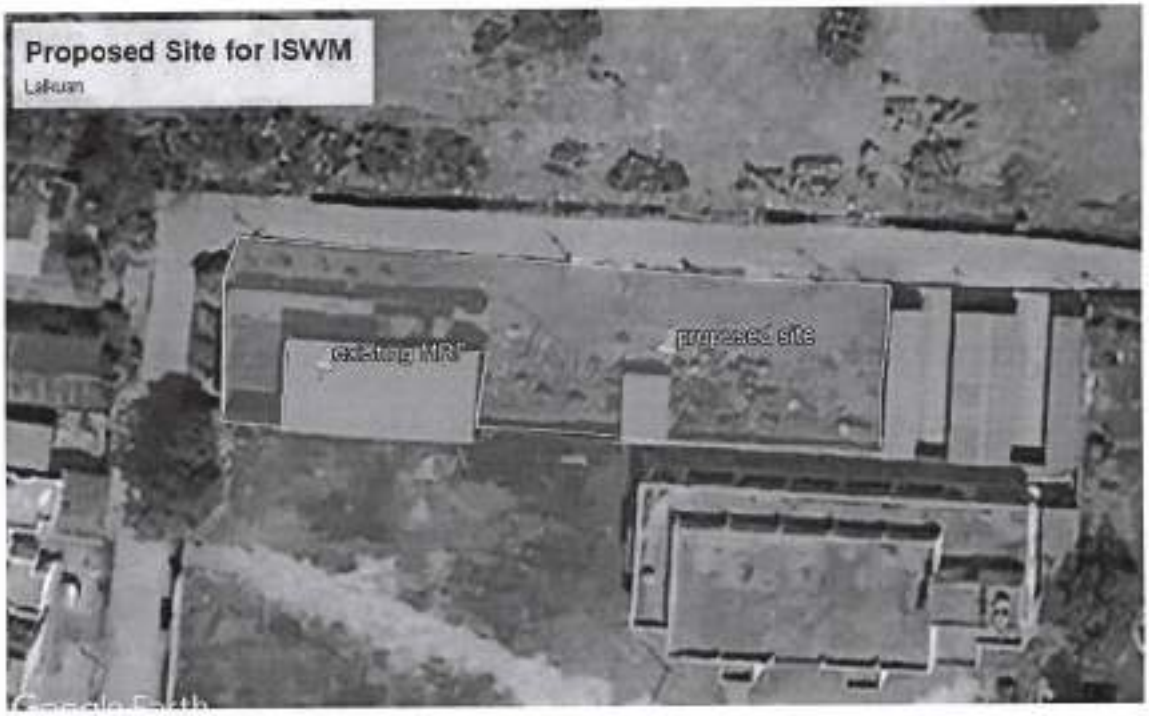


Figure 4 Proposed land for ISWM facility

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Figure 5 Proposed site for ISWM Facility adjacent to MRF

5.3 Upgradation of Material Recovery Facility

Dry waste is one of the major bulky fraction of waste which gets sorted, cleaned, packed and sold for recycling at material recovery facility. Currently ULB has roof covered tin shed of 1585 SQFT MRF with impervious cement concrete flooring. It is observed that ULB has few equipment's like weight scale, baling machine and shredder at MRF. Other key equipment's required at integrated solid waste management facility are summarized in the table below.

List of Equipment's Required at ISWM Facility
1. HDPE wheeled bins 120 lit capacity
Quantity: 10 (Blue colour: 7, Green colour: 2 and Red colour: 01)
Purpose: Storage and temporary storage of material recovered at sorting conveyer.
Specifications: Capacity 120 Lit HDPE bins
Cost: 40,000/-



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2. Fatka Machine (de-dusting machine)

Quantity: 01

Purpose: air cleaning of film plastic

Specifications: 250 kg/hr capacity, Drum length-1.5 m

Cost: 2,50,000/-



3. Manual trolley

Quantity: 01

Purpose: Internal movement of material, bins, bags, bales or any other material

Specifications: 4 wheeled trolley made of SS body

Cost: 15,000



4. Fire safety equipment

Quantity: 10 (specified below)

Specifications: firefighting equipment - wt, ISI marked - 4 KG cap (CO2 type 02 Nos and Powder type 02, Automatic hanging device (2) and balls (4 Nos)

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Cost: 75,000/-
  
5. Bio-culture Spraying Machine (electric)
Quantity -01
Purpose: bio-culture spraying
Specification: Chargeable electric sprayer of 20 lit capacity
Cost: 3500/-
6. Plant 3 phase electrifcation, control panel and earth work
Internal fans, wiring, fans, rotary swtich cable etc.
Cost: as per estimates
7. Wall painting and beutification of the plant
Cost: as per requirement

5.4 Disposal of Sanitary waste

With changing habits and living standards, more and more disposable products are introduced in the market one of such category of products are diapers and sanitary napkins. City MSW has found around 1.5-2% of sanitary napkins. At present available technology for handling sanitary waste is incineration. Therefore one electric incinerator of batch capacity of 25.0 kg diaper is proposed.

1. Sanitary Waste Incinerator
Quantity: 01
Purpose: Incineration of sanitary waste like diaper and
Specification: 25 kg capacity/batch
Cost: 5-7 Lacs

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5.5 Processing of Organic Waste

Composting is the one of the cost effective and simple option for processing organic or biodegradable fraction of waste. Organic fraction of waste gets breakdown by microorganism into stabilized product called compost which is rich in macro nutrient. There are many methods available for composting like pit composting, NADEP composting, windrows composting and in vessel composting. Selection of method and technology for composting is depends on quantum of waste, land availability, climatic conditions and financial capability.

5.5.1 Pit Composting System

Pit composting process of managing the pre-sorted feedstock into perforated compost pits of standard size that are turned on a regular basis for boosting passive aeration. The turning operation mixes the composting materials and enhances passive aeration.

Key requirement for windrows composting,

a) **Compost Pit:** Segregated organic fraction of waste is transferred into compost pits. The compost pit shall have a slope of about 1% to drain the excess water or leachate. All the compost pits are connected to leachate collection tank with proper drain network. This leachate should be reused for recirculation of nutrients and for maintaining the moisture content of waste pile. Design details of compost pits are summarized below,

   MSW generated – 4.5 TPD

   Fraction of organic waste – 73%

   Quantity of organic waste to be composted daily – 3.285 TPD

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Composting duration- 45 days

Dimensions of the composting pit chamber (in meter) - 3.0 x 1.2 x 1.0

Volume of a composting tank=3.6 m^3

Total number of tanks required- 32

Nature of compost pit- perforated 1.5 inch opening compost tank

b) Compost recovery and screening: digested and stabilized waste and air dried digested waste is passed through vibro-sifter. Detailed specifications are given in the table.

1. Compost screening machine (Vibro sifter)
Quantity: 01
Purpose: compost screening through 40 mm, 20mm and 4 mm mesh for effective screening and packing into bags (Screen should be made of stainless steel only)
Specification: 250 kg/hr capacity
Cost: **3,50,000/-**


5.5.2 Design of leachate collection tank

Composting activity generates leachate which is fully consist of high organic loading needs proper drain network and slope. Design calculation for leachate collection system is given below,

Quantity of organic waste – 3.285 TPD

Holding capacity in days-05

Amount of leachate generated-2.46 CUM

Actual capacity of the tank @SF 1.2 = 3.0 CUM

Dimensions of the tank (LxWxD in meter) = **(1.5 x 1.5 x 1.5)**

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(Note: leachate collection tank should be steel mesh covered)

5.6 Layout of proposed facility

Integrated solid waste management facility has been designed and layout of the facility as per site availability is as shown in the figure- . Proposed integrated facility has provision dry waste sorting, material recovery facility for dry waste packing and storage, compost pits, processing area, compost storage area, which is summarize below

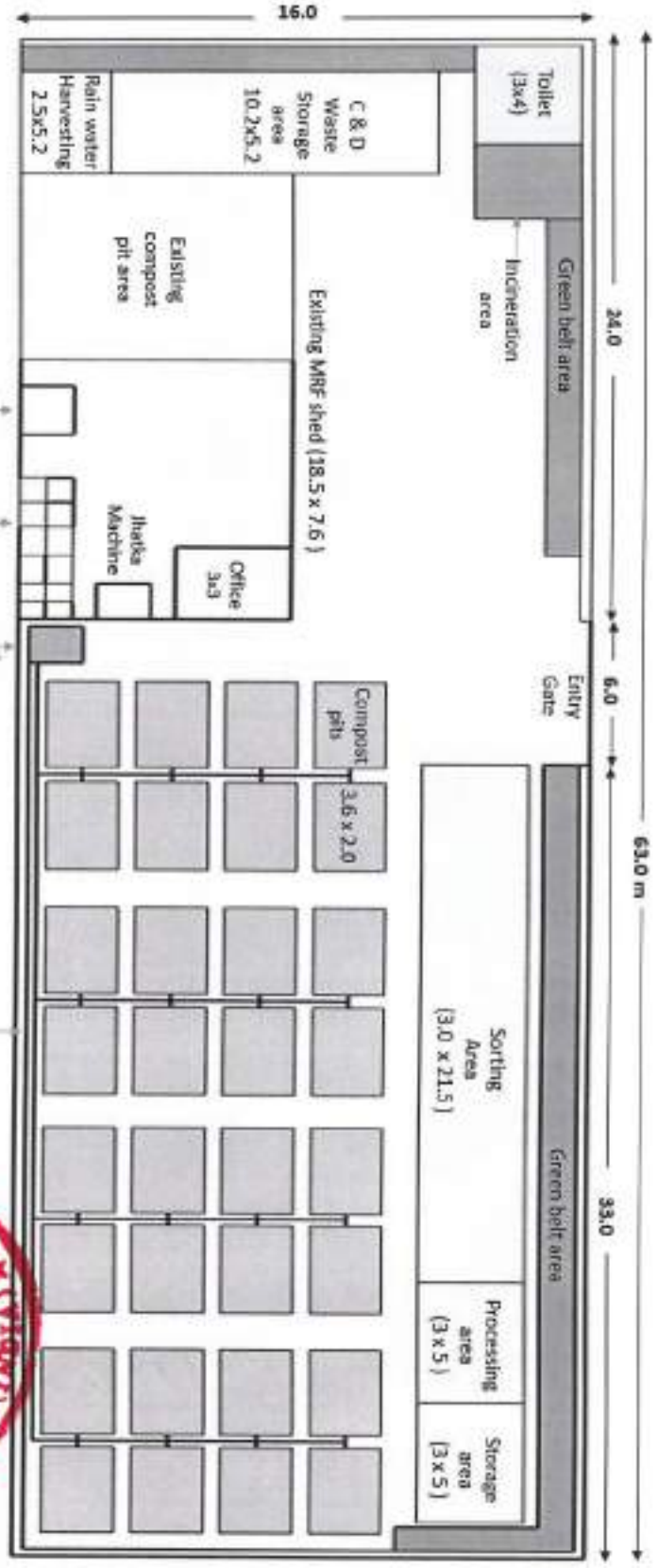
S.N	Infrastructure/Work Name	Purpose	Cost
1.	ISWM facility shed (10137 SQFT) With control room office and toilet facility	Roof covering	To be estimated
2.	Compost pits (32 Numbers)	For composting	To be estimated
3.	Internal road CC work	Approach to site from main road	To be estimated
4.	Leachate drain network, leachate tank and recirculation plumbing work	Leachate collection and treatment	To be estimates
5.	Leachate collection tank (4m x 2m x 2 m) & leachate recirculation system	For leachate collection and recirculation	To be estimated
6.	Entry gate (6 meter)	-	To be estimated
7.	Control panel and electrification	-	To be estimated
8.	Toilet (3 m x 4 m) & incineration chamber (2 x 3	-	To be estimated
9.	Office space (3 m x 3 m)	-	To be estimated
10.	Rain water harvesting system (2.5 x 4.2)	-	To be estimated

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ATTESTED 28/2/2024 (Dr. Pooran Singh Bhakuni) Advocate Notary, HQ-NAINITAL Distt. Nainital (U.K.)

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Layout of Integrated Solid Waste Management facility Lalkuan



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Figure 6 Layout of ISWM Facility

6. Operation of ISWM Facility

6.1 S2C2E Model

Standard operating procedures (SOPs) are the key essential requirements for sustainable operation of ISWM facility. Proper manpower structure and sufficient skilled manpower is required to run the facility. ULB can adopt Self Sustainable Collaborative Circular Economy (S2C2E) model developed by ENVIGROW to achieve zero waste. In this model each and every fraction of waste is recovered and recycled. Schematic of this model is as shown in the figure below,

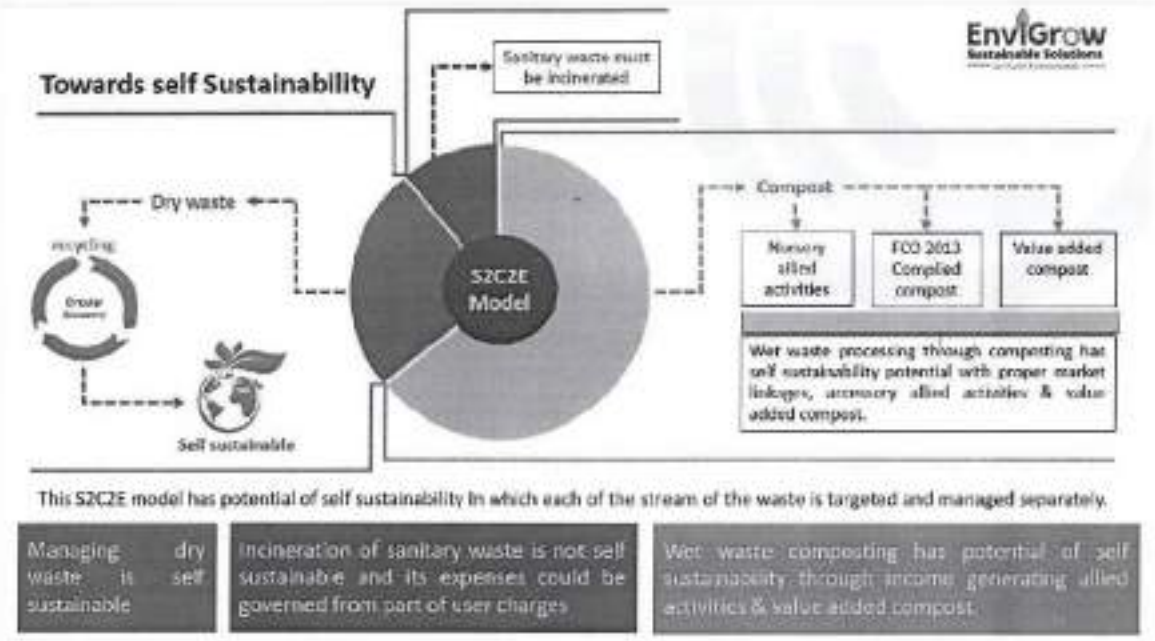


Figure 7 Schematics of S2C2E Model

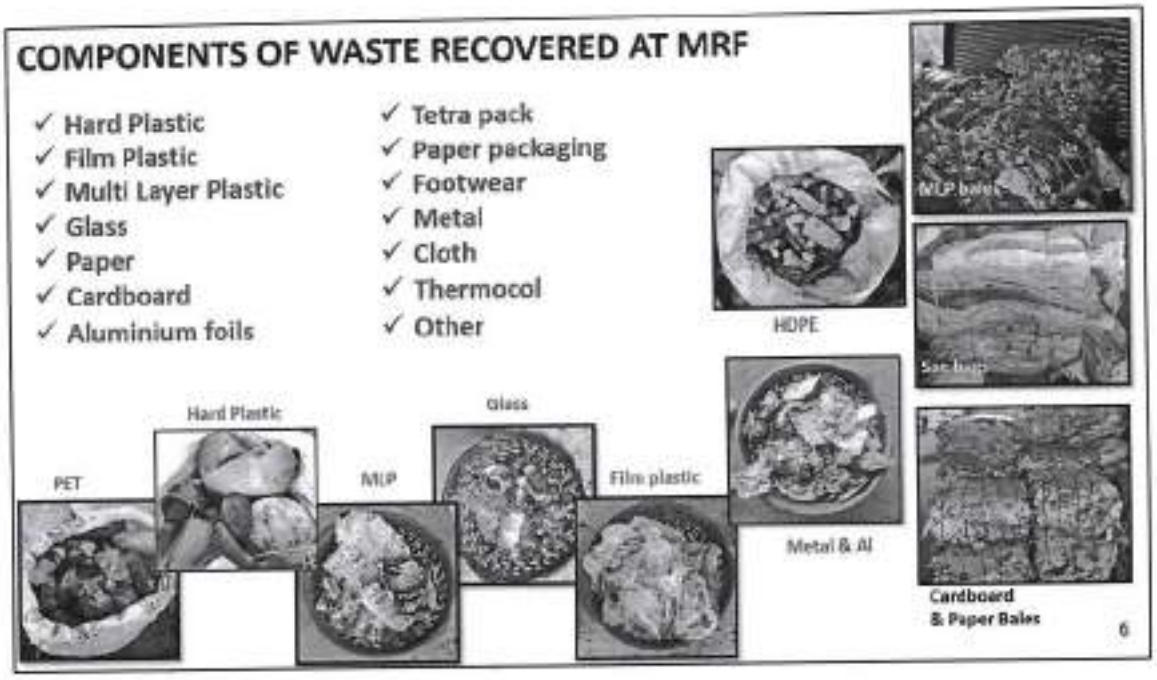
6.2 Manpower requirement

Manpower expenses are one of the major operational component of SWM. For manual operation, 2-3 manpower every tonne of MSW is required to operate integrated solid waste management facility depending on the nature and quality of the incoming waste.

6.3 Types of material recovered in the facility

S2C2E Zero waste model recovers and generate value to the each and every fraction of MSW. Different types of material recovered in the ISWM facility is shown in the table figure below,

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6.4 Market linkages and revenue projections

EnviGrow is one point recycling solutions and provides market linkages for all the fraction of waste with their strong recycling and industrial network. Dry waste and compost are the major source of revenue in the ISWM facility.

Revenue generation from processing of waste			
S.N	**Particular**	**Value**	**Unit**
1	Quantity of waste generated	4.50	tpd
2	Quantity of wet waste generated @73%	3.28	tpd
3	Quantity of dry waste waste generated @15%	0.67	tpd
4	Quantity of compost recovered	0.26	tpd
5	Quantity of dry waste recovered @85% recovery rate	0.57	tpd
6	Average sale price of compost	2.0	INR/kg
7	Average sale price of dry waste	3.5	INR/kg
8	Monthly revenue from compost	15600	INR
9	Monthly revenue from dry waste	59850	INR
	Total monthly revenue	**75,450**	**INR**

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6.5 Cost analysis for operation of the facility

Operational expenses associated with solid waste processing is the sum of the labour expenses, safety expenses, bio-culture expenses, energy expenses and overheads. Adaptation of S2C2E model and depending on the scale of the incoming waste it may **cost Rs. 1200±300** per tonne of waste.

6.6 Collaboration with Technical Support Agency

Operation of integrated solid waste management facility is a technical work needs to carefully plan and implement. For implementation of project, ULB can collaborate with technical support agencies for the duration of 3-6 month. During this duration proper training and SOPs will be developed for smooth and sustainable operation of the facility.

7. Summary and Key Suggestions

SBM 2.0 objective is to make cities garbage free and improve sanitation services to citizen in compliances with SWM rules 2016 in accordance with service level benchmarks. Integrated solid waste management system ranks waste management strategy accordance with their environmental benefits. In this report gap analysis as well as key suggestions for scientific management of MSW are summarized below,

I. ULB has sufficient number of vehicle for D2D collection of waste but needs to modify these vehicles for for adaptation of 3 bin collection system ie. wet, dry and sanitary waste.
II. For improving source segregation rate, collecting waste generators database, sensitizing citizen through door to door awareness and school level activities are preferred.
III. Collection crew is the main critical control point for achieving source segregation and they must receive proper training for non-acceptance of mixed waste.
IV. Swachhata control room for monitoring of GPS enabled waste collection vehicles as well as complaint redressal system is essential component of ISWM system.
V. MSW waste composition analysis has been done and it is observed that city MSW has 73% organic waste, 15% dry waste, 1-2% sanitary waste and remaining are the inerts.

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VI. Layout of the proposed facility is also mentioned in this report which includes pit based composting system, sanitary waste incineration area, processing area, leachate collection system etc.

VII. Based on gap analysis, various list of equipment's like vibrating screens, fire safety equipment's, spraying machine, and incinerator are mentioned in this report along with their specifications.

VIII. Operation of the facility with adaptation of S2C2E model is also mentioned in this report and implementation of this model needs collaboration with technical support agency.

IX. ISWM facility with proper recycling market linkages and composting can generate revenue for the ULB.

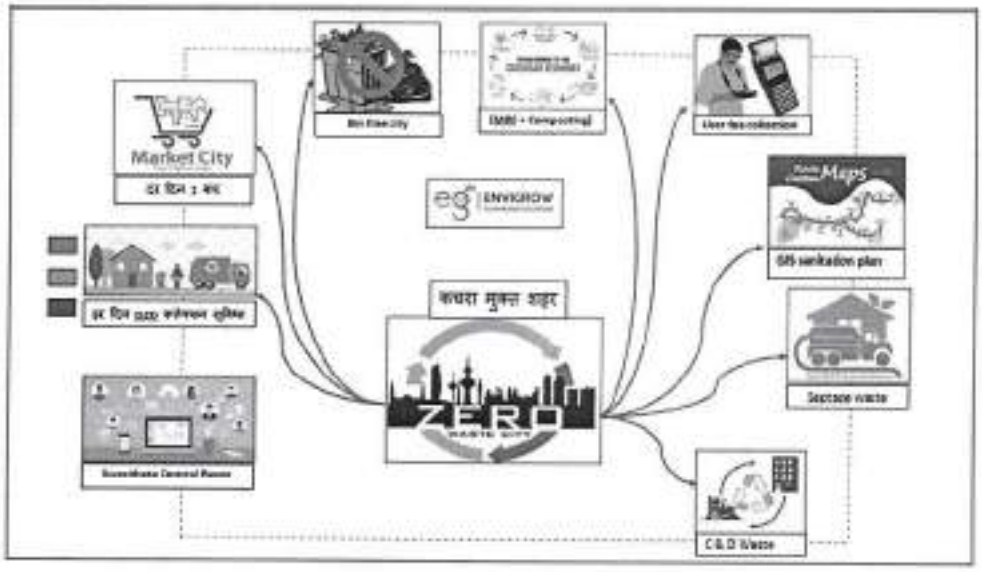


Figure 8 schematics of ISWM system

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8. References

1. *Municipal solid waste management manual, swachh bharat mission, ministry of urban development, GOI.*
2. *Operational guidelines, swachh bharat mission urban 2.0, Oct-2021.*
3. *Service level benchmarking, ministry of urban development, GOI.*
4. *Solid waste management rules 2016.*
5. *Urban municipal solid waste management action plan for state of Uttarakhand., Urban development directorate, August 2017*

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ATTESTED 18/12/2024 Dr. Pooran Singh Bhakuni) Advocate Notary, HQ-NAINITAL Distt. Nainital (U.K.)

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ANNEXURE-C

क्षेत्रीय कार्यालय
उत्तराखण्ड प्रदूषण नियंत्रण बोर्ड
आवास विकास कालोनी, हल्द्वानी (नैनीताल)

UKPCB Ph No.- 05946-225618, 221532 Web Site-www.ueppcb.uk.gov.in

Ref: UKPCB/ROH/N-152/24/2716-1195 Dt- 01/02/24

सेवा में,

प्रभागीय वनाधिकारी,
तराई पूर्वी वन प्रभाग हल्द्वानी,
जिला–नैनीताल।

विषय– मा0 एन0जी0टी0 प्रधान पीठ, नई दिल्ली द्वारा आवेदन पत्र (ओ0ए0) संख्या 200/2014 एम0सी0 मेहता बनाम गंगा प्रदूषण एवं सफाई आदि के मामले में पारित आदेश दिनांक 24.11.2023 के अनुपालन के संबंध में।

महोदय,

कृपया उपरोक्त विषयक आपके कार्यालय पत्रांक 4760/26–1 (हल्द्वानी) दिनांक 01.02.2024 के अनुपालन में वांछित सूचनायें निर्धारित प्रारूप में संलग्न कर अग्रिम आवश्यक कार्यवाही हेतु सादर प्रेषित है।

संलग्नक–यथोपरि।

भवदीय

(डॉ0 डी0के0जोशी)
क्षेत्रीय अधिकारी

कार्यालय तराई पूर्वी वन प्रभाग
हल्द्वानी
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पंजी0 सं0 26-1.....
दिनांक .. 6/2/24.....

CAMP/DPO

6/2/24

Dr. B. S. Bhakuni
Advocate
HQ-No [illegible]
[illegible]

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Reional Office
Uttarakhand Pollution Control Board
Awas Vikas Colony, Haldwani, (Nainital)
UKPCB Ph No.- 05946-225618, 221532 Web Site-www.ukpcb.uk.gov.in

Ref: UKPCB/ROH/ Dt- .....

Status of Original Application No-200/2014 M.C Mehta Vs. Union of India & others.

S.No	Sewage	Proceeding
1(F)	Details of Hotels/Dharmshala &Ashram operating without proper consent & discharging untreated effluent and actiontaken against them.	1(F) As per board record there are 424 hotels in Nainital district and 364 hotel have valid CCA (Consolidated consent & Authorization) and 13 hotels application are under process, remaining 47 hotel have issued notice to obtain CCA of the Board. (Copy Enclosed) out of 424 hotels, 150 no of hotels covered under Orange Category which have its own in house STP or connected with sewer line Network.273 hotels covered under Green Category. They are disposed sewer through Septic Tank/Soak Pit or connected with Sewer line network. Rest of 01 no. of hotels covered under Red category which has its own in house STP.
1(g)	Water quality in river & its tributaries in abutting districts/towns in terms of fecal coli form(MPN/100ml)	1(g) Analysis report attached. In which along with other Parameter fecal Coli form is also mentioned.
IV(a)	Number of Industrial unit discharging their effluent treated/Untreated in river ganga and its tributaries anddetails of defaulting industrial units.	IV(a)Total No of Industries Effluent Discharging outside Premises- 01 (Century Pulp & Paper- Lalkuan).

Sincerely

(Dr.D.K Joshi)
Regional Officer
UKPCB Haldwani

NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL OF UTTARAKHAND (INDIA)

31303

क्षेत्रीय कार्यालय
उत्तराखण्ड प्रदूषण नियंत्रण बोर्ड
आवास विकास कालोनी, हल्द्वानी (नैनीताल)

UKPCB Ph No.- 05946-225618, 221532 Web Site-www.ueppcb.uk.gov.in

Ref: UKPCB/ROH/ होल्स्ता०/VOL-II/24/2615-1153 Dt- 23/01/2024

सेवा में,

सूची संलग्न,
पार्श्व में (कुल–48 होटल)

विषय– जल (प्रदूषण नियंत्रण एवं निवारण) अधिनियम–1974 की धारा–25 एवं वायु जल (प्रदूषण नियंत्रण एवं निवारण) अधिनियम–1981 की धारा–21 के अन्तर्गत संचालनार्थ सहमति प्राप्त किये जाने के संबंध में।

महोदय,

उपरोक्त विषयक अवगत होवे कि होटल/रिजोर्ट के संचालन से पूर्व राज्य प्रदूषण नियंत्रण से जल (प्रदूषण नियंत्रण एवं निवारण) अधिनियम–1974 की धारा–25 एवं वायु जल (प्रदूषण नियंत्रण एवं निवारण) अधिनियम–1981 की धारा–21 के अन्तर्गत संचालनार्थ सहमति (Consent to Operate) प्राप्त किया जाना आवश्यक है। इकाई द्वारा बिना संचालनार्थ सहमति प्राप्त किये होटल का संचालन किया जा रहा है तथा वर्तमान तक बोर्ड की प्रचलित ऑनलाईन व्यवस्था में जल/वायु अधिनियमों के अन्तर्गत संचालनार्थ सहमति हेतु आवेदन नहीं किया गया है। इकाई के संचालन हेतु सहमति एक वैधानिक अनिवार्यता है।

अतः निर्देशित किया जाता है कि होटल/इकाई के संचालन हेतु बोर्ड से संचालनार्थ सहमति प्राप्त किये जाने हेतु पत्र प्राप्ति के एक सप्ताह के अंदर ऑनलाईन आवेदन किया जाना सुनिश्चित करें। सहमति हेतु आवेदन https://investuttarakhand.uk.gov.in/ के माध्यम से किया जाना होता है। उक्त समयावधि के अन्तर्गत होटल का ऑनलाईन आवेदन प्राप्त न होने की स्थिति में जल/वायु अधिनियमों के अन्तर्गत नियमानुसार अग्रिम आवश्यक कार्यवाही किये जाने की संस्तुति बोर्ड मुख्यालय कर दी जायेगी। जिसका समपूर्ण उत्तदायित्व स्वंय उद्यमी का होगा।

भवदीय

(डॉ0 डी0के0जोशी)
क्षेत्रीय अधिकारी

प्रतिलिपि–सदस्य सचिव महोदय, उत्तराखण्ड प्रदूषण नियंत्रण बोर्ड देहरादून को सूचनार्थ सादर प्रेषित।

क्षेत्रीय अधिकारी

NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL UTTARAKHAND INDIA

ATTESTED 23/1/2024
(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL 23/01/24
Distt. Nainital (U.K.)

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1	CORBETT SILVA RESORT	VILLKHUSHALPUR SHAMSHAPUR CHOI RAMNAGAR Nainital
2	HOTEL ASHIANA	DHE MALL NAINITAL Nainital
3	Corbett Tuvhar Trail A Unit of Dawn Resorts and Associates	Khasra No. - 56 Min., 72/5/3, Village - Siswakhey, Ramnagar, Distt. - Nainital Nainital
4	Vardhan Holidays	Khasra No - 111A, 141, 139, 140, 312 Shivalghat Pandey ,Ramnagar Nainital
5	REGENCY INN	NAINITAL ROAD HALDWANI Nainital
6	HOTEL LAKE VIEW	LALITA, NAINITAL Nainital
7	TRH RAMNAGAR Mahila	TRH RAMNAGAR, RANIKHET ROAD RAMNAGAR NAINITAL
8	IMR HOTELS LLP	IMR HOTELS LLP MUKHANI CHOWRAHA KALADHUNGI ROAD HALDWANI
9	MOUNTAIN RESORTS	VAISHALI COLONY NAINITAL ROAD HALDWANI Nainital
10	Tent/La Campsite Cum Programme Centre	SATTAL DISTT. - NAINITAL Nainital
11	TOURIST REST HOUSE RAMGARH NAINITAL Mahila	TRH Ramgarh, CHANDI BHAKTAL NAINITAL UTTARKHAND 263136
12	AASTHA RESTAURANT	NEWAR CORBETT Nature HOTEL ,RANIKHET ROAD DHIKULI, Nainital, Almora
13	Hotel White Rhesus	Bhandi Sadhi, Nainital Road, Haldwani
14	Himalayan View Nainital	Khasra No. - 127 ,128 and 129, Tea Estate, Mallu Ramgarh, Distt. Nainital
15	HOTEL YOURAJ	PANCHAKKI CHAURAHA MALLI BAHORI DARAJWADHUNGA BANDOBASTI HALDWANI
16	The Serina Resort A Unit of MG Groups	Plot No. - 523/532, Mankanjhpur, Ramgarh, Kaladhungi Distt. - Nainital
17	TOURIST REST HOUSE MANILA Mahila	TRH MANILA NAINITAL Nainital
18	CHIRPING HILLS RESORT	118 BHOWALI NAINITAL ROAD, MEHRAGAON, MANDLA, BHAWTAL Nainital
19	Santhak Inn and Fusing Restaurant	BHOWALI DISTT. - NAINITAL Nainital
20	Casa Dream The Resort	Khasra No-05, Sujli Salbungla, Mukteshwar, Nainital Nainital
21	RANIKHET TOURIST HOTEL	NEAR BUS STAND HALDWANI Nainital
22	Shetters And Grill Hotel And Restaurant	Devalekhar Rampur Road Haldwani Distt - Nainital Nainital
23	HOTEL TRISHUL	Hotel Trishul(Bhimtal Forest ,Nainital Road ,Haldwani (U.K.)
24	Mili Ramgarh Vatika Hotel	VILLAGE MUTTIS PATTI,RAMGARH
25	SHRI SHAILYAN RESORT	VILLAGE-DARNAL, POST-SAGARKHET, Nainital
26	THAKRI TOURIST HOTEL	NEAR ROADWAYS HALDWANI Nainital
27	HOTEL NAVAB	MANGAL PRADIM HALDWANI Nainital
28	HOTEL KHUSHI	NAGARI GHOV, SHERWALI
29	TRH BHOWALI Mahila	TRH BHOWALI, SUDHAPAL, NAINITAL 263132 Nainital
30	HOTEL MODERN PALACE	WARD NO. 18 MANGAL PARAO BARELLY ROAD HALDWANI Nainital
31	JUNGLE BETTA Hotels	GOGAON, HEORKOTE, NAINITAL ROAD, Nainital, Uttarakhand, 263139
32	Flat Sidhra Ben Resort	GOGAON, HEORKOTE, NAINITAL ROAD, NAINITAL, Nainital Uttarakhand, 263139
33	SHARDA HOTEL COMPLEX	SHARDA MARKET NAINITAL ROAD HALDWANI Nainital
34	Hotel Freedom	
35	Castle Inn	Bareilly Road Haldwani Nainital
36	Bothra Palace	Nainital Nainital
37	Dist TOURIST REST HOUSE SATTAL NAINITAL	SATTAL TRH SATTAL UTTARAKHAND 263132
38	DRH TOURIST REST HOUSE PADAMPURI Mahila NAINITAL Mahila	DRH PADAMPURI BHOWALI NAINITAL 263132
39	TRH PATHOGODAM Mahila	TRH PATHOGODAM NAINITAL UTTARAKHAND 263132
40	DRE GOGAON Mahila	DISTRICT TOURISM OFFICER - NAINITAL Nainital
41	Sidhra Ben Inn	Tallital Nainital Nainital
42	DRH TOURIST REST HOUSE SATTAL Mahila	DRH SATTAL NAINITAL UTTARAKHAND 263132
43	Shri Ram Chandra Mission	Village Nainital Distt Nainital Nainital
44	TRH TOURIST REST HOUSE Bhimtal Mahila	Tourist Rest House Bhimtal Lake Side Bhimtal 263136 Nainital
45	SATVIK SADAN	Tallital Nainital, Nainital Nainital
46	Sarovar Inn Mahila	Nainital
47	DRE LADY Mahila	RAMNAGAR
48	Mahendra Bhawan	Nainital Nainital, Nainital Nainital, Nainital Nainital, Nainital, Uttarakhand, 263119 Nainital

Dr. P S Bhakuni
HQ-NAINITAL

31305

AND POLLUTION CONTROL BOARD
Gaura devi Paryavaran Bhawan
SIDCUL, IT Park, Sahashtradhara Road
DEHRADUN (Uttarakhand)

उत्तराखण्ड प्रदूषण नियंत्रण बोर्ड
गौरा देवी पर्यावरण भवन
46-बी, सिडकुल,आई.टी. पार्क, सहस्त्रधारा रोड,
देहरादून (उत्तराखण्ड)

CENTRAL LABORATORY

Analysis Report of Sewage Treatment Plants (STP's) for the Month of November 2023

S.No.	Name of the Sewage Treatment Plant (With Capacity)	Sampling Point						
		Inlet of STP			Outlet of STP			
		pH	BOD	TSS	pH	BOD	TSS	Fecal Coliform
1	0.010 MLD STP Near Temple at Badrinath. (Operated by: Uttarakhand Jal Sansthan)	As the area around the STP comes under Master Plan so the demolition of structure work around the STP was in progress and the STP was non-operation due to the same reason. (Date of Inspection: -07-11-2023).						
2	0.26 MLD STP Near Bamni Gaon, Badrinath. (Operated by: Uttarakhand Jal Sansthan)	6.60	160	165	7.33	9.6	13	220
3	1.0 MLD STP Near Suspension Bridge, Badrinath. (Operated by: Uttarakhand Jal Sansthan)	6.72	170	173	7.50	9.2	11	150
4	2.70 MLD STP at Marwari, Joshimath. (Operated by: Uttarakhand Peyjal Nigam)	7.21	110	113	7.39	8.4	10	120
5	1.050 MLD STP at Pokhri, Joshimath. (Operated by: Uttarakhand Jal Sansthan)	STP found Non-Operational at the time of inspection as no effluent was reaching to the plant. (Date of Inspection: 06-11-2023).						
6	0.760 MLD STP Near Alaknanda Ghat, Chamoli. (Operated by: Uttarakhand Jal Sansthan)	STP was found closed and non-operational at the time of visit. (Date of Inspection: 16-11-2023).						
7	0.050 MLD STP Near old Suspension Bridge ,Chamoli. (Operated by: Uttarakhand Jal Sansthan)	STP was found closed and non-operational at the time of visit. (Date of Inspection: 16-11-2023).						
8	1.190 MLD STP at Vivekanand Colony, Gopeshwar. (Operated by: Uttarakhand Jal Sansthan)	6.85	165	163	7.28	8.8	10	130
9	1.120 MLD STP at Baltami, Gopeshwar. (Operated by: Uttarakhand Jal Sansthan)	6.70	150	146	7.04	9.2	11	170
10	1.25 MLD STP at Pokhri Band, Gopeshwar. (Operated by: Uttarakhand Jal Sansthan)	6.88	165	162	7.28	8.8	10	350
11	0.050 MLD STP at Sangam Road, Nandprayag. (Operated by: Uttarakhand Jal Sansthan)	STP was found closed and non-operational at the time of visit. (Date of Inspection: 17-11-2023).						
12	0.100 MLD STP at Forest Office, Nandprayag (Operated by: Uttarakhand Jal Sansthan)	6.90	130	128	7.17	8.4	08	120
		STP found operational but due to overflow untreated effluent was partially discharged into Nandakini River. (Date of Inspection: 17-11-2023).						
13	0.050 MLD STP Near Police Chowki, Karanprayag. (Operated by: Uttarakhand Jal Sansthan)	7.02	125	122	7.30	8.8	09	220
14	0.100 MLD STP Near Purana Pul, Karanprayag. (Operated by: Uttarakhand Peyjal Nigam)	6.70	160	164	7.14	9.2	11	170

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ARAKHAND POLLUTION CONTROL BOARD
Gaura devi Paryavaran Bhawan
46-B, SIDCUL, IT Park, Sahashtradhara Road
DEHRADUN (Uttarakhand)

उत्तराखण्ड प्रदूषण नियंत्रण बोर्ड
गौरा देवी पर्यावरण भवन
46–बी, सिडकुल,आई.टी. पार्क, सहस्त्रधारा रोड,
देहरादून (उत्तराखण्ड)

CENTRAL LABORATORY

S.No.	Name of the Sewage Treatment Plant (With Capacity)	Sampling Point						
		Inlet of STP			Outlet of STP			
		pH	BOD	TSS	pH	BOD	TSS	Fecal Coliform
15	0.100 MLD STP at Ward no. 1&3, Karanprayag. (Operated by: Uttarakhand Peyjal Nigam)	7.09	140	137	7.41	8.4	08	140
16	0.050 MLD STP at Subhash Nagar, Karanprayag. (Operated by: Uttarakhand Jal Sansthan)	6.86	135	133	7.23	8.0	08	130
17	0.050 MLD STP Near Naya Pull, Karanprayag. (Operated by: Uttarakhand Peyjal Nigam)	6.39	150	148	7.04	8.2	10	130
18	0.075 MLD STP Near Anoop Negi School, Rudraprayag. (Operated by: Uttarakhand Jal Sansthan)	STP is not in operation due to Damage of STP.						
19	0.100 MLD STP, Near Rudra Complex, Rudraprayag. (Operated by: Uttarakhand Peyjal Nigam)	6.76	135	132	7.16	8.4	09	220
20	0.075 MLD STP, Near Bus Stand, Rudraprayag. (Operated by: Uttarakhand Peyjal Nigam)	7.02	125	123	7.46	8.6	10	130
21	0.100MLD STP, Near SBI & Masjid, Rudraprayag. (Operated by: Uttarakhand Peyjal Nigam)	6.31	140	136	7.18	8.2	10	220
22	0.125 MLD STP, Near Steel Bridge & Syndicate Bank, Rudraprayag. (Operated by: Uttarakhand Jal Sansthan)	7.01	130	128	7.32	8.8	09	210
23	0.050 MLD STP at Belchi Road, Near Steel Bridge, Rudraprayag. (Operated by: Uttarakhand Peyjal Nigam)	6.73	145	147	7.49	8.2	10	220
24	3.5 MLD STP at Nursery Road, Srinagar. (Operated by: Uttarakhand Peyjal Nigam)	6.98	210	213	7.49	8.4	09	64
25	1.0 MLD STP, Near ITI, Srinagar, (Operated by: Uttarakhand Jal Sansthan)	6.38	100	104	7.20	8.0	12	170
26	0.075 MLD STP Near Junior High School, Srikot, Srinagar. (Operated by: Uttarakhand Peyjal Nigam)	7.23	105	102	7.57	8.0	08	170
27	0.050 MLD STP Near Yeuliya Nala, Srikot, Srinagar. (Operated by: Uttarakhand Peyjal Nigam)	7.04	110	108	7.43	8.4	09	130
28	0.050 MLD STP, Near BRO Bridge, Kirtinagar, (Operated by: Uttarakhand Jal Sansthan)	6.32	155	150	STP found Non-Operational due to electricity Issue. (Date of Inspection: 18-11-2023).			
29	0.010 MLD STP, Near Temple, Kirtinagar. (Operated by: Uttarakhand Jal Sansthan)	6.50	150	154	7.04	8.8	10	640

STP was operational but due to overflow untreated effluent was found discharging into Alaknanda River. (Date of Inspection: 18-11-2023).

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Approved with Comments

Advocate
HQ-NAINITAL
Regd. No. 30 (UK)09/2011

8/2/2024

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31307

D POLLUTION CONTROL BOARD
ura devi Paryavaran Bhawan
OCUL, IT Park, Sahashtradhara Road
DEHRADUN (Uttarakhand)

उत्तराखण्ड प्रदूषण नियंत्रण बोर्ड
गौरा देवी पर्यावरण भवन
46–बी, सिडकुल,आई.टी. पार्क, सहस्त्रधारा रोड़,
देहरादून (उत्तराखण्ड)

CENTRAL LABORATORY

S.No.	Name of the Sewage Treatment Plant (With Capacity)	Sampling Point						
		Inlet of STP			Outlet of STP			
		pH	BOD	TSS	pH	BOD	TSS	Fecal Coliform
30	0.075 MLD STP at Devprayag. (Operated by: Uttarakhand Peyjal Nigam)	6.70	170	168	7.20	9.2	10	140
31	0.150 MLD STP at Devprayag. (Operated by: Uttarakhand Peyjal Nigam)	6.86	180	176	7.01	8.8	09	170
32	1.4 MLD STP at Pauri Road, Devprayag. (Operated by: Uttarakhand Jal Sansthan)	7.30	160	156	7.05	9.2	10	140
33	5.0 MLD STP at Bhagirathi Puram, Tehri. (Operated by: Uttarakhand Jal Sansthan)	6.83	170	173	7.46	8.8	10	170
34	2.0 MLD STP at Gyansu, Uttarkashi. (Operated by: Uttarakhand Jal Sansthan)	6.72	220	224	7.11	10.0	13	920
35	1.0 MLD STP at Gangotri, Distt-Uttarkashi. (Operated by: Uttarakhand Jal Sansthan)	6.78	145	148	7.35	8.8	11	920
36	3.5 MLD STP at Tapovan, Rishikesh. (Operated by: Uttarakhand Jal Sansthan)	6.95	200	205	7.49	9.2	12	220
37	3.0 MLD STP at Swargashram, Rishikesh. (Operated by: Uttarakhand Jal Sansthan)	6.85	210	214	7.47	10.0	13	170
38	25 MLD STP at Lakkarghat, Rishikesh. (Operated by: Uttarakhand Peyjal Nigam)	7.10	170	168	7.42	9.2	10	130
39	5.0 MLD STP at Chorpani, Rishikesh. (Operated by: Uttarakhand Peyjal Nigam)	7.03	180	178	7.44	9.0	10	94
40	7.5 MLD STP at Chandreshwar Nagar, Rishikesh. (Operated by: Uttarakhand Peyjal Nigam)	7.30	155	163	7.61	8.8	09	84
41	20 MLD STP at Motharawala-I, Dehradun. (Operated by: Uttarakhand Jal Sansthan)	7.32	160	164	7.68	9.0	13	94
42	20 MLD STP at Motharawala-II, Dehradun. (Operated by: Uttarakhand Jal Sansthan)	7.12	155	150	7.35	9.2	11	350
43	68 MLD STP at Kargi, Dehradun. (Operated by: Uttarakhand Jal Sansthan)	7.27	170	174	7.68	9.2	12	140
44	0.42 MLD STP at Vijay Colony, Dehradun. (Operated by: Uttarakhand Jal Sansthan)	7.32	105	107	7.76	8.8	09	110
45	0.71 MLD STP Salawala, Dehradun. (Operated by: Uttarakhand Jal Sansthan)	7.40	170	168	7.58	8.4	09	170
46	5.0 MLD STP at Indira Nagar, Dehradun. (Operated by: Uttarakhand Jal Sansthan)	7.33	160 4	164	7.68	8.8	11	170

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JUNIOR LAB ASSISTANT PCD-PB, JUNIOR LAB ASSISTANT

Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL

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UTTARAKHAND POLLUTION CONTROL BOARD
Gaura devi Paryavaran Bhawan
46-B, SIDCUL, IT Park, Sahashtradhara Road
DEHRADUN (Uttarakhand)

उत्तराखण्ड प्रदूषण नियंत्रण बोर्ड
गौरा देवी पर्यावरण भवन
46-बी, सिडकुल,आईटी पार्क, सहस्त्रधारा रोड,
देहरादून (उत्तराखण्ड)

CENTRAL LABORATORY

S.No.	Name of the Sewage Treatment Plant (With Capacity)	Sampling Point						
		Inlet of STP			Outlet of STP			
		pH	BOD	TSS	pH	BOD	TSS	Fecal Coliform
47	1.0 MLD STP at Jakhan, Dehradun. (Operated by: Uttarakhand Jal Sansthan)	7.24	145	148	7.67	8.8	10	110
48	27 MLD STP at Jagjeetpur, Haridwar. (Operated by: Uttarakhand Jal Sansthan)	6.74	200	245	7.39	9.2	10	63
49	18 MLD STP at Jagjeetpur, Haridwar. (Operated by: Uttarakhand Jal Sansthan)	7.31	240	229	7.74	8.0	09	70
50	68 MLD STP at Jagjeetpur, Haridwar. (Operated by: Uttarakhand Peyjal Nigam)	6.62	150	180	7.20	8.0	10	58
51	18 MLD STP at Saral, Haridwar. (Operated by: Uttarakhand Jal Sansthan)	6.86	220	200	7.64	9.2	10	70
52	14 MLD STP at Saral, Haridwar. (Operated by: Uttarakhand Peyjal Nigam)	6.78	200	225	7.81	9.6	09	84
53	33 MLD STP at Salhar, Roorkee, Haridwar. (Operated by: Uttarakhand Jal Sansthan)	7.39	180	210	7.68	12.0	16	280
54	1.3 MLD STP at Landour (S), Mussoorie. (Operated by: Uttarakhand Jal Sansthan)	6.55	165	163	7.05	9.6	10	350
55	3.12 MLD STP at Bhatta fall, Mussoorie. (Operated by: Uttarakhand Jal Sansthan)	6.44	145	143	7.55	9.2	09	170
56	0.8 MLD STP at Landour (N), Mussoorie. (Operated by: Uttarakhand Jal Sansthan)	7.41	165	152	8.17	9.2	10	110
57	1.2 MLD STP at Happy Valley, Mussoorie. (Operated by: Uttarakhand Jal Sansthan)	7.04	175	176	7.71	10.0	12	540
58	0.9 MLD STP at Kuli Bazaar, Mussoorie. (Operated by: Uttarakhand Jal Sansthan)	6.89	190	192	7.89	9.2	11	130
59	2.0 MLD STP Bakh, Almora, Distt-Almora. (Operated by: Uttarakhand Jal Sansthan)	6.81	240	302	7.00	24.0	30	84
60	0.45 MLD STP at Hari Nagar, Distt-Nainital. (Operated by: Uttarakhand Jal Sansthan)	6.66	280	340	7.30	14.0	18	150
61	0.60 MLD STP at Krishnapur, Distt-Nainital. (Operated by: Uttarakhand Jal Sansthan)	6.93	220	274	7.01	20.0	24	280
62	1.35 MLD STP at Bhowali, Distt-Nainital. (Operated by: Uttarakhand Jal Sansthan)	6.75	340	412	7.22	28.0	35	170
63	1.25 MLD STP at Nivada, Distt-Pithorajarh. Operated by: Uttarakhand Peyjal Nigam)	7.10	275	340	7.60	16.0	19	120

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DE. T. S. [illegible]
ADDL. CHIEF
HQ-NAINITAL
Regd. No. 30 (1)(a)(iv)/2011
ST. OF UTTARAKHAND

28/12/2023

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UTTARAKHAND POLLUTION CONTROL BOARD
Gaura devi Paryavaran Bhawan
46-B, SIDCUL, IT Park, Sahashtradhara Road
DEHRADUN (Uttarakhand)

उत्तराखण्ड प्रदूषण नियंत्रण बोर्ड
गौरा देवी पर्यावरण भवन
46-बी, सिडकुल,आई.टी. पार्क, सहस्त्रधारा रोड,
देहरादून (उत्तराखण्ड)

CENTRAL LABORATORY

S.No.	Name of the Sewage Treatment Plant (With Capacity)	Sampling Point						
		Inlet of STP			Outlet of STP			
		pH	BOD	TSS	pH	BOD	TSS	Fecal Coliform
64	5.0 MLD STP at Almchali, Distt-Pithoragarh. (Operated by: Uttarakhand Peyjal Nigam)	7.28	220	264	7.37	12.0	16	170
65	1.5 MLD STP at Puchdi, Ramnagar, Nainital. (Operated by: Uttarakhand Jal Sansthan)	7.30	180	222	7.58	9.0	10	94
66	7.0 MLD STP Transport Nagar, Ramnagar, Distt-Nainital. (Operated by: Uttarakhand Jal Sansthan)	7.17	240	308	7.72	8.0	08	84
67	0.45 MLD STP Narayan Nagar, Distt-Nainital. (Operated by: Uttarakhand Jal Sansthan)	6.65	205	264	7.29	26.0	32	210
68	28 MLD STP, Indra Nagar, Haldwani Distt- Nainital. (Operated by: Uttarakhand Peyjal Nigam)	6.62	360	436	7.66	28.0	36	350
69	10 MLD STP Rusi Pond, District-Nainital.	New Sewage Treatment Plant (STP) of 17.5 MLD capacity is under construction.						
Sewage Treatment final effluent standards (As Notified by MoEF&CC).					6.5-9.0	30	<100	<1000
Note: All values are in mg/l except pH, Fecal coliform (MPN Per 100 ml).								

Pranod Bhandari 05/12/2023
(Jr. Lab Assistant)

Pradeep 05/12/2023
(Pradeep Chauhan)
Lab Assistant

05/12/2023
(Amit Pokhriyal)
Environment Engineer

ATTESTED
08/12/2024
(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND (INDIA)
08/12/2024

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UKPCB, Regional Office Haldwani (Nainital)

Status of STP's Effluent for the Month December-2023

S.No	Name of the STP's (With Capacity)	Sampling Point:Inlet of STP				Sampling Point:Outlet of STP						
		Parameters				Parameters						
		Sampling Date	pH	Total Suspended solids (mg/L)	BOD (mg/L)	Colour	Odour	pH	Total Suspended solids (mg/L)	BOD (mg/L)	*Fecal Coliform (MPN/100 mL)	Residual chlorine (ppm)
1	0.80 MLD STP Krishnapur, Nainital, Distt-Nainital	20.12.2023	6.13	356	280	Colourless	Odourless	7.35	28	24	170	0.4
2	0.45 MLD STP Harinagar,Nainital Distt- Nainital	20.12.2023	6.79	292	226	Colourless	Odourless	7.66	25	20	94	0.2
3	1.25 MLD STP Bheemtal Distt- Nainital	20.12.2023	6.29	388	320	Colourless	Odourless	8.10	32	26	140	0.5
4	2.0 MLD STP Bakh, Almora Distt-Almora	20.12.2023	6.48	376	295	Colourless	Odourless	7.87	22	18	79	0.4
5	1.25MLD STP Nirada, Distt-Pithoragarh	20.12.2023	7.13	270	220	Colourless	Odourless	7.50	13	10	94	N.D
6	5.0 MLD STP Almcholi, Distt-Pithoragarh	20.12.2023	6.95	346	280	Colourless	Odourless	7.79	18	14	220	N.D
7	1.5 MLD STP Puchdi, Ramnagar, Distt-Nainital	20.12.2023	6.62	198	160	Colourless	Odourless	7.35	9	7	79	N.D
8	7.0 MLD STP Transport Nagar,Ramnagar, Distt-Nainital	20.12.2023	6.90	280	220	Colourless	Odourless	7.57	10	9	70	N.D
9	0.45MLD STP Narayan Nagar,District- Nainital	20.12.2023	6.21	342	270	Colourless	Odourless	7.94	34	28	170	0.5
10	28MLD STP Haldwani,District- Nainital	20.12.2023	6.56	198	240	Colourless	Odourless	7.29	26	20	280	N.D
Standards for effluent discharge into inland/surface water								6.5-9.0	<100	30	<1000	<0.50

*It is analysed by Lab Headoffice, UKPCB Dehradun.

Scientific Assistant

Assistant Scientific Officer

Regional Officer

ATTESTED
(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
UTTARAKHAND (INDIA)

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UKPCB, Regional Office Haldwani (Nainital)

Status of STP's Effluent for the Month November-2023

S.No	Name of the STP's (With Capacity)	Sampling Point:Inlet of STP				Sampling Point:Outlet of STP						
		Parameters				Parameters						
		Sampling Date	pH	Total Suspended solids (mg/L)	BOD (mg/L)	Colour	Odour	pH	Total Suspended solids (mg/L)	BOD (mg/L)	*Fecal Coliform (MPN/100 ml)	Residual chlorine (ppm)
1	0.80 MLD STP Krishnapur, Nainital, Distt-Nainital	03.11.2023	6.93	274	220	Colourless	Odourless	7.61	24	20	280	0.4
2	0.45 MLD STP Harinagar,Nainital Distt- Nainital	03.11.2023	6.58	340	280	Colourless	Odourless	7.30	18	14	150	0.2
3	1.25 MLD STP Bheemtal Distt- Nainital	03.11.2023	6.75	412	340	Colourless	Odourless	7.22	35	28	170	0.2
4	2.0 MLD STP Bakh, Almora Distt-Almora	03.11.2023	6.81	302	248	Colourless	Odourless	7.86	30	24	84	0.4
5	1.25MLD STP Nirada, Distt-Pithoragarh	03.11.2023	7.18	340	275	Colourless	Odourless	7.60	19	16	120	N.D
6	5.0 MLD STP Ainchali, Distt-Pithoragarh	03.11.2023	7.28	284	228	Colourless	Odourless	7.37	15	12	170	N.D
7	1.5 MLD STP Puchdi, Ramnagar, Distt-Nainital	03.11.2023	7.30	222	180	Colourless	Odourless	7.58	10	9	54	N.D
8	7.0 MLD STP Transport Nagar,Ramnagar, Distt-Nainital	03.11.2023	7.17	308	249	Colourless	Odourless	7.72	8	6	84	N.D
9	0.45MLD STP Narayan Nagar,District- Nainital	03.11.2023	6.95	254	205	Colourless	Odourless	7.29	32	26	210	0.4
10	28MLD STP Haldwani,District- Nainital	03.11.2023	6.62	436	360	Colourless	Odourless	7.68	35	28	250	0.3
Standards for effluent discharge into Inland/surface water								6.5-9.0	<100	30	<1000	<0.50

*To be analysed by Lab Haridwar, UKPCB Dehradun.

Scientific Assistant

Assistant Scientific Officer

Regional Officer

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
Regd. No. 36 (1)(10)/2011
GOVT. OF UTTARAKHAND (INDIA)

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UTTARAKHAND POLLUTION CONTROL BOARD
Gauradevi Paryavaran Bhawan, 46-B, SIDCUL, IT Park, Sahastradhara Road, DEHRADUN (Uttarakhand)

उत्तराखण्ड प्रदूषण नियंत्रण बोर्ड
गौरादेवी पर्यावरण भवन
46-बी, सिडकुल, आई.टी. पार्क, सहस्त्रधारा रोड, देहरादून(उत्तराखण्ड)

Surface Water Quality Characteristics of Rivers and Lakes December 2023

District- Chamoli

S.No.	Name of the Monitoring Point	Colour	Odour	Weather	Temperature	pH	TDS	EC	DO	Chloride	Hardness	Calcium	Magnesium	Alkalinity	BOD	COD	TC	FC	FS	Nitrate-N	Nitrite-N	Sulphate	Phosphate	Fluoride	Sodium	Potassium	SAR	Designated Best use (CPCB) Water Quality Class
1	River Alaknanda B/C River Dhauli Ganga at Vishnuprayag	Colourless	Odourless	Clear	10°C	7.66	28	33	11.6	3.9	14	3.9	3.4	3.8	3.0	4.0	<1.8	<1.8	<1.8	0.97	0.01	11.56	0.37	0.14	1.8	1.2	0.16	A
2	River Dhauli Ganga B/C River Alaknanda at Vishnuprayag	Colourless	Odourless	Clear	11°C	7.70	69	105	11.0	4.0	45	11	10	6.3	3.0	4.0	<1.8	<1.8	<1.8	0.97	0.01	11.21	0.38	0.15	2.3	2.3	0.15	A
3	River Alaknanda A/C River Dhauli Ganga at Vishnuprayag	Colourless	Odourless	Clear	10°C	7.34	33	81	11.4	3.0	31	7.5	6.8	3.2	1.8	4.0	<1.8	<1.8	<1.8	0.98	0.04	11.42	0.31	0.18	2.9	1.9	0.13	A
4	River Alaknanda B/C River Nandakini at Nandprayag	Colourless	Odourless	Clear	14°C	7.77	67	101	11.0	3.0	31	7.1	2.0	6.2	1.8	4.0	<1.8	<1.8	<1.8	0.98	0.04	11.21	0.39	0.15	2.4	2.2	0.14	A
5	River Nandakini B/C River Alaknanda at Nandprayag	Colourless	Odourless	Clear	15°C	8.01	43	65	10.6	4.0	21	7.9	3.3	3.0	1.0	4.0	31	17	<1.8	0.99	0.01	11.42	0.39	0.16	2.4	2.7	0.14	A
6	River Alaknanda A/C River Nandakini at Nandprayag	Colourless	Odourless	Clear	13°C	7.92	26	86	10.8	3.0	24	4.8	1.8	3.5	1.0	4.0	4.8	<1.8	0.96	0.97	0.02	11.42	0.38	0.17	2.3	1.9	0.11	A
7	River Alaknanda B/C River Pindar at Karnprayag	Colourless	Odourless	Clear	11°C	7.83	56	92	10.8	4.0	26	6.0	1.6	3.6	1.0	4.0	<1.8	<1.8	<1.8	0.98	0.01	11.13	0.42	0.16	1.8	1.2	0.09	A
8	River Pindar B/C River Alaknanda at Karnprayag	Turbid	Odourless	Clear	12°C	8.12	69	104	9.8	3.0	31	7.5	2.3	5.1	1.0	4.0	23	26	<1.8	1.01	0.02	11.42	0.41	0.17	2.4	2.2	0.11	A
9	River Alaknanda A/C River Pindar at Karnprayag	Turbid	Odourless	Clear	12°C	8.03	67	101	10.4	4.0	31	7.9	1.5	5.1	1.0	4.0	4.2	2.0	<1.8	1.01	0.02	11.42	0.39	0.15	2.3	2.3	0.10	A

District- Rudraprayag

S.No.	Name of the Monitoring Point	Colour	Odour	Weather	Temperature	pH	TDS	EC	DO	Chloride	Hardness	Calcium	Magnesium	Alkalinity	BOD	COD	TC	FC	FS	Nitrate-N	Nitrite-N	Sulphate	Phosphate	Fluoride	Sodium	Potassium	SAR	Designated Best use (CPCB) Water Quality Class
10	River Mandakini B/C River Alaknanda at Rudraprayag	Colourless	Odourless	Clear	14°C	7.69	44	64	11.0	3.0	24	4.8	2.9	3.1	1.0	4.0	<1.8	<1.8	<1.8	0.97	0.02	11.4	0.39	0.12	2.4	2.1	0.17	A
11	River Alaknanda B/C River Mandakini at Rudraprayag	Turbid	Odourless	Clear	13°C	8.03	76	111	10.6	4.0	31	7.1	1.6	4.0	1.0	4.0	<1.8	<1.8	<1.8	0.99	0.03	11.42	0.41	0.17	2.4	2.3	0.13	A
12	River Alaknanda A/C River Mandakini at Rudraprayag	Turbid	Odourless	Clear	14°C	7.96	62	104	10.8	3.0	30	7.0	2.3	7.2	1.0	4.0	<1.8	<1.8	<1.8	0.98	0.03	11.21	0.40	0.16	2.4	2.3	0.12	A
13	River Mandakini D/S at Augustmuni, Rudraprayag	Colourless	Odourless	Clear	13°C	7.91	35	58	11.2	3.0	22	6.1	1.0	4.8	1.0	4.0	<1.8	<1.8	<1.8	0.97	0.02	11.56	0.41	0.17	2.4	2.4	0.17	A

District- Uttarkashi

S.No.	Name of the Monitoring Point	Colour	Odour	Weather	Temperature	pH	TDS	EC	DO	Chloride	Hardness	Calcium	Magnesium	Alkalinity	BOD	COD	TC	FC	FS	Nitrate-N	Nitrite-N	Sulphate	Phosphate	Fluoride	Sodium	Potassium	SAR	Designated Best use (CPCB) Water Quality Class
14	River Bhagirathi D/S at Uttarkashi	Colourless	Odourless	Clear	15°C	7.21	32	50	10.4	4.0	29	6.6	1.3	4.9	1.0	4.0	32	26	<1.8	0.96	0.02	10.24	0.43	0.19	3.0	2.3	0.20	A
15	River Yamuna at Barkot	Colourless	Odourless	Clear	13°C	7.91	61	95	10.4	3.0	34	4.8	3.9	5.0	1.0	4.0	<1.8	<1.8	<1.8	0.96	0.03	10.11	0.39	0.19	2.4	2.1	0.14	A

District- Tehri Garhwal

S.No.	Name of the Monitoring Point	Colour	Odour	Weather	Temperature	pH	TDS	EC	DO	Chloride	Hardness	Calcium	Magnesium	Alkalinity	BOD	COD	TC	FC	FS	Nitrate-N	Nitrite-N	Sulphate	Phosphate	Fluoride	Sodium	Potassium	SAR	Designated Best use (CPCB) Water Quality Class
16	River Alaknanda B/C River Bhagirathi at Devprayag	Turbid	Colourless	Clear	14°C	7.84	79	120	10.8	4.0	33	7.9	1.6	5.0	1.0	4.0	<1.8	<1.8	<1.8	0.97	0.03	10.43	0.31	0.16	2.9	2.7	0.11	A

Dr. S. Ravichandran, Adv. Case No. [illegible] HON'BLE NATIONAL GREEN TRIBUNAL (Ref. No. [illegible]) UTTARAKHAND (INDIA)

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	Name of the Monitoring Point	Colour	Odour	Weather	Temperature	pH	TDS	EC	DO	Chloride	Hardness	Calcium	Magnesium	Alkalinity	BOD	COD	TC	FC	FS	Nitrate-N	Nitrite-N	Sulphate	Phosphate	Fluoride	Sodium	Potassium	SAR	Designated Best use (DBU) Water Quality Class
	River Ganga canal D/S at Har ki Pauri, Kushal Bridge, Haridwar	Turbid	Odourless	Clear	25°C	7.80	215	330	7.7	9.0	88	55	33	90	1.6	10.0	110	70	20	1.23	0.14	21.67	0.18	0.30	3.55	3.40	0.16	B
	River Ganga at Har Ki Pauri, Haridwar	Turbid	Odourless	Clear	24.9°C	7.50	143	219	8.0	7.0	80	68	12	88	1.7	10.0	130	79	23	1.47	0.18	21.62	0.14	0.39	3.13	2.21	0.15	B
	River Ganga near Bishanpur Kunda, Haridwar	Turbid	Odourless	Clear	25.1°C	7.20	192	293	7.8	10.0	106	66	40	110	1.3	10.0	94	63	14	1.38	0.13	23.11	0.42	0.86	4.15	3.99	0.17	B
	River Ganga Canal at Lal Ta Rao Bridge, Haridwar	Turbid	Odourless	Clear	25°C	7.60	220	344	7.8	8.0	70	55	15	90	1.6	9.0	140	79	17	1.44	0.15	20.66	0.27	0.30	3.17	2.91	0.16	B
	River Ganga Canal at Dantkali, Haridwar	Turbid	Odourless	Clear	24.8°C	7.20	230	359	7.6	9.0	85	66	19	94	1.5	8.0	110	70	14	1.94	0.13	21.70	0.15	0.40	3.39	2.84	0.16	B
	River Ganga U/S at Bindughat Jhabrawala, Haridwar	Turbid	Odourless	Clear	24.7°C	7.32	190	288	8.2	8.0	90	72	18	98	1.6	9.0	110	70	20	1.34	0.16	21.19	0.17	0.25	3.08	2.16	0.14	B
	River Ganga D/S at Bahkumari Mandir, Alexnpur, Haridwar	Turbid	Odourless	Clear	25.5°C	7.20	200	313	7.6	12.0	98	62	36	104	1.7	11.0	110	70	21	1.32	0.17	21.36	0.54	0.43	3.65	4.79	0.25	B
	Upper Ganga Canal D/S at Roorkee	Turbid	Odourless	Clear	25°C	8.10	231	343	7.6	12.0	120	82	38	130	1.9	12.0	120	94	17	1.64	0.21	21.86	0.33	0.45	27.09	11.90	1.07	B
	River Banganga D/S at Laksar before entering U.P	Colourless	Odourless	Clear	25°C	7.80	240	375	5.7	10.0	105	260	45	316	2.1	10.0	160	70	13	1.87	0.24	21.23	0.23	0.60	25.96	5.96	0.63	B
	River Ganga D/S at Saharanpur, Haridwar	Turbid	Odourless	Clear	27.6°C	7.80	209	320	7.2	9.0	120	75	45	128	1.8	10.0	130	79	21	1.49	0.12	21.36	0.50	0.33	6.59	2.93	0.26	B

District- Pauri Garhwal

No.	Name of the Monitoring Point	Colour	Odour	Weather	Temperature	pH	TDS	EC	DO	Chloride	Hardness	Calcium	Magnesium	Alkalinity	BOD	COD	TC	FC	FS	Nitrate-N	Nitrite-N	Sulphate	Phosphate	Fluoride	Sodium	Potassium	SAR	Designated Best use (DBU) Water Quality Class
1	River Ganga U/S at Lakshmanjhula, Rishikesh	Colourless	Odourless	Clear	19°C	7.68	59	90	10.2	4.0	66	53	13	62	1.0	4.0	24	27	<1.8	0.09	0.02	25.41	0.20	0.27	3.9	4.2	0.23	A
2	River Ganga at Swargashram, Rishikesh	Colourless	Odourless	Clear	20°C	7.80	70	106	9.8	5.0	74	58	16	72	1.0	4.0	43	31	<1.8	0.09	0.01	30.42	0.17	0.22	3.5	3.7	0.18	A
3	River Nayar U/S at Satpuli	Colourless	Odourless	Clear	17°C	7.42	44	69	10.2	4.0	50	41	09	54	1.0	4.0	46	33	<1.8	0.10	0.04	20.41	0.18	0.20	3.0	3.1	0.18	A
4	River Nayar D/S at Satpuli	Colourless	Odourless	Clear	18°C	7.51	50	77	10.0	5.0	54	44	10	58	1.0	4.0	48	34	2.0	0.03	0.01	21.41	0.22	0.18	3.4	3.3	0.20	A

District- Nainital

No.	Name of the Monitoring Point	Colour	Odour	Weather	Temperature	pH	TDS	EC	DO	Chloride	Hardness	Calcium	Magnesium	Alkalinity	BOD	COD	TC	FC	FS	Nitrate-N	Nitrite-N	Sulphate	Phosphate	Fluoride	Sodium	Potassium	SAR	Designated Best use (DBU) Water Quality Class
55	Nainital Lake Water Intake, Nainital	Colourless	Odourless	Clear	14°C	7.63	277	410	8.6	13.0	250	136	114	210	2.0	6.0	140	110	6.1	0.13	0.03	40.42	0.29	0.25	10.6	3.2	0.29	B
56	Bhowali Lake Water Intake, Nainital	Colourless	Odourless	Clear	16°C	7.51	125	190	8.4	15.0	212	110	102	172	1.6	5.0	170	140	4.5	0.13	0.04	33.16	0.18	0.23	7.3	3.0	0.21	B
57	Gola River at Haldwani, Nainital	Colourless	Odourless	Clear	18°C	7.66	169	280	7.8	24.0	226	118	108	188	2.4	6.0	170	150	6.1	0.12	0.03	30.40	0.17	0.28	3.7	2.9	0.11	B
58	Sattal lake, Nainital	Colourless	Odourless	Clear	13°C	7.75	89	140	8.8	13.0	166	92	74	152	1.0	4.0	150	120	2.0	0.11	0.01	31.44	0.20	0.23	3.4	1.2	0.11	B
59	Naukichyatal lake, Nainital	Colourless	Odourless	Clear	15°C	7.80	119	180	8.4	19.0	196	102	94	164	1.8	5.0	130	79	2.0	0.13	0.04	32.40	0.19	0.25	2.4	1.8	0.07	B
60	River Shipra D/S near Neem Karoli Dam, Bhawali, Nainital	Colourless	Odourless	Clear	15°C	7.58	139	210	8.2	24.0	200	108	92	176	1.8	5.0	120	70	<1.8	0.09	0.06	22.43	0.19	0.28	3.8	1.2	0.12	B

District- Udham Singh Nagar

	Name of the Monitoring Point	Colour	Odour	Weather	Temperature	pH	TDS	EC	DO	Chloride	Hardness	Calcium	Magnesium	Alkalinity	BOD	COD	TC	FC	FS	Nitrate-N	Nitrite-N	Sulphate	Phosphate	Fluoride	Sodium	Potassium	SAR	Designated Best use (DBU) Water Quality Class
	Kosi River at Kashipur Bajpur Road Bridge, Kashipur	Colourless	Odourless	Clear	25°C	7.60	154	232	6.9	17.0	170	137	33	145	3.0	16.0	220	130	26	0.31	0.28	96.4	0.44	0.23	8.3	3.2	0.28	B
	Dhella River U/S at Kashipur Moradabad Road Bridge, US Nagar	Colourless	Odourless	Clear	29°C	6.80	101	260	6.2	18.0	144	108	36	160	3.0	20.0	540	240	70	0.15	0.23	51.2	0.32	0.27	9.9	4.9	0.36	C

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31314

File No. PCB-24007/1/2022-PCB-DEPT-PCB (Computer No. 8720)

49986/2023

S.No.	Name of the Monitoring Point	Colour	Odour	Weather	Temperature	pH	TDS	EC	DO	Chloride	Hardness	Calcium	Magnesium	Alkalinity	BOD	COD	TC	FC	FS	Nitrate-N	Nitrite-N	Sulphate	Phosphate	Fluoride	Sodium	Potassium	SAR	Designated Best use (CPCB) Water Quality Class
63	Dhaila River D/S at Dhakuchowk, Atkpani Road, U/S Nigar	Colourless	Odourless	Clear	25°C	7.19	363	491	3.8	41.6	210	184	44	200	22.0	160.0	1600	920	140	0.34	0.58	112.1	0.63	0.32	36.2	9.2	1.54	E
64	River Dhaila U/S Kashipur, at D/S Ramnagar Road), U/S Nigar	Colourless	Odourless	Clear	24°C	7.70	107	181	6.2	18.0	98	72	28	110	2.6	58.0	220	170	47	0.15	0.22	29.2	0.22	0.23	9.4	1.8	0.41	D
65	Dhaila River at Lohia Bridge D/S Kashipur (D/S Lohiya Bridge), U/S Nigar	Colourless	Odourless	Clear	24°C	6.80	186	254	3.0	30.0	165	113	59	250	20.0	128.0	540	240	94	0.42	0.39	74.4	0.62	0.41	18.4	4.8	0.62	E
66	Pilakhar River at Dilaspur, Rampur, U/S Nigar	Colourless	Odourless	Clear	24°C	7.20	168	262	4.4	17.0	190	148	42	233	2.4	16.0	340	220	73	0.11	0.18	54.2	0.22	0.28	7.4	3.3	0.23	C
67	Nandaur River U/S Sitarganj Industrial Area, (Nandaur U/S Sitarganj), U/S Nigar	Colourless	Odourless	Clear	25°C	7.90	131	194	7.4	19.0	110	86	24	170	2.8	8.0	340	330	94	0.09	0.14	36.2	0.29	0.18	4.8	2.2	0.18	C
68	Nandaur River D/S Sitarganj Industrial Area, (Nandaur D/S Sitarganj), U/S Nigar	Colourless	Odourless	Clear	26°C	7.70	197	305	7.6	25.0	210	132	61	240	2.7	18.0	17×10^3	11×10^3	330	0.16	0.23	48.2	0.54	0.25	6.4	1.8	0.15	C
69	Kichha River at Kichha, (River Kichha (D/S Nagarbhalla, Kashipur), U/S Nigar	Colourless	Odourless	Clear	25°C	7.60	195	333	6.2	30.0	230	173	73	293	3.2	32.0	210	220	70	0.24	0.34	83.6	0.33	0.26	23.2	6.2	0.69	D
70	Kalyani River at U/S Pantnagar Industrial Area, U/S Nigar	Colourless	Odourless	Clear	29°C	7.88	276	404	3.4	13.0	255	186	53	250	2.7	16.0	340	330	110	0.11	0.18	34.2	0.29	0.24	9.1	4.2	0.23	C
71	Kalyani River at D/S Pantnagar Industrial Area, U/S Nigar	Turbid	Odourless	Clear	27°C	7.29	338	499	2.4	45.0	285	208	77	325	24.0	160.0	1600	540	220	0.33	0.61	98.2	0.72	0.69	23.4	7.2	0.76	E
72	River Kailash Devrampani Indeal Sitarganj Industrial Area, U/S Nigar	Colourless	Odourless	Clear	26°C	7.40	178	271	3.6	13.0	170	134	31	190	2.2	12.0	330	280	70	0.19	0.25	31.2	0.30	0.25	6.4	1.5	0.21	B

District- Alwara

S.No.	Name of the Monitoring Point	Colour	Odour	Weather	Temperature	pH	TDS	EC	DO	Chloride	Hardness	Calcium	Magnesium	Alkalinity	BOD	COD	TC	FC	FS	Nitrate-N	Nitrite-N	Sulphate	Phosphate	Fluoride	Sodium	Potassium	SAR	Designated Best use (CPCB) Water Quality Class
73	River Kosi D/S Alwara, Kashipur Road Bridge	Colourless	Odourless	Clear	25°C	7.67	160	240	8.2	21.0	220	159	106	175	3.4	4.0	330	94	2.0	0.15	0.02	20.46	0.18	0.27	6.4	2.0	0.29	B

District- Bageshwar

S.No.	Name of the Monitoring Point	Colour	Odour	Weather	Temperature	pH	TDS	EC	DO	Chloride	Hardness	Calcium	Magnesium	Alkalinity	BOD	COD	TC	FC	FS	Nitrate-N	Nitrite-N	Sulphate	Phosphate	Fluoride	Sodium	Potassium	SAR	Designated Best use (CPCB) Water Quality Class
74	River Saryu D/S at Bageshwar	Colourless	Odourless	Clear	16°C	7.23	174	260	8.2	24.0	210	114	96	178	1.4	3.0	140	79	4.5	0.11	0.04	29.83	0.20	0.36	3.3	2.4	0.10	B

Note: All values are in mg/L except Colour, Odour, Weather, Temperature, pH, EC(μs/cm), SAR and TC, FC, FS (MPN Per 100 ml).

* The River water monitoring Frequency of 85 Locations (Kosi(Sonauli)-Dhaila-Chauraha), Kalsi(Sahaspur)-Kichha-Rudrapur(4), (Gaula-4), Tanakpur-(4)-Saryu-Chaukori (Pithoragarh) is on yearly basis / Once in a year (Monitoring already done for the month of June 2023).

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ANNEXURE-D

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Rmp
DO
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प्रभागीय वनाधिकारी
तराई पूर्वी वन प्रभाग, हल्द्वानी

विषय :– मा0 राष्ट्रीय हरित अधिकरण (एन0जी0टी0) प्रधान पीठ, नई दिल्ली द्वारा मूल आवेदन–पत्र (ओ0ए0) संख्या 200, वर्ष 2014, एम0सी0 मेहता बनाम गंगा प्रदूषण एवं सफाई आदि के मामले में पारित आदेश दिनांक 24.11.2023 के अनुपालन के सम्बन्ध में।

सन्दर्भः– आपका पत्रांक 4039/26–1/हल्द्वानी दिनांक 22.12.2023

महोदय,

उपरोक्त विषयक सन्दर्भित पत्र के कम में अवगत कराना है कि गौला नदी में Flood plain zoning का कार्य जल विज्ञान खण्ड, सिंचाई अनुसंधान संस्थान, बहादराबाद,रूडकी द्वारा किया जा रहा है। जिला गंगा समिति की मासिक बैठक दिनांक 29.12.2023 को मा0 राष्ट्रीय हरित अधिकरण (एन0जी0टी0) प्रधान पीठ, नई दिल्ली द्वारा पारित आदेश दिनांक 24.11.2023 के बिन्दु संख्या 01 के पैरा V(f) के सम्बन्ध में जल विज्ञान खण्ड, सिंचाई अनुसंधान संस्थान, बहादराबाद,रूडकी द्वारा उपलब्ध करायी गयी Flood plain zoning Report संलग्न कर आवश्यक कार्यवाही हेतु प्रेषित है तथा अवगत कराना है कि बिन्दु संख्या 01 के पैरा V(g) की सूचना खण्ड से सम्बंधित नही है ।

संलग्नकः– उपरोक्तानुसार।

अधिशासी अभियन्ता
सिंचाई खण्ड हल्द्वानी

पत्रांक :– /सिखह/FPW/तद्दिनांक।

1.प्रतिलिपि जिलाधिकारी महोदया, नैनीताल को सूचनार्थ प्रेषित।

2.प्रतिलिपि अधिशासी अभियन्ता जल विज्ञान खण्ड, सिंचाई अनुसंधान संस्थान, बहादराबाद , रूडकी को सूचनार्थ प्रेषित।

अधिशासी अभियन्ता
सिंचाई खण्ड हल्द्वानी

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FLOOD PLAIN ZONING IN GOLA RIVER FOR SAFE HABITATION AND COMMERCIAL CONSTRUCTION ALONG THE RIVER BANKS

Client:

Superintending Engineer,

Hydraulic Circle, Bahadarabad

(IRI Roorkee), Haridwar, Uttarkhand

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Submitted By

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(Committed For Better Environment)

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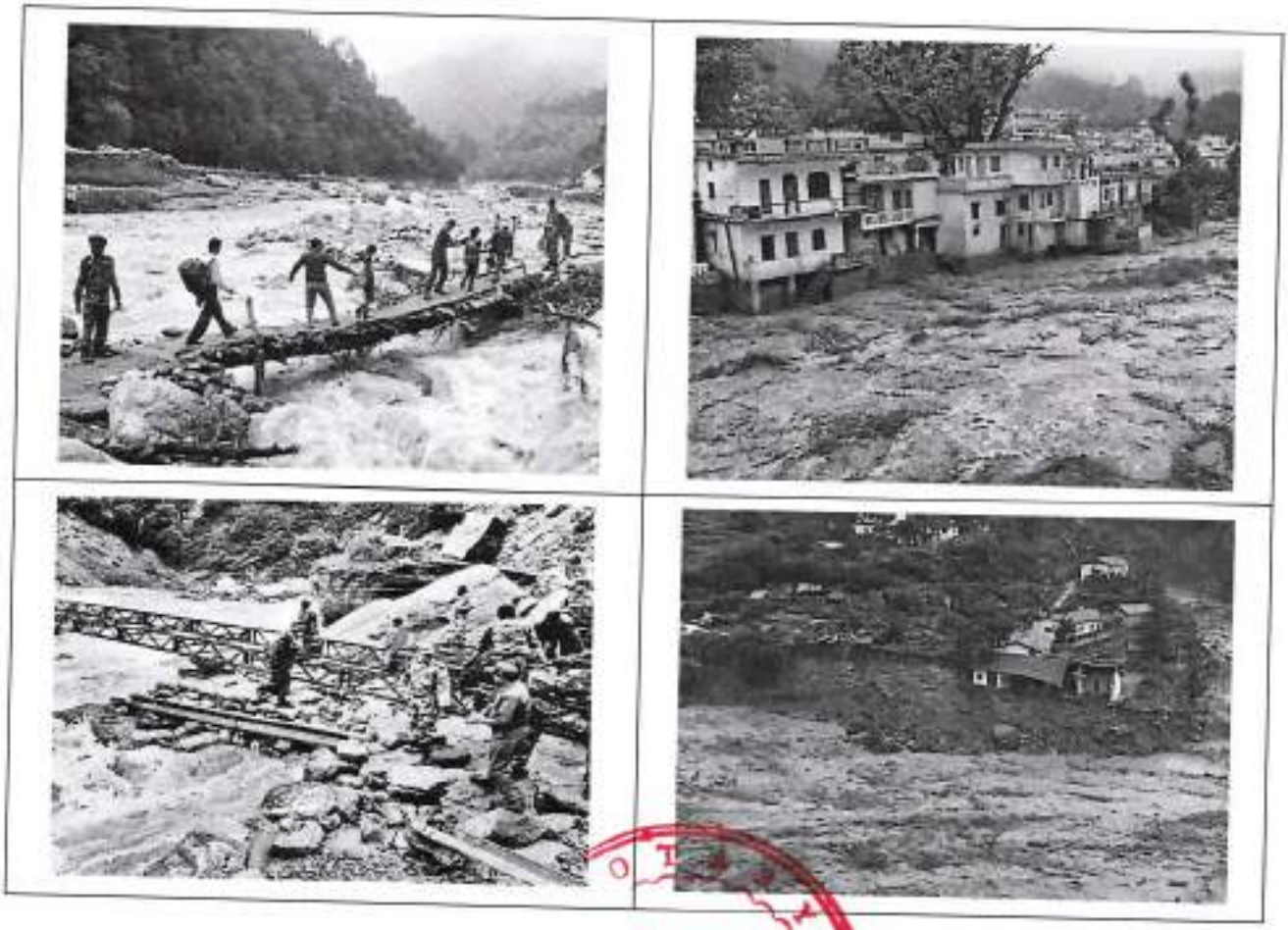
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1 Chapter- Introduction

1.1 Project Background

Floods are among Earth's most common–and most destructive–natural hazards. Floods account for 15% of all deaths related to natural disasters (WMO 2011). Between 1987 and 1997 44% of all flood disasters occurred in Asia (approximately 93% of all flood related deaths worldwide). They can occur due to rivers or streams overflowing their banks, Excessive rain, a dam or levee breech, or rapid ice melting in the head waters over the floodplain. Coastal flooding can also occur when a storm surge or tsunami causes the sea to move inland.

The North Indian state of **Uttarakhand** witnessed a severe cloudburst in June 2013 near Kedarnath, which caused devastating floods and landslides becoming the country's worst natural disaster after year 2004 resulting in heavy loss of life and property due to heavy downpour and ensuing floods in various rivers. Many habitations located along the river banks have thus become vulnerable and susceptible to losses due to unprecedented floods and toe erosion which has posed a question mark on the latest pattern of development activities as well as habitations around river courses.



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After a detailed assessment of flood damage of 2013 floods, the NGT guided the Government of Uttarakhand to implement the Uttarakhand floodplain zoning act strictly. It is therefore proposed to carry out extensive study to decide the flood plain zoning for safe habitation, execution of residential & commercial buildings along the river banks situated in Uttarakhand and the courses of the rivers are therefore required to be defined so as to avoid such losses in future.

In the light of the above, Irrigation Research Institute (IRI) Roorkee, Government of Uttarkhand, called on the tender for **'Consultancy work in Flood Plain Zoning in Rivers Susawa Watershed, Kosi and Gola'** under National Competitive Bidding. After the completion of tendering process, tender has been awarded to M/s Visiontek Consultancy Services Pvt Ltd, Plot # M-22 & 23, Chandaka Industrial Estate, Patiya, Bhubaneshwar – 751024, Dist - Khurda, Odissa vide letter no: 423/SE(Hyd)/FZP dt. 18.03.2021.

Thus, flood plain zone mapping for five rivers namely Bindal, Rispana, Song, in Susawa Watershed and also for Gola and Kosi rivers in the state of Uttarakhand for Irrigation Research Institute, Bahadrabad, Roorkee is being done. This report presents the flood plain zone mapping for **River Gola**. Estimation of discharges in rivers is one of the key components of flood plain mapping. Discharges at various frequency of return periods of River Gola has been estimated using Hydrological and Hydraulic Modelling and were discussed in detail following sub-sections. This report details field survey work for rivers, flood frequency analysis, hydrological and hydraulic modelling using **PCSWMM** for floodplain zoning using HEC-RAS, and spatio-temporal analysis of satellite images to understand changes in river course.

1.2 Overview of Floods

Hydrological extreme events, specifically floods are associated with extreme rainfall (due to tropical storms, thunderstorms, orographic rainfall, widespread extra-tropical cyclones, etc.). Floods are often fairly local and develop on short time scales. In the recent past, heavy precipitation events have resulted in several damaging floods in India. They occur primarily during the monsoon season, which extends from June to September, and are caused by heavy rainfall, cyclones, or the overflow of rivers. Flooding poses significant challenges to infrastructure, agriculture, and the lives and livelihoods of people living in flood-prone areas.

India's geography makes it prone to floods due to its vast river systems, including the Ganga, Brahmaputra, Yamuna, and Krishna rivers, among others. Additionally, coastal regions are susceptible to cyclone-induced flooding. India witnesses numerous flood events annually. According to data from the Central Water Commission, between 1953 and 2017, there were about 1,600 flood events in India, with an average of 61 flood events per year. The duration of these floods varies but can last for several days to weeks. The consecutive flash floods over three major metropolitan cities in the same year, i.e. Mumbai in July 2005, Chennai in October and December 2005, and Bangalore in October 2005, caused heavy damages to economy, loss of life, etc. (Guhathakurta et al. 2011).

The Uttarakhand is a Himalayan State, located between Himachal Pradesh of India and Nepal; with Tibet lying to its north. The entire state of Uttarakhand is a hilly terrain, incorporating the Tethys, Higher, Lesser and Sub Himalayan part along with the Great Indo-Gangetic plain falling in the Hardwar and Udham Singh Nagar districts. The state is composed of 13 districts grouped in to two division called Garhwal and Kumaon. Garhwal division includes seven districts; Chamoli, Dehradun, Hardwar, Pauri Garhwal, Rudraprayag, Tehri and Uttarkashi whereas Kumaon division includes six districts; Almora, Bageshwar, Champawat, Nainital, Pithoragarh and Udham Singh Nagar (Figure 1-1).

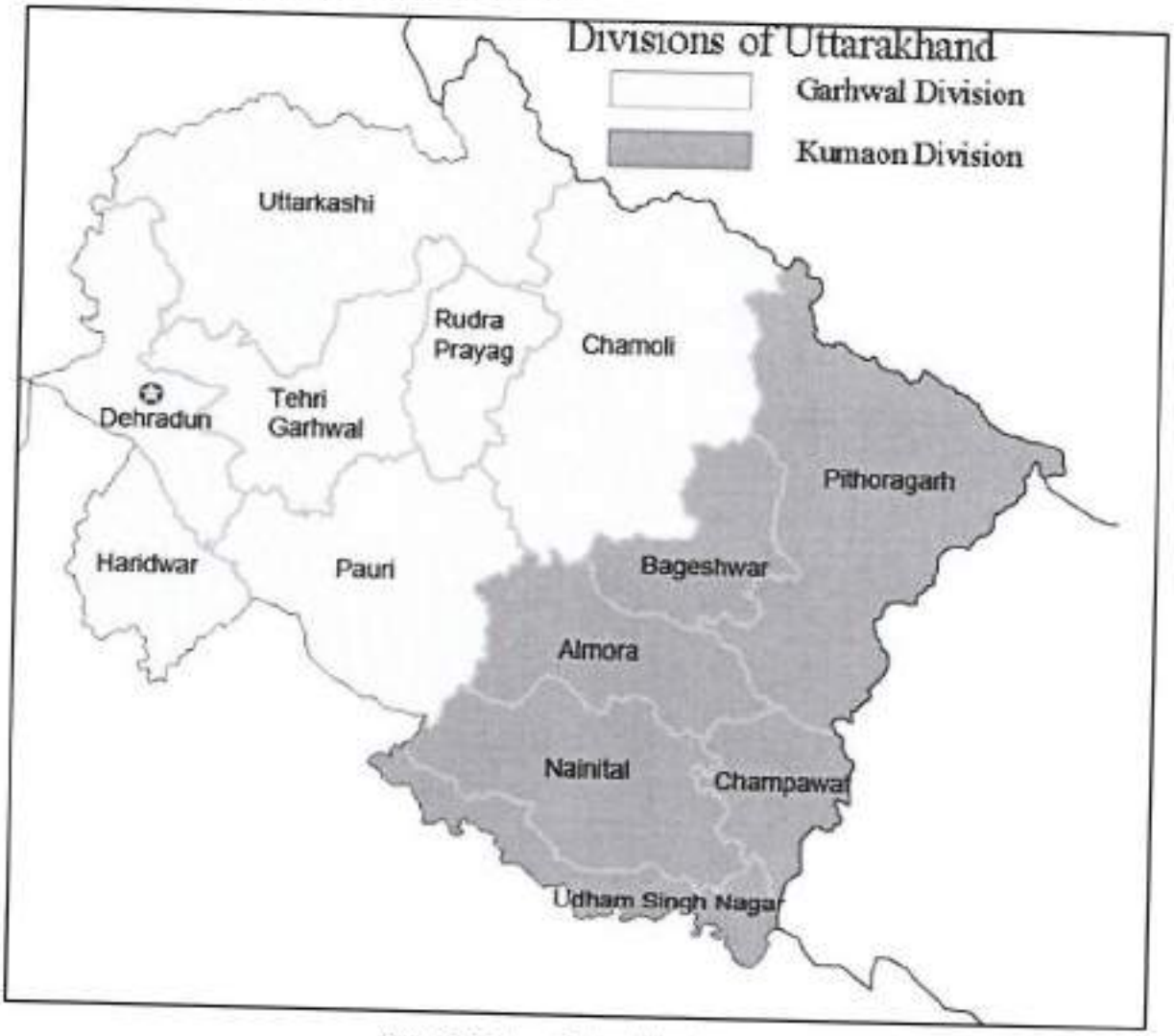


Figure 1-1 Map of Uttarakhand State

The state, in general, is prone to different disasters such as earthquakes, excessive rains and cloud bursts, landslides, floods, forest fires and hailstorms. The seismic risk in the state is considered to be high. On 15–18 June 2013, the Uttarakhand region experienced catastrophic heavy rainfall that washed away the area near the Kedarnath Temple, killing hundreds of pilgrims and resulting in damage to property. It is one of the worst Himalayan tragedies in recent years in which the actual number of people buried or perished is not known as thousands are still missing (Uniyal, 2013).

The Gola River (Figure 1-2) is one of the many small rivers that form the veins of the largest river basin in India, the Ganga. The Gola starts in the middle mountains of Uttarakhand, reaches the plains near the commercially

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important town of Haldwani and joins the Ramganga River, which in turn flows into the Ganga. As the Gola River, along with other Himalayan rivers, flows into the plains, it deposits boulders, stones, gravel, and sand that it has transported from the mountains. Additionally, when these riverbeds are mined and the extraction of the above materials lead to formation of pits. These pits get refilled with debris brought by the subsequent floods. The act of removing debris results in an increased speed of water flow down the river, thereby intensifying the risk posed by floods.

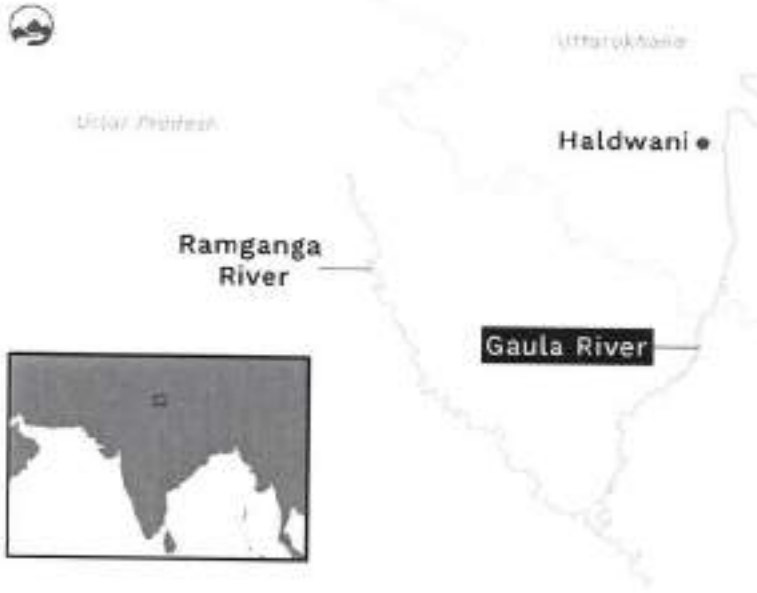


Figure 1-2 Gola River and its Confluence to Ramaganga River

In October 2021, Uttarakhand experienced a heavy rainfall event where 500 mm of rain fell in two days, breaking records for rainfall. This excessive precipitation likely contributed to repeated river flooding in the region.

Additionally, on February 7, 2021, Uttarakhand faced a catastrophic flood event known as the Chamoli catastrophe. This event was characterized by a sudden and massive release of water and debris due to the collapse of a glacial dam or a glacier itself in the Chamoli district. This event resulted in widespread devastation, including damage to infrastructure, loss of life, and environmental impacts. The flood was triggered by a combination of factors, including the release of water from a glacial lake formed by the melting of a glacier and the subsequent flooding of the downstream areas. During this event, rise in water level of the Gola River changed course and ravaged railway tracks at Kathgodam station next to Haldwani and washed away a portion of a bridge in Haldwani as well as engulfing acres of farms and homes. Considering these events, the floods prone zones along the left and right banks of the Gola River is mapped for different return period which is discussed in detail below sub-sections.

1.3 Objective of Study

Flood-plain zoning is a concept for flood plain management. It recognizes the basic fact that the flood plain of a river is essentially its domain and any intrusion into or developmental activity therein must recognize

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the river's 'right of way'. Flood plain zoning measures aim at demarcating zones or areas likely to be affected by floods of different magnitudes or frequencies and probability levels, and specify the types of permissible developments in these zones.

The objective is to document flood plain boundaries based on channel configuration, geometry, bed form and profile characteristics of Gola river together with its hydraulic characteristics and to identify areas/stretches where the stream flow is likely to have adverse impact on human interests during spells of high discharge caused by flood or flash flood. It will include flood plain Zoning based on the modelling results for the characteristic discharges calculated (flood frequencies of say 5 years, 25 years, 50 years, and 100 years return period). The study is also intended to provide detailed account/database for engineering design and others, of the various flood control/mitigation measures and channel improvement measures near habitations along the river course to reduce the impact of the flood disaster on human life, property and adjoining habitation.

1.4 *Scope of Works*

The scope of work in the light of objectives discussed above shall include stipulated tasks under following heads which shall be completed as per NDMA guidelines.

1. Preparation of Digital /Survey maps of the streams as mentioned above, showing all the major cities, towns, semi urban development using satellite imageries or suitable latest techniques.
2. Preparation of Detailed Maps showing habitation around the rivers.
3. Calculation of Characteristic flood discharges of all the major streams based on flood frequency analysis.
4. Defining the streams in the sensitive reaches based on the results found as per para 4 above.
5. The prime objective of this assignment is to restrict/prohibit human activities in the river flood plains. Since the reserve forests/national parks are already protected by law hence the river reaches falling in these areas will be excluded from the study. However civil lands having forest cover will be included.
6. Tabulation of flood plain boundary limit in various cities /towns villages, in general depending on desired waterway to pass the characteristic discharge.
7. Preparation of digital /GIS map showing the defined prohibitive, regulating, and warning zone as per NDMA/flood plain zoning guidelines.
8. Preparation of digital GIS maps showing flood plain boundaries for floods of return periods and the map will be prepared showing the defined zone boundary.
9. To estimate water surface profiles employing hydro-dynamic river flow model.
10. All survey work & data acquisition from different agencies will be done by the consultant.

11. The consultant shall assist the department to clarify the methodology and other technical issues related to the task, before the Govt., Honorable N.G.T. or any other court if required.

14. River Cross-section Interval in habitations the cross-section interval should not be more than 50 m c/c. In other habitable reaches this interval should not be more than 500m. In hilly/forest areas the cross-section interval may be chosen suitably for the required level of accuracy.

1.5 NDMA Guidelines

The scope of work provided above and the expected deliverables are inline to meet the guidelines provided by national Disaster Management Act Jan 2008. Below are the guidelines from the NDMA document:

In the regulation of land use in flood plains, different types of buildings and utility services can be grouped under three priorities from the point of view of the damage likely to occur and the flood plain zone in which they are to be located:

Table 1-1 NDMA guidelines for the floodplain land utilization

SL #	Priority	Places of Interest
1.	Priority 1	Defense installations, industries, public utilities like hospitals, electricity installations, water supply, telephone exchanges, aerodromes, railway stations, commercial centres, etc. -Buildings should be located in such a fashion that they are above the levels corresponding to a 100- year frequency or the maximum observed flood levels. Similarly, they should also be above the levels corresponding to a 50-year rainfall and the likely submersion due to drainage congestion.
2.	Priority 2	Public institutions, government offices, universities, public libraries and residential areas. -Buildings should be above a level corresponding to a 25-year flood or a 10-year rainfall with stipulation that all buildings in vulnerable zones should be constructed on columns or stilts as indicated above.
3.	Priority 3	Parks and playgrounds. -Infrastructure such as playgrounds and parks can be located in areas vulnerable to frequent floods. Since every city needs some open areas and gardens, by restricting building activity in a vulnerable area, it will be possible to develop parks and playgrounds, which would provide a proper environment for the growth of the city.

The NDMA guidelines has defined the land use patterns along the riverbank according to the sensitivity and degree of risk (Figure 1-3). As per the flood frequency, three zones are demarcated in the present study.

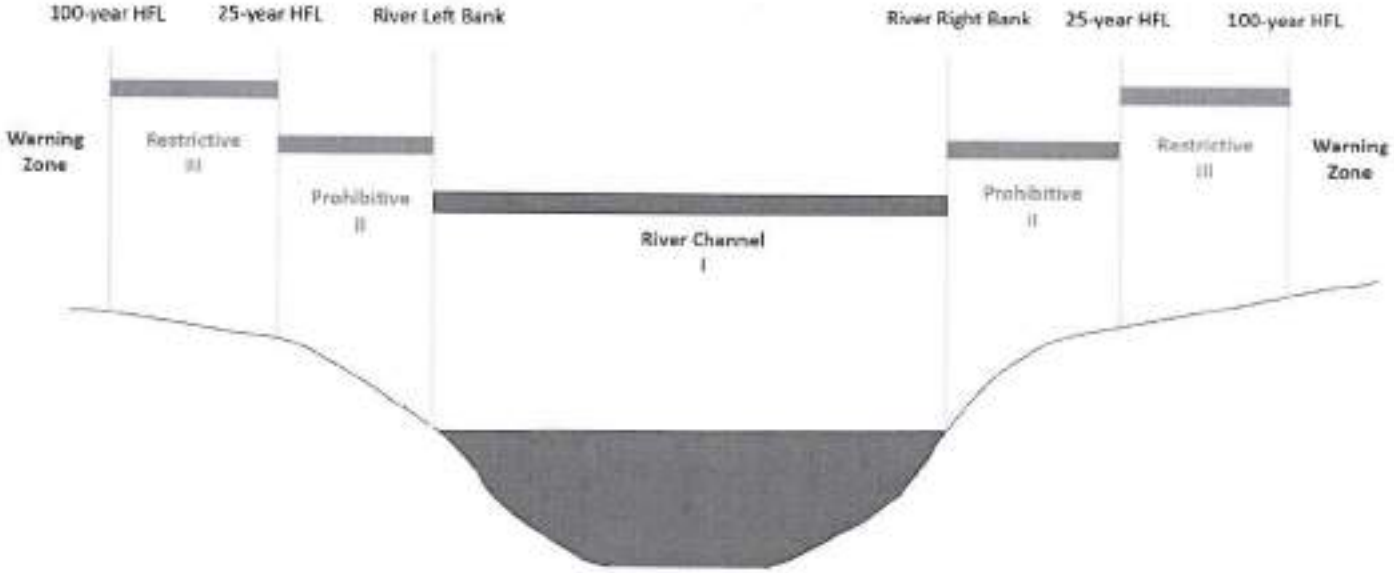


Figure 1-3 Flood zones along the river channel.

1.6 Document Purpose

M/s VISIONTEK CONSULTANCY SERVICES PVT LTD is carrying out a flood plain zone mapping for five rivers namely Bindal, Rispana, Song in Susawa Watershed and also for Gola and Kosi rivers in the state of Uttarakhand for Irrigation Research Institute, Bahadarabad, Roorkee. Estimation of discharges in rivers is one of the key components of flood plain mapping. Discharges at various chainages of river/s have been estimated using **Hydrological and Hydraulic Modelling.**

It is neither technically nor financially feasible to avoid all the losses occurring from flooding. So, flood risk analysis and mapping are required for management strategies to be employed to optimize flood protection benefits and minimize harm.

Following are the scope of services, provided by the M/s VISIONTEK CONSULTANCY SERVICES PVT LTD:

- Demarcation of areas liable to inundation by floods at different frequencies.
- Broad demarcation of different areas/zones vulnerable to floods.
- Marking of location Reference in the Gola River with respect to which the areas likely to be inundated at different magnitudes of floods will be determined.
- Preparation of Key Maps (Scale: 1:10,000/1:15,000) of area vulnerable to floods with contours.

*This report outlines the methodology adopted for **estimation of discharge at different chainages of the Gola River and flood prone zones along the left and right bank of the Gola River.***

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1.7 Study Area

Gaula River or Gola River is part of the Ramganga/ Ganga basin. The river originates from the western lower Himalaya region from Bhidapani valley near Paharpani village Okkhalkanda block of Nainital district (at about 1848 MSL) and flows towards south, southwest downstream through the Kathgodam, Haldhwani, and Rudrapur/Kitchha districts of Nainital and Udham Sing Nagar of Uttarakhand state as well as Shahi and Bareilly districts in of Uttar Pradesh state. The total length of Gola River is about 220 km of which around 100 km stretch lies in Uttarakhand and the rest falls under Uttar Pradesh.

The river flows in southern direction for most part except for some initial stretches. The current study is considered for the Gola River within the boundary of Uttarakhand state i.e., up to Sirauli village (Kichha) of Udham Singh Nagar from its origin point in the Himalayas. There are several springs originating from the lower Himalayas sourcing to Gola River and also tributaries such as Sagara Nala, Ghat Gad, Kalsa Nadi, Bhimtal Gadhera, Nalena, Balia Nadi, and Beni Nadi join the river from the right bank, Logar Gad and Bhuta Nala from the left bank. *The network of Gola River represented in the below* Figure 1-4.

Majority of runoff contribution to the Gola River is from upstream catchment in hilly region covered with dense forests viz. Deothal, Raikona, Khansyun, Gagar, Mora, Baloti, and Ranibagh reserved forests. The downstream portion after the Kathgodam till the Sirauli is covered with built up, agricultural and other developmental activities. The upstream portion is distributed with higher elevation from 1800 to 1000 m above MSL, further traversing into the downstream (flat region), leading to river meandering at several portions with elevation of 190-200 m. The average gradient of the Gola River till Kathgodam is 14m/km, the width of the river bed in the upper reaches of the reservoir range between 200-500 m.

The Gola River along with watershed area are represented in Figure 1-4.

The total length and catchment area of Gola River is presented in the table below:

Table 1-2 Details of Gola River

	Gola River	
Length in KM	= 80.3	Within State of Uttarakhand
Catchment Area in Sq.KM	= 908.22	Complete catchment area

River Gola flows in hilly regions for about 53km until Gola Barrage. The catchment area on the left consists of the mountain ranges of Deduli, Baron, Gaga, Chhakhata and Kisan. The catchment area on the right consists of mountain ranges of Pinshela, Pinrao, Pashtola, Bhauvaśa, Amiya, Salri, Mora and Bhadueni.

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Downstream of the Gola Barrage, the river flows through the plains. The left bank is majorly agricultural or forest land with very few human settlements adjacent to the river. The right bank is completely agricultural land with many clusters of human settlements.

As mentioned previously, discharges have been finalized based on detailed hydrological and hydraulic modelling. The report of the same was submitted on 28th May 2022. The same report is added with methodology and software used for flooding mapping of extents on specified rivers based on runoff generated for different return periods of rainfalls.

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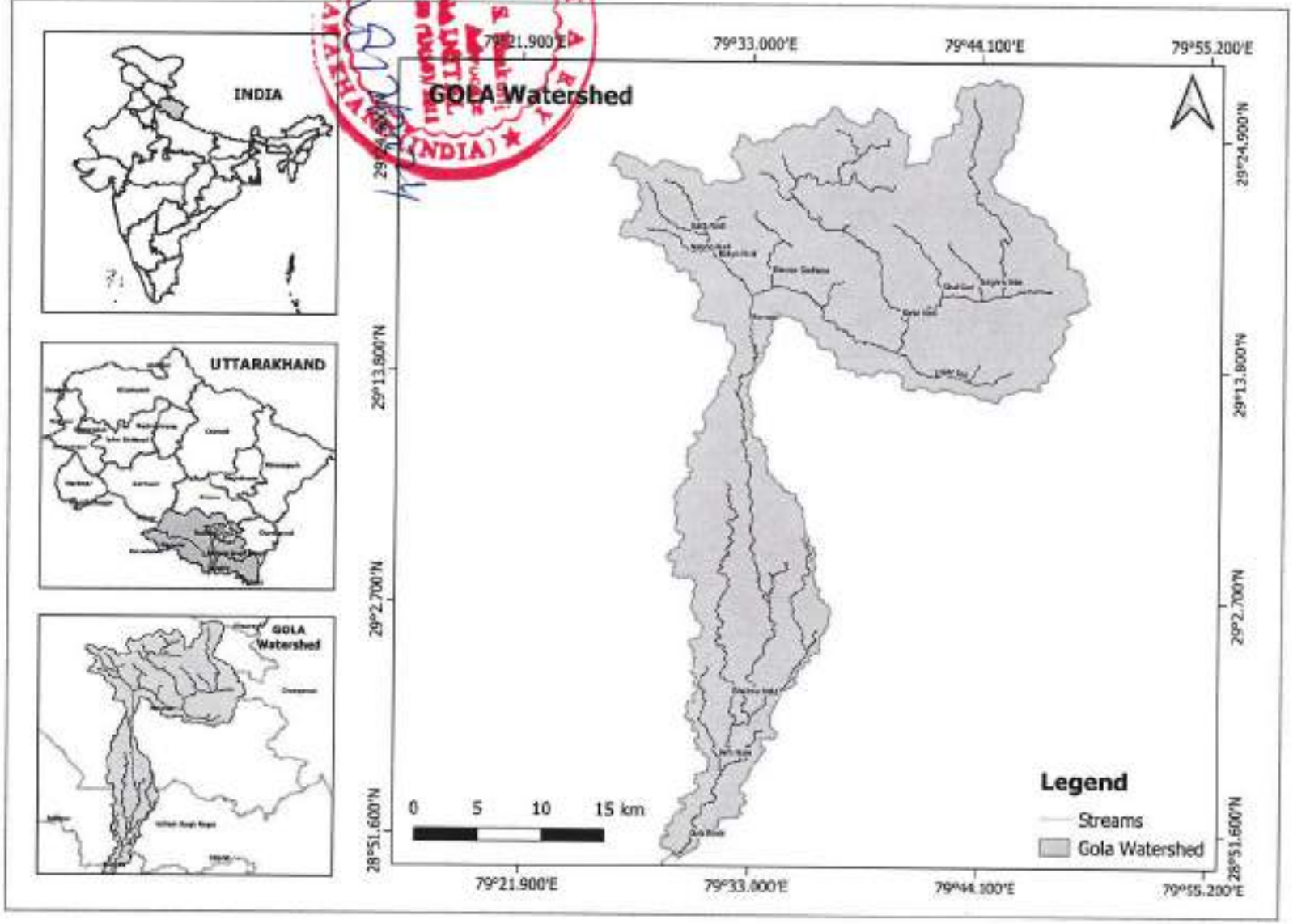


Figure 1-4 Project Location

1.8 Methodology of Hydrological Analysis

Below is the flowchart showing the methodology adopted for the hydrological, hydraulics and flood mapping study.

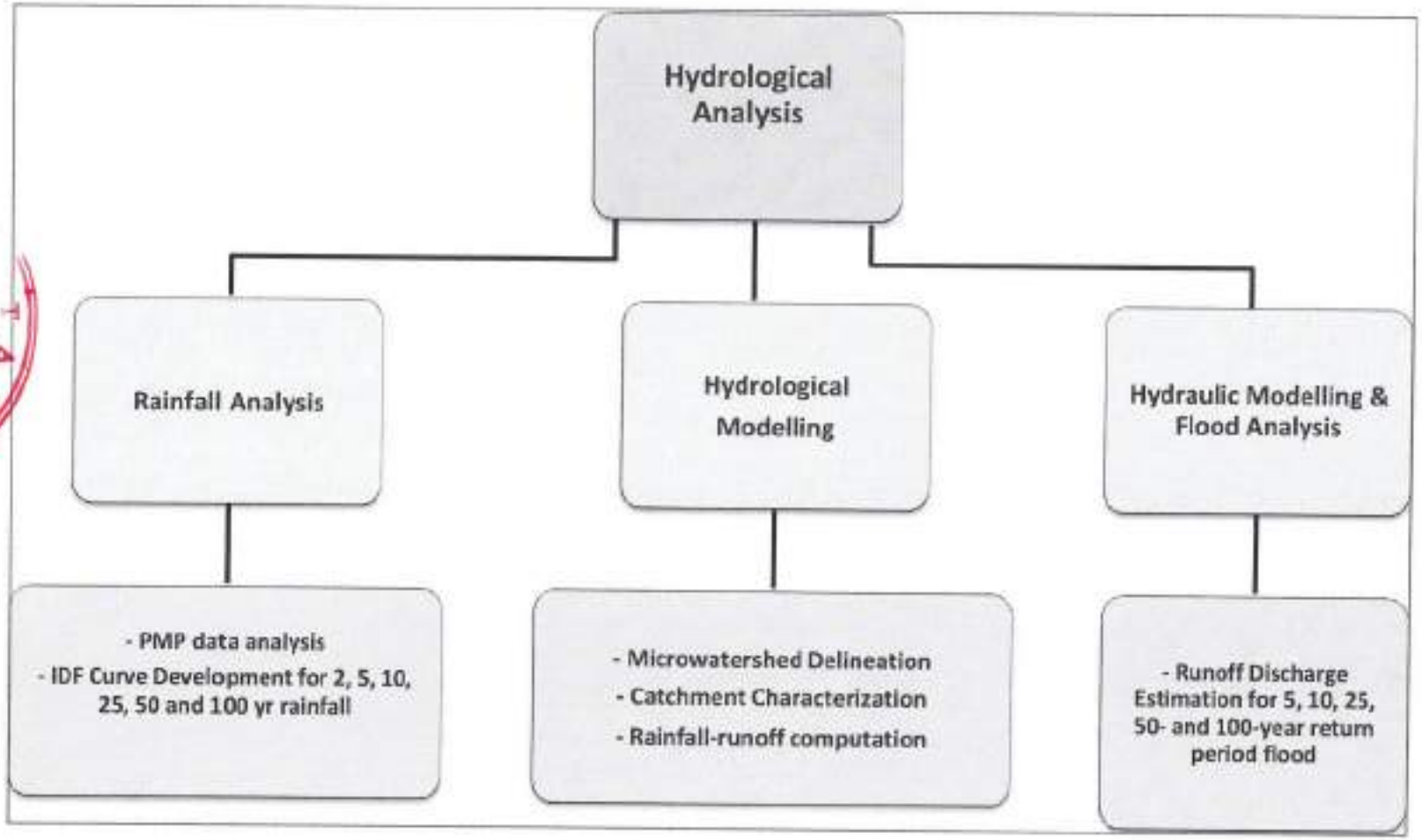


Figure 1-5: Flowchart of Methodology Adopted

The following study can be divided into four parts:

1. Rainfall Analysis
2. Watershed delineation
3. Catchment & natural streams characterization
4. Estimation of runoff for respective return period rainfall from H & H model.

All the above steps have been discussed in detail Chapter 3 conceptually and in Chapter 4 a detailed explanation of the same is given specifically for Gola River watershed.

1.9 Softwares Used

1.9.1 Hydrological & Hydraulics Model PCSWMM

The software used for hydrological modelling is PCSWMM.It is an advanced hydrological and hydraulic modelling software built on US EPA SWMM5 engine. It is a dynamic rainfall, runoff and subsurface runoff simulation model. The software can be used for both single event as well as long term continuous simulation of surface-subsurface hydrology/hydraulic quantity and quality modelling.

With state-of-the-art built-in tools and GIS integration, the software is optimized to handle millions of time series data points and hundreds of thousands of entities which enables the modeller to analyse the variation in parameters at sub-hourly scale.



1.9.2 Flood Mapping Using HEC-RAS

The HEC-RAS software used for flood modelling. HEC-RAS is an integrated system of software, designed for interactive use in a multi-tasking environment and can be used to perform one and two-dimensional hydraulic calculations for a full network of natural and constructed channels.

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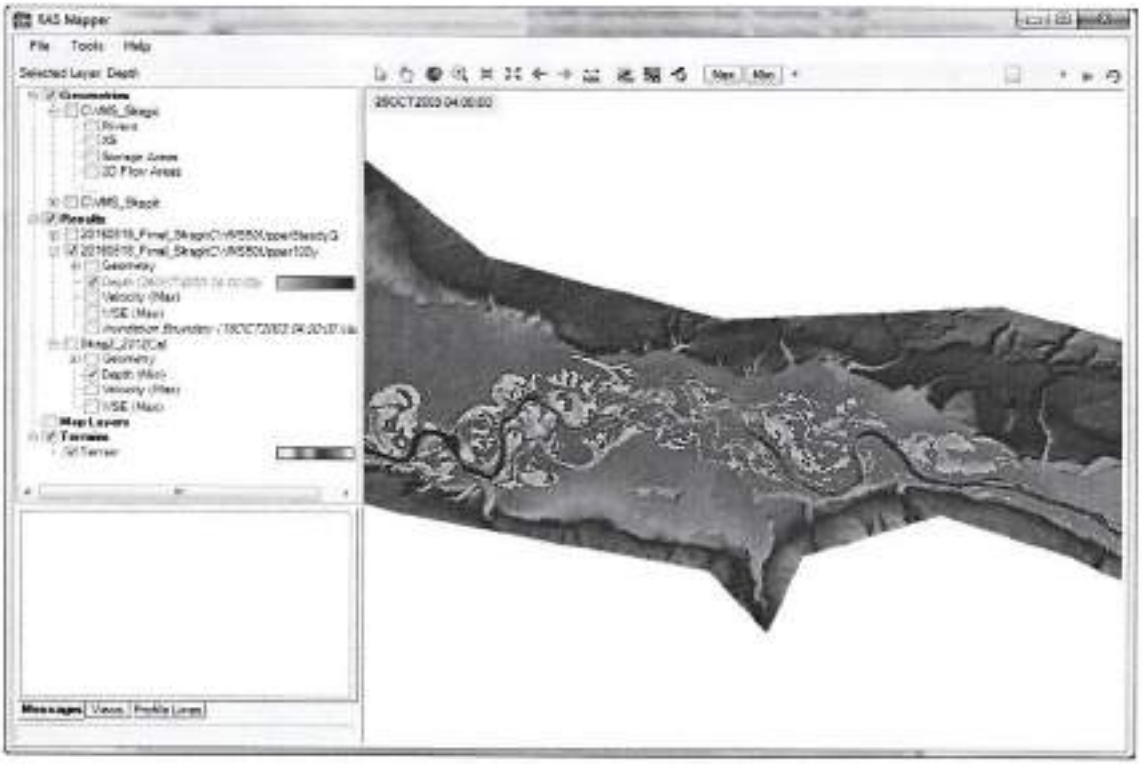


Figure 1-6: HEC-RAS Model Interface

The river analysis components of HEC-RAS are of utmost advantage in flood plain zoning. The two components are as follows:

1. Steady Flow Water Surface Profiles
2. Unsteady Flow Simulation

HEC-RAS modelling system can simulate one-dimensional, two-dimensional, and combined one/two-dimensional unsteady flow through a full network of open channels, floodplains, and alluvial fans. The unsteady flow component can be used to perform subcritical, supercritical, and mixed flow regime calculations. Sediment transport/mobile bed computations, and water temperature/water quality modelling can also be undertaken.

With terrain, river geometry, and stream characterization as inputs, one-dimensional and two dimensional steady and unsteady analysis of the Gola River is undertaken with the objective of arriving at clear zones to ensure the river's right of way.

2 Chapter - Flood Frequency Analysis

Before starting the hydrological and hydraulic modelling for discharge calculations, flood frequency analysis (FFA) has been carried out for daily discharge data available for Gola Barrage, Kathgodam. About 65-70% of the total catchment area in Uttarakhand drains through this barrage, hence the results would give a good indication later for calibrating the H & H model. Daily discharge data is available for 68 years and this data has been used for FFA. To get the instantaneous maximum discharge values from the daily discharge values, annual maximum daily discharge values have been multiplied by a factor of 1.2 i.e., 20% higher than daily discharge values.

For flood estimation, the Log Pearson type III, the Gumbel extreme value distribution, lognormal distribution and Normal distributions seem to have found a wider applicability than many other distributions. Hence in this project, all four distributions have been used for carrying out the flood frequency analysis. The following section explains in brief about all the methodologies used for flood frequency analysis. An **outlier analysis of the discharge values** has also been carried out to ascertain the **consistency of the discharge values** using quartile deviation method and the discharge values are found to be within the lower limit and upper limit ranges. The calculations have been attached as a part of annexures in Annexure 1. Gumbel Extreme Value Type 1 Distribution (GEVT – 1)

The formula used for estimation of discharges for any return period in the method is written as:

$$Q_T = Q + K_T\sigma$$

Where:

QT = the probable discharge with a return period of T years

$\bar{Q}$ = mean flood (i.e., of 68 years in this project, n=68)

KT= frequency factor = (YT - Yn)/ σn

σ n = Standard deviation of data

YT= Ln(Ln (T/T- 1))

Yn, σ n = expected mean and standard deviations of reduced extremes to be found from Gumbel's table based on number of year of data available.

The tables presented below summarize the maximum discharge observed for 68 years from 1924 – 2020 and calculated discharges for different return period based on the GEVT – 1 distribution.

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Table 2-1 Annual Maximum observed daily and instantaneous discharges at Gola Barrage, Kathgodam

Year	Daily Discharge corresponding to 8AM (Cusec)	Instantaneous Max. Daily Q (Cusec)	RANK (M)	PROBABILITY (P)	RI YEARS (T)	Remarks
1993	123900	148680	1	0.014	69.0	Included for analysis as the rainfall is indeed very high which has resulted in higher discharge values.
2004	95916	115099	2	0.029	34.5	
2011	92245	110694	3	0.043	23.0	
1927	89100	106920	4	0.058	17.3	
2010	86881	104257	5	0.072	13.8	
1924	78400	94080	6	0.087	11.5	
2000	71238	85486	7	0.101	9.9	
1998	68340	82008	8	0.116	8.6	
1962	67290	80748	9	0.130	7.7	
2014	51596	61915	10	0.145	6.9	
2008	50370	60444	11	0.159	6.3	
2016	44160	52992	12	0.174	5.8	
2005	42510	51012	13	0.188	5.3	
1990	41364	49637	14	0.203	4.9	
2003	41209	49451	15	0.217	4.6	
1963	39525	47430	16	0.232	4.3	
1995	38315	45978	17	0.246	4.1	
1986	37720	45264	18	0.261	3.8	
2013	37228	44674	19	0.275	3.6	
2017	35055	42066	20	0.290	3.5	
1999	34470	41364	21	0.304	3.3	
1955	33900	40680	22	0.319	3.1	
2009	33120	39744	23	0.333	3.0	
2006	31750	38100	24	0.348	2.9	
2012	30333	36400	25	0.362	2.8	
1989	30000	36000	26	0.377	2.7	
2002	29218	35062	27	0.391	2.6	
1988	27576	33091	28	0.406	2.5	
2007	27576	33091	29	0.420	2.4	
1997	27116	32539	30	0.435	2.3	
1967	26000	31200	31	0.449	2.2	
1976	26000	31200	32	0.464	2.2	
1981	26000	31200	33	0.478	2.1	
1984	24439	29327	34	0.493	2.0	
1973	24000	28800	35	0.507	2.0	
1985	23370	28044	36	0.522	1.9	

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Year	Daily Discharge corresponding to 8AM (Cusec)	Instantaneous Max. Daily Q (Cusec)	RANK (M)	PROBABILITY (P)	RI YEARS (T)	Remarks
1991	23166	27799	37	0.536	1.9	
1956	22100	26520	38	0.551	1.8	
1965	22100	26520	39	0.565	1.8	
1966	22100	26520	40	0.580	1.7	
1969	22100	26520	41	0.594	1.7	
1972	22100	26520	42	0.609	1.6	
1974	22000	26400	43	0.623	1.6	
1996	20856	25027	44	0.638	1.6	
1983	20073	24088	45	0.652	1.5	
1982	19115	22938	46	0.667	1.5	
1992	19100	22920	47	0.681	1.5	
1968	17800	21360	48	0.696	1.4	
1994	17234	20681	49	0.710	1.4	
1978	16800	20160	50	0.725	1.4	
2015	16548	19858	51	0.739	1.4	
1987	16202	19442	52	0.754	1.3	
2020	16186	19423	53	0.768	1.3	
2001	16086	19303	54	0.783	1.3	
1958	14800	17760	55	0.797	1.3	
1961	14800	17760	56	0.812	1.2	
1964	14800	17760	57	0.826	1.2	
1980	13500	16200	58	0.841	1.2	
1960	12600	15120	59	0.855	1.2	
1975	12400	14880	60	0.870	1.2	
2018	11490	13788	61	0.884	1.1	
1977	10600	12720	62	0.899	1.1	
2019	10571	12685	63	0.913	1.1	
1970	10075	12090	64	0.928	1.1	
1959	8050	9660	65	0.942	1.1	
1979	7700	9240	66	0.957	1.0	
1957	5375	6450	67	0.971	1.0	
1971	5100	6120	68	0.986	1.0	
No. of Years	**68**	**68**				
Mean	**32217.01**	**38660.43**				
Std. Deviation	**24166.44**	**28999.73**				

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Table 2-2 Discharges at Gola Barrage, Kathgodam for different return period from GEVT-1 distribution

SL #	T	YT	KT	QT in cumec
1	5	1.50	0.80	1756
2	10	2.25	1.43	2280
3	25	3.20	2.23	2944
4	50	3.90	2.83	3435
5	100	4.60	3.42	3924
6	200	5.30	4.01	4410

2.1 Log Pearson Type III Distribution

The formula used for estimation of discharges for any return period in the method is written as:

$$\log X_T = \log(x)_{avg} + K_T \sigma$$

Where:

Q_T or X_T = the probable discharge with a return period of T years

$\log(x)_{avg.}$ = average of the log X discharge values

KT= frequency factor (referred from standard table based on skewness coefficient Cs and return period)

σ = the standard deviation of the log X values

The tables presented below summarize the maximum discharge observed for 68 years from 1924 – 2020, and calculated discharges for different return period based on the LPT-III distribution.

Table 2-3 Logarithmic average and skewness calculations for LPT-III discharge distribution

YEAR	Instantaneous MAX. Q in Cusecs(Q)	log(x)	(log(x)-log(x)avg)^3	Cs
				[nΣ(log(x)-log(x)avg)^3]/(n-1)*(n-2)*(σ^3)
1993	148680	5.172	0.323	0.100
2004	115099	5.061	0.190	0.100
2011	110694	5.044	0.174	0.100
1927	106920	5.029	0.160	0.100
2010	104257	5.018	0.150	0.100
1924	94080	4.973	0.116	0.100

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YEAR	Instantaneous MAX. Q in Cusecs(Q)	log(x)	(log(x)-log(x)avg)^3	Cs
				[nΣ(log(x)-log(x)avg)^3]/(n-1)*(n-2)*(б^3)
2000	85486	4.932	0.088	0.100
1998	82008	4.914	0.078	0.100
1962	80748	4.907	0.074	0.100
2014	61915	4.792	0.028	0.100
2008	60444	4.781	0.026	0.100
2016	52992	4.724	0.013	0.100
2005	51012	4.708	0.011	0.100
1990	49637	4.696	0.009	0.100
2003	49451	4.694	0.009	0.100
1963	47430	4.676	0.007	0.100
1995	45978	4.663	0.005	0.100
1986	45264	4.656	0.005	0.100
2013	44674	4.650	0.004	0.100
2017	42066	4.624	0.003	0.100
1999	41364	4.617	0.002	0.100
1955	40680	4.609	0.002	0.100
2009	39744	4.599	0.001	0.100
2006	38100	4.581	0.001	0.100
2012	36400	4.561	0.000	0.100
1989	36000	4.556	0.000	0.100
2002	35062	4.545	0.000	0.100
1988	33091	4.520	0.000	0.100
2007	33091	4.520	0.000	0.100
1997	32539	4.512	0.000	0.100
1967	31200	4.494	0.000	0.100
1976	31200	4.494	0.000	0.100
1981	31200	4.494	0.000	0.100
1984	29327	4.467	0.000	0.100
1973	28800	4.459	0.000	0.100
1985	28044	4.448	0.000	0.100
1991	27799	4.444	0.000	0.100
1956	26520	4.424	0.000	0.100
1965	26520	4.424	0.000	0.100
1966	26520	4.424	0.000	0.100
1969	26520	4.424	0.000	0.100
1972	26520	4.424	0.000	0.100
1974	26400	4.422	0.000	0.100
1996	25027	4.398	-0.001	0.100

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YEAR	Instantaneous MAX. Q in Cusecs(Q)	log(x)	(log(x)-log(x)avg)^3	Cs [nΣ(log(x)-log(x)avg)^3]/(n-1)*(n-2)*(б^3)
1983	24088	4.382	-0.001	0.100
1982	22938	4.361	-0.002	0.100
1992	22920	4.360	-0.002	0.100
1968	21360	4.330	-0.004	0.100
1994	20681	4.316	-0.005	0.100
1978	20160	4.304	-0.006	0.100
2015	19858	4.298	-0.007	0.100
1987	19442	4.289	-0.008	0.100
2020	19423	4.288	-0.008	0.100
2001	19303	4.286	-0.008	0.100
1958	17760	4.249	-0.013	0.100
1961	17760	4.249	-0.013	0.100
1964	17760	4.249	-0.013	0.100
1980	16200	4.210	-0.021	0.100
1960	15120	4.180	-0.029	0.100
1975	14880	4.173	-0.031	0.100
2018	13788	4.140	-0.042	0.100
1977	12720	4.104	-0.056	0.100
2019	12685	4.103	-0.056	0.100
1970	12090	4.082	-0.066	0.100
1959	9660	3.985	-0.126	0.100
1979	9240	3.966	-0.141	0.100
1957	6450	3.810	-0.310	0.100
1971	6120	3.787	-0.342	0.100
			0.168	
No. of Years		**68**		
Mean		**4.486**		
Standard Deviation		**0.296**		

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Table 2-4 Discharges at Gola Barrage, Kathgodam for different return period from LPT-III distribution

T	K_T	б	K_Tб	log(x)avg + K_Tб	$Q_T = X_{T\ in\ cumec}$
5	0.836	0.296	0.2475	4.734	1535
10	1.292	0.296	0.3825	4.869	2094
25	1.785	0.296	0.5285	5.015	2931
50	2.107	0.296	0.6238	5.110	3650
100	2.4	0.296	0.7106	5.197	4457
200	2.67	0.296	0.7905	5.277	5358

2.2 Normal Distribution

Analysis by using the Normal distribution uses the formula as below:

$$Q_T = Q + K_T Sn$$

Where:

QT = the probable discharge with a return period of T years

Q̄ = mean flood (i.e., of 68 years in this project, n=68)

KT= frequency factor

S_n = Standard deviation of data

The tables presented below summarize calculated discharges for different return period based on the Normal distribution.

Table 2-5 Discharges at Satyanarayana gauge for different return period from Normal distribution

T	K_T	Sn	$K_T Sn$	$Q_T = Q + K_T Sn$ (Cumecs)
5	0.842	29215	24599	1792
10	1.282	29215	37454	2156
25	1.751	29215	51156	2544
50	2.054	29215	60008	2794
100	2.326	29215	67955	3019
200	2.576	29215	75259	3226

2.3 Log-Normal Distribution

The formula used for estimation of discharges for any return period in the method is written as:

$$\log X_T = \log(x)_{avg} + K_T \sigma$$

Where:

Q_T or X_T = the probable discharge with a return period of T years

$\log(x)_{avg.}$ = average of the log X discharge values

KT= frequency factor (referred from for return period)

σ = the standard deviation of the log X values

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Table 2-6 Discharges at Kathgodam Barrage for different return period from Log - Normal distribution

T	KT	6	KT6	log(x)avg+KT6	XT in cumec
5	0.842	0.296	0.2493	4.736	1541
10	1.282	0.296	0.3796	4.866	2080
25	1.751	0.296	0.5184	5.005	2863
50	2.054	0.296	0.6081	5.094	3520
100	2.326	0.296	0.6887	5.175	4238
200	2.576	0.296	0.7627	5.249	5025

2.4 Goodness of fit tests

Goodness-of-Fit is a statistical hypothesis test used to see how closely observed data mirrors expected data. Goodness-of-Fit tests can help determine if a sample follows a particular distribution, if categorical variables are related, or if random samples are from the same distribution. Goodness-of-Fit tests help determine if observed data aligns with what is expected. Decisions can be made based on the outcome of the hypothesis test conducted.

For our studies, Chi-square and Anderson-Darling goodness of fit tests have been used to ascertain the how well the all the four distribution methods fit.

2.4.1 Chi-Square Distribution

Test of chi square distribution evaluates the difference between the sample data and the probability distribution.

The formula of chi square is as follow:

$$X^2 = \sum_{i=1}^{N} \frac{(Oi-Ei)^2}{Ei}$$

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where X2 = chi-square calculated value; Ei = frequency that is hoped regarding to the class division; Oi= frequency

on the same class; N = number of classes. The value of Ei can be found with the formula as follow:

$$Ei = \frac{n}{N}$$

Where, n = number of N = number of classes.

2.4.2 *Anderson-Darling Test*

The Anderson-Darling test (Stephens, 1974) is used to test if a sample of data came from a population with a specific distribution. It is a modification of the Kolmogorov-Smirnov (K-S) test and gives more weight to the tails than does the K-S test. The K-S test is distribution free in the sense that the critical values do not depend on the specific distribution being tested (note that this is true only for a fully specified distribution, i.e., the parameters are known). The Anderson-Darling test makes use of the specific distribution in calculating critical values. This has the advantage of allowing a more sensitive test and the disadvantage that critical values must be calculated for each distribution. Tables of critical values are available for the **normal**, uniform, **lognormal**, exponential, Weibull, **extreme value type** I, generalized Pareto, and logistic distributions.

The Anderson-Darling test is defined as:

H_0: The data follows a specified distribution.

H_a: The data do not follow the specified distribution

Test Statistic: The Anderson-Darling test statistic is defined as

$$A2=-N-S$$

Where,

$$S=\sum i=1N(2i-1)N[\ln F(Yi)+\ln(1-F(YN+1-i))]$$

F is the cumulative distribution function of the specified distribution. Note that the Y_i are the *ordered* data.

Summary of results from both the goodness of fit tests is given below in next section.

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2.4.3 Summary of Goodness of Fit

Table below provides summary of results of goodness of fit tests for both Chi-square method and Anderson-Darling method for all the four distributions mentioned above. For the distribution the confidence interval considered is 95% i.e., significance level at 5%.

Table 2-7 Summary of Goodness of Fit test

Goodness of fit @ 5 % Significance Level i.e., 95% Confidence Interval								
Sl.No	Distribution	Chi-Square Test			Anderson-Darling Test			
		Criteria: χ2 calculated < χ2 (table) , Hypothesis accepted else rejected			Criteria: AD Stat < Critical Value, Hypothesis accepted else rejected			
		χ2 calculated	χ2 (0.05,9)	Decision	AD stat	Critical Value	P-value	Decision
1	Normal	30.13	7.82	Rejected	2.39	2.48	0.05	Accepted
2	Log Normal	1.60	7.82	Accepted	0.22	2.47	0.99	Accepted
3	Log Pearson Type-III	1.85	5.99	Accepted	0.19	2.48	0.99	Accepted
4	Gumbel	0.08	11.07	Accepted	1.43	2.48	0.19	Accepted

It can be seen from the above table that Normal distribution is rejected for chi-square goodness of fit test and it is accepted for Anderson-Darling tests whereas, the Log Normal, Log-Pearson Type-III and Gumbel distribution discharge values are accepted as the hypothesis holds true to the assumption. *Hence, normal distribution values can be rejected for the purpose of our analysis while considering other three distributions viz. Log Normal and Log Pearson Type-III distribution and Gumbel distribution method.*

Comparison of discharge for different return period discharge for different methods and that of discharges obtained from H & H modelling are summarized in results section.

Note: These discharge values have been used as an indicator for calibrating the H & H model infiltration parameters.

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3 Chapter - Concept of Hydrological – Hydraulic Modelling

This section details out the concept of hydrology & hydraulic (Rainfall-runoff) model and describes the various components of the model. Chapter 4 and onwards describe the setting up of H & H model for this project.

3.1 Conceptual Model

PCSWMM conceptualizes a Hydrological-hydraulic system as a flow of water through various environmental receptacles. They are atmospheric, land surface, ground water flow & manmade transport. Figure 3.1 shows the different components of H & H modelling. SWMM uses rain gauge to represent rainfall which is atmospheric (part of hydrological) component. The rainfall details can be input or can be loaded from external files. The land surface i.e., sub-catchments receive water from the atmosphere. This component estimates the runoff generated in the catchment areas after considering depression storage, infiltration (depends on soil properties), evaporation (depends on temperature) and percentage impervious area of each sub-catchment. The properties of the soil and land use pattern determine the pervious nature of soil. The hydraulics section of PCSWMM transports this water, also water quality constituents through system of closed pipes, open channels, weirs, outlets, or outfalls etc. SWMM tracks quantity and quality of water generated in each catchment and also flow rate, flow depth in each of the pipes and channel during simulation period. The simulation time step may be fixed or variable.

The various components of modelling with their functionality are tabulated below in Table 8:

The hydrological processes include:

- time-varying precipitation
- rainfall interception from depression storage (initial abstraction)
- evaporation of water
- Infiltration of rainfall into unsaturated soil layers, percolation of infiltrated water into groundwater layers and interflow between groundwater and the drainage system
- nonlinear reservoir routing of overland flow
- Infiltration and evaporation of rainfall/runoff captured by Low Impact Development controls if any.

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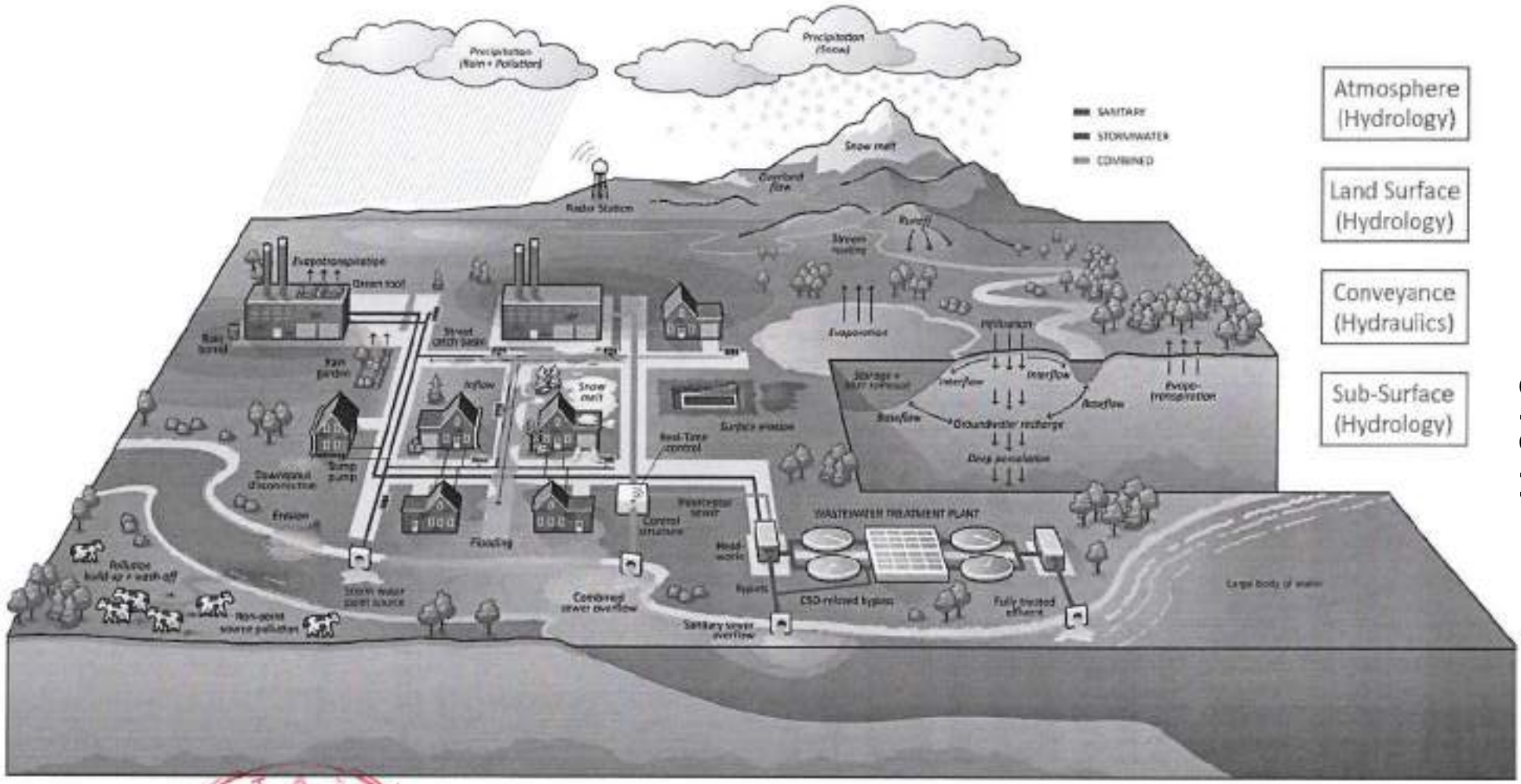


Figure 3.1 SWMM Process – Components of H & H Modelling

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Table 3-1 SWMM Modelling Objects

Category	Object Type	Description
Hydrology [1]	Rain gauge	Source of precipitation data to one or more subcatchments.
	Subcatchment	A land parcel that receives precipitation associated with a rain gage and generates runoff that flows into a drainage system node or to another subcatchment.
	Aquifer	A subsurface area that receives infiltration from the subcatchment above it and exchanges groundwater flow with a conveyance system node.
	Snowpack	Accumulated snow that covers a subcatchment.
	Unit Hydrograph	A response function that describes the amount of sewer inflow/infiltration generated over time per unit of instantaneous rainfall.
Hydraulics [2]	Junction	A point in the conveyance system where conduits connect to one another with negligible storage volume (e.g., manholes, pipe fittings, or stream junctions).
	Outfall	An end point of the conveyance system where water is discharged to a receptor (such as a receiving stream or treatment plant) with known water surface elevation.
	Divider	A point in the conveyance system where the inflow splits into two outflow conduits according to a known relationship.
	Storage Unit	A pond, lake, impoundment, or chamber that provides water storage.
	Conduit	A channel or pipe that conveys water from one conveyance system node to another.
	Pump	A device that raises the hydraulic head of water.
	Regulator	A weir, orifice or outlet used to direct and regulate flow between two nodes of the conveyance system.

The hydraulic processes occurring within SWMM's conveyance compartment include:

- External inflow of surface runoff, groundwater interflow, rainfall-dependent infiltration/inflow, dry weather sanitary flow, and user-defined inflows
- Unsteady, non-uniform flow routing through any configuration of open channels, pipes and storage units
- Various possible flow regimes such as backwater, surcharging, reverse flow, and surface ponding
- Flow regulation via pumps, weirs, and orifices including time and state dependent control rules that govern their operations.

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3.2 Model Parameters

As explained above, summary of the important parameters for the various components of the model are as follows:

- Rain Gauges – Rainfall Data from IDF Curves
- Sub catchments: runoff coefficient, roughness, depression storage, slope, flow length
- Soil parameters: Horton min/max values, Green-Ampt constants etc.
- Drains: Manning's roughness value, cross-section details
- Weirs: representation for check dams

3.3 Rainfall Runoff Computation

The conceptual view of surface runoff used by SWMM5 is illustrated in the Figure 3.2 below. Each sub catchment surface is treated as a non-linear reservoir. Inflow comes from precipitation and any designated upstream sub catchments. There are several outflows, including infiltration, evaporation, and surface runoff. The capacity of this "reservoir" is the maximum depression storage, which is the maximum surface storage provided by ponding, surface wetting, and interception. A schematic of this non-linear reservoir is shown below.

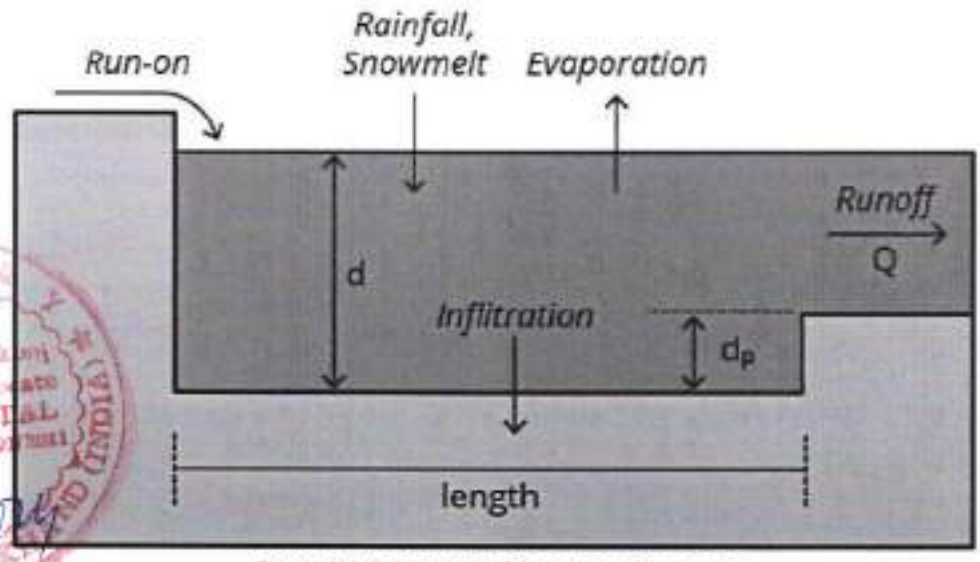


Figure 3-1 Schematic of Non-Linear Reservoir

In SWMM, surface runoff per unit area, q, occurs only when the depth of water in the "reservoir" exceeds the maximum depression storage, ds, in which case the outflow is given by Manning's equation. Depth of water over the sub catchment (d) is continuously updated with time by solving numerically a water balance equation over the sub catchment.

$$Q = \frac{1.49}{n} W(d - d_s)^{5/3} S^{1/2}$$

To obtain a runoff flow rate per unit of surface area, q, Manning's equation is divided by the surface area of the sub catchment, A.

$$q = \frac{1.49}{An} W(d - d_s)^{5/3} S^{1/2}$$

Where

Q	=	runoff volumetric flow rate
q	=	surface runoff per unit of surface area
n	=	Manning's surface roughness coefficient for overland flow
W	=	sub catchment width
d	=	depth of water over the sub catchment
d_s	=	depression storage depth
S	=	average slope of the sub catchment
A	=	surface area of sub catchment

The equation shown above are in US units. However, SWMM makes necessary conversions for calculations in SI units as well. Overland flow from each sub-catchment in the basin is calculated based on the above formula.

3.4 Design Storms

The IDF Curves developed for the region/area of interest are used as input to Design Storm Creator of PCSWMM to create Hyetographs which are used as input to rain gauge in the model.

PCSWMM currently has 60 design storm hydrographs including the Chicago Method, Symmetric 24 h, SCS distribution, AES storms, Huff distributions and other local design storms. The **Chicago storm** is a popular design storm used. **The synthetic hyetograph** computed by the Chicago method is derived based on the intensity-duration-frequency (IDF) relationship for the precipitation in the area.

The method starts with an analytical and time differentiable IDF equation. Therefore, it is possible to employ the Sherman equation as presented below:

$$i_{avg} = \frac{a}{(t_D + b)^c}$$



Where, i Avg = average rainfall intensity tD = duration of rainfall

a, b, c = IDF constants dependent on storm recurrence interval and time units

The Chicago distribution-based design storm is far superior option as compared to other popular methods such as rational method because the hyetograph created from the IDF curves utilizes different rainfall intensities for corresponding durations. The more accurate hyetographs help in better computation of peak runoff discharge for different return periods of rainfall.

3.5 Infiltration Parameters

Infiltration is the process of rainfall penetrating the ground surface into the unsaturated soil zone of pervious sub-catchments areas. This process depends on soil characteristics which is in turn dependent on soil classification. There are various methods to model infiltration and for this study, Green-Amt Method has been used.

Green – Ampt infiltration methodology is based on physical soil parameters and hence better suited for these applications. Average capillary action (Suction head), saturated hydraulic conductivity and initial moisture deficit are the parameters for which the infiltration has to be modelled. These details have already been provided in Table 1-1.

3.6 Hydraulics - Flow Routing Methodology

The model provides option for Steady flow routing, Kinematic wave routing and Dynamic wave routing.

Steady flow routing constitutes the simplest form of routing by assuming that with each computation time, flow is uniform and steady. However, that is not the case in reality as flow is neither uniform nor steady. Also, this principle does not account for Backwater effects, channel storage, entry/exit losses, flow reversal or pressurized flow.

The next one i.e. **Kinematic Wave routing** accounts for varying of flow and area temporally and spatially as well. But even this method also does not take into Backwater effects, channel storage, entry/exit losses, flow reversal or pressurized flow.

Dynamic Wave routing, in this type of routing, pressurized flow can be represented when a closed conduit is flowing full. Such flows exceed full normal flow value. Flooding occurs at the node when water depth at the node exceeds the maximum available depth. This routing also accounts for Backwater effects, channel storage, entry/exit losses, flow reversal as it couples together solution for both water levels at nodes and flow in conduits. This routing option can be applied for any general network layout, even for systems with many downstream diversions and loops.

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Each of these routing methods employs the Manning's equation to relate flow rate to flow depth and bed slope. *For the present study, dynamic wave routing has been adopted.* Dynamic Wave routing solves the complete one-dimensional Saint Venant' s flow equations and therefore produces the most accurate results.

Dynamic flow routing within a conduit link is governed by the conservation of mass and momentum equations for gradually varied, unsteady flow i.e., the Saint Venant flow equations.

Continuity equation:

$$\frac{\partial Q}{\partial x}+\frac{\partial A}{\partial t}=0$$

Momentum equation:

$$\frac{1}{A}\frac{\partial Q}{\partial t}+\frac{1}{A}\frac{\partial}{\partial x}\left(\frac{Q^2}{A}\right)+g\frac{\partial y}{\partial x}-g(S_o-S_f)=0$$

Q-Discharge through the channel
A-Area of cross-section of flow
y- Depth of flow
S_0-Channel bottom slope
S_f- Friction slope

3.7 *Integration of catchment hydrology with channel hydraulics*

So, after the completion of catchment and channel characterization, the channels/streams are modelled to receive water from upstream catchment area by routing sub catchments to the nearest node or downstream sub catchment in case of overland flow. This hydrological section of model is integrated with channel hydraulics.

A general conceptual explanation of hydrological-hydraulic modelling is provided in this section. In next chapters, the above H&H modelling is explained in detail with respect to the Gola Catchment.

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4 Chapter - Rainfall Analysis

4.1 Rainfall Data Collection

As mentioned in the section 1.7, rainfall analysis is the first step in hydrological analysis. Consistent long-term historical hourly data of rain gauge stations within the catchment area is necessary for hydrological and hydraulic modelling. However, for this project long term hourly rainfall data is not available. In the absence of the hourly rainfall data, Central water Commission and IMD's *'PMP Atlas for Ganga River Basin Including Yamuna Final Report, Volume II: Maps and Tables'* has been referred to deduce different return period maximum hourly rainfalls.

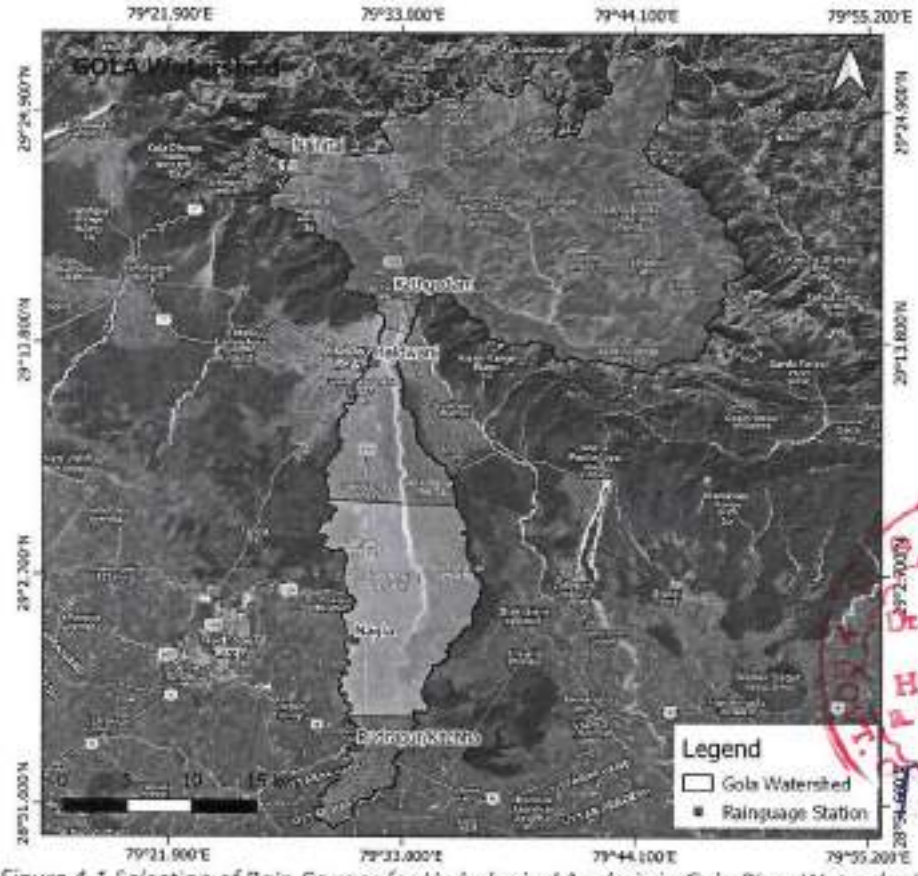


Figure 4-1 Selection of Rain Gauges for Hydrological Analysis in Gola River Watershed

There are five rain gauge stations that influences Gola River watershed shown in Figure 4.1. They are in Nainital, Kathgodam, Haldwani, Nagla and Rudrapur/Kitchha. All five raingauge stations have been considered for rainfall runoff modelling. The 70% of the Gola watershed lies in upstream with hilly regions, which receives higher intensity of rainfall compared to the other downstream of the watershed which lies in flatter terrains and receives lesser intensities of rainfall in comparison. The usage of all five available rain gauges across the watershed has helped in capturing the spatial variation in the rainfall which is critical for such a large watershed to ascertain correct discharge values.

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PMP rainfall data is available for all the five rain gauge stations. A Google earth view of Gola River catchment area, location of rain gauges and their assignment for the respective sub-catchments is shown in Figure4.1. The assignment of the rainfall stations to sub catchments is made based on **Thiessen polygon**.

4.2 *Rainfall Return Period Analysis*

As mentioned above, Extreme event rainfall values i.e., probable maximum precipitation (PMP) for different frequencies are taken from 'PMP Atlas for Ganga River Basin Including Yamuna' prepared by RMSI Private Limited in association with central water commission (CWC) and India Meteorological Department (IMD). The report was published in June 2015. Detailed methodology used for arrival of extreme event rainfall values can be found in the atlas. However, a brief on rainfall analysis is presented here.

The project area of interest falls in Ganga basin. As per the atlas mentioned above, there are 21 main sub-catchments in ganga basin and the Gola catchment falls under sub-catchment 401. Sub-catchment 401 is further divided in 401A (higher Himalayas) and 401B (lower Himalayas), The Gola River falls under the 401B subcatchment.

The atlas provides 1-day, 2-day and 3-day probable maximum precipitation (PMP) for 2, 5, 10, 25, 50, 100, 500, 1000, 5000 and 10000-year return frequency rainfalls. For our analysis, 1-day PMPs of different return period frequencies have been extracted.

The table below shows point rainfall of rain gauge stations in Gola watershed for different return frequencies:

Table 4-1 Point Rainfall of rain gauge stations for different return period frequencies

Maximum Probable Precipitation in 1-Day as per PMP Atlas, IMD. Unit - mm						
RG Station	**2.33-YR**	**5-YR**	**10-YR**	**25-YR**	**50-YR**	**100-YR**
Nainital	180	240	289	352	398	444
Kathgodam	141	185	221	267	301	335
Haldwani	152	198	235	283	318	354
Nagla	123	174	216	269	308	348
Rudrapur/Kitchha	132	173	206	248	279	311

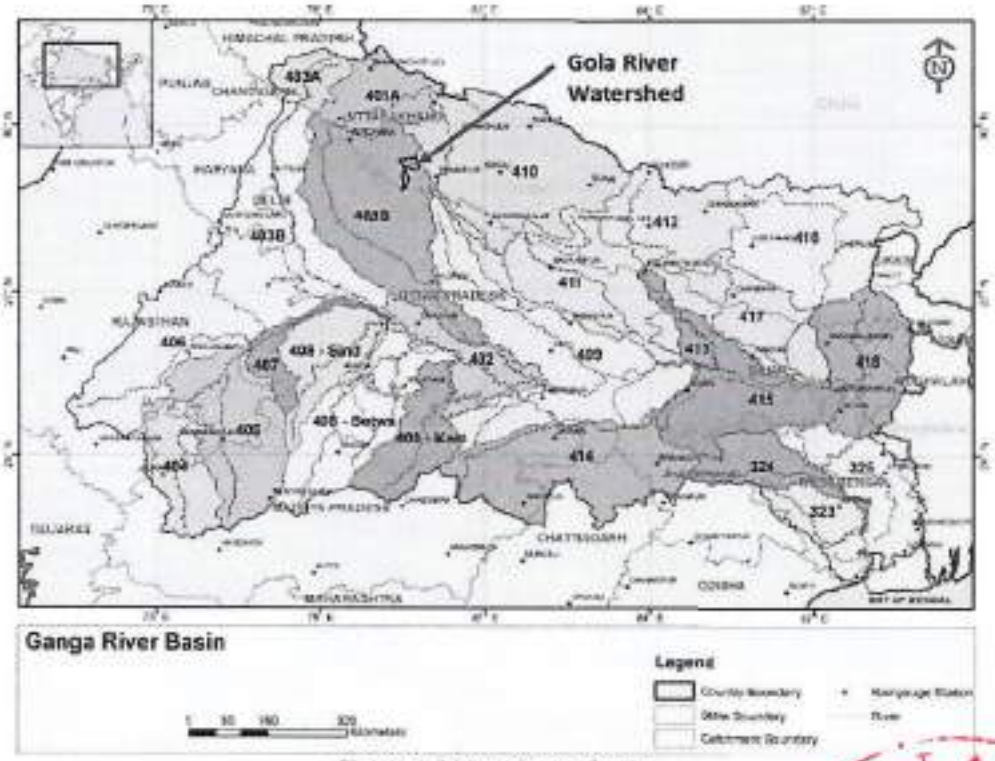


Figure 4-2 River Ganga basin

4.3 Time Distribution Analysis

It is known that one of the most important factors affecting the peak flood discharge is the variability of rainfall in time. If rainfall has occurred uniformly over a period of say 24-hr, the value of the peak flood discharge will be much less than if the same rain occurs during 2 or 3 hours of 24-hour period. Therefore, to compute flood runoff, it becomes necessary to know what proportion of 24-hr rain usually fell in the heaviest 2-hr, in the heaviest 3-hr and so forth. It is also necessary to know whether this proportion varies with the magnitude of 24-hr rainfall. So, 1-day PMP rainfalls in the above table need to be disaggregated into PMP rainfalls of short durations of say 2, 3, 4 hours called unit time intervals. So as per the atlas, the short duration storm rainfall values have been determined by applying the Time Distributions (TD) of rainfall obtained from the analysis of hourly rainfall data of some known major storms in the catchments under study.

The table below shows time distribution (TD) factors for 1hr rainfall, 2hr, 3hr and so on up to 24 hours for various sub-catchments under Ganga basin. Since the project plot falls under sub-catchment 4018, TD factor of this sub catchment has been considered for disaggregation of 1-day rainfall of various return periods into 1 hour, 2-hour, 3 hour and so on up to 24-hour rainfall.

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Table 4-2 Time distribution co-efficient for various sub-catchments of Ganga basins.

Sub-durations (hours)	Catchment Wise Smoothened TD Coefficient											
	323	324	325	401A	401B	402	403A	403B	404	405	406	407
1	20.4	15.0	16.0	21.9	21.2	16.5	10.9	17.0	11.1	18.2	19.0	16.5
2	35.9	22.9	25.2	39.5	31.5	27.2	17.6	28.4	17.6	24.4	29.3	24.5
3	46.4	30.2	34.0	48.9	39.4	34.9	23.6	37.8	24.0	30.1	38.5	32.3
4	53.5	37.4	40.3	55.2	47.1	41.3	29.3	46.4	30.1	35.7	46.3	39.6
5	59.4	44.0	46.0	59.5	53.8	46.8	34.8	53.9	36.0	40.5	53.5	45.8
6	64.8	49.3	51.4	63.7	58.9	51.8	40.1	60.1	41.1	45.2	60.0	51.0
7	69.5	53.6	56.7	67.8	63.5	55.9	44.7	65.8	46.2	49.7	64.2	55.4
8	73.1	57.6	61.1	71.5	67.9	59.8	49.1	71.1	51.3	54.2	68.2	59.1
9	76.5	61.5	65.2	75.1	71.8	63.5	53.4	75.9	56.4	58.5	72.0	62.7
10	79.8	65.3	69.1	78.1	75.6	67.1	57.6	80.3	61.1	62.7	75.1	66.0
11	82.8	69.0	72.7	80.9	78.8	70.6	61.8	64.3	65.2	66.8	78.2	69.3
12	85.3	72.3	75.8	83.6	81.8	74.0	65.8	86.8	69.0	70.6	81.1	72.3
13	87.8	75.6	78.5	86.3	84.1	77.2	69.5	89.2	72.6	74.3	84.0	75.2
14	89.7	78.8	81.1	88.7	86.4	79.9	73.1	91.4	76.1	78.0	86.3	78.0
15	91.4	81.5	83.7	91.1	88.6	82.5	76.6	93.3	79.3	81.7	88.2	80.8
16	93.0	84.2	86.2	93.2	90.6	85.0	80.0	94.3	82.4	85.1	90.0	83.5
17	94.6	86.8	88.5	94.9	92.5	87.4	83.1	95.3	85.2	88.3	91.8	86.2
18	96.2	89.2	90.7	96.5	94.0	89.5	86.2	96.3	87.7	90.7	93.6	88.7
19	97.3	91.5	92.7	97.9	95.4	91.6	89.2	97.2	90.2	92.7	95.0	91.2
20	98.1	93.4	94.6	98.7	96.8	93.6	91.9	97.9	92.6	94.5	96.4	93.7
21	98.9	95.2	96.4	99.1	98.0	95.6	94.4	98.5	94.6	96.1	97.7	95.7
22	99.6	97.0	98.0	99.5	99.1	97.3	96.8	99.1	96.5	97.6	98.5	97.5
23	99.9	98.7	99.3	99.9	99.6	98.7	98.7	99.6	98.3	98.9	99.3	99.2
24	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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Based on the TD factors mentioned in the above table for sub-catchment 401B, 1-day rainfall of all the five raingauge stations has been disaggregated for various return periods.

1. Time factor disaggregation of Nainital station is presented below.

Table 4-3 Disaggregated hourly rainfall for different return periods –Nainital Raingauge

Return Period		2.33-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR	1000-YR
1-day Rainfall in mm		180	240	289	352	398	444	550	596
Duration	TD Factor								
1-Hr	0.212	38.16	50.88	61.27	74.62	84.38	94.13	116.60	126.35
2-Hr	0.315	56.70	75.60	91.04	110.88	125.37	139.86	173.25	187.74
3-Hr	0.394	70.92	94.56	113.87	138.69	156.81	174.94	216.70	234.82
4-Hr	0.471	84.78	113.04	136.12	165.79	187.46	209.12	259.05	280.72
5-Hr	0.538	96.84	129.12	155.48	189.38	214.12	238.87	295.90	320.65
6-Hr	0.589	106.02	141.36	170.22	207.33	234.42	261.52	323.95	351.04
7-Hr	0.635	114.30	152.40	183.52	223.52	252.73	281.94	349.25	378.46
8-Hr	0.679	122.22	162.96	196.23	239.01	270.24	301.48	373.45	404.68
9-Hr	0.718	129.24	172.32	207.50	252.74	285.76	318.79	394.90	427.93
10-Hr	0.756	136.08	181.44	218.48	266.11	300.89	335.66	415.80	450.58
11-Hr	0.788	141.84	189.12	227.73	277.38	313.62	349.87	433.40	469.65
12-Hr	0.818	147.24	196.32	236.40	287.94	325.56	363.19	449.90	487.53
15-Hr	0.886	159.48	212.64	256.05	311.87	352.63	393.38	487.30	528.06
18-Hr	0.94	169.20	225.60	271.66	330.88	374.12	417.36	517.00	560.24
24-Hr	1	180.00	240.00	289.00	352.00	398.00	444.00	550.00	596.00

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2. Time factor disaggregation of Kathgodam is presented below.

Table 4-4 Disaggregated hourly rainfall for different return periods – Kathgodam Raingauge

Return Period		2.33-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR	1000-YR
1-day Rainfall in mm		141	185	221	267	301	335	413	446
Duration	TD Factor								
1-Hr	0.212	29.89	39.22	46.85	56.60	63.81	71.02	87.56	94.55
2-Hr	0.315	44.42	58.28	69.62	84.11	94.82	105.53	130.10	140.49
3-Hr	0.394	55.55	72.89	87.07	105.20	118.59	131.99	162.72	175.72
4-Hr	0.471	66.41	87.14	104.09	125.76	141.77	157.79	194.52	210.07
5-Hr	0.538	75.86	99.53	118.90	143.65	161.94	180.23	222.19	239.95
6-Hr	0.589	83.05	108.97	130.17	157.26	177.29	197.32	243.26	262.69
7-Hr	0.635	89.54	117.48	140.34	169.55	191.14	212.73	262.26	283.21
8-Hr	0.679	95.74	125.62	150.06	181.29	204.38	227.47	280.43	302.83
9-Hr	0.718	101.24	132.83	158.68	191.71	216.12	240.53	296.53	320.23
10-Hr	0.756	106.60	139.86	167.08	201.85	227.56	253.26	312.23	337.18
11-Hr	0.788	111.11	145.78	174.15	210.40	237.19	263.98	325.44	351.45
12-Hr	0.818	115.34	151.33	180.78	218.41	246.22	274.03	337.83	364.83
15-Hr	0.886	124.93	163.91	195.81	236.56	266.69	296.81	365.92	395.16
18-Hr	0.94	132.54	173.90	207.74	250.98	282.94	314.90	388.22	419.24
24-Hr	1	141.00	185.00	221.00	267.00	301.00	335.00	413.00	446.00

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3. Time factor disaggregation of Haldwani is presented below.

Table 4-5 Disaggregated hourly rainfall for different return periods –Haldwani Raingauge

Return Period		2.33-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR	1000-YR
1-day Rainfall in mm		152	198	235	283	318	354	435	470
Duration	TD Factor								
1-Hr	0.212	32.22	41.98	49.82	60.00	67.42	75.05	92.22	99.64
2-Hr	0.315	47.88	62.37	74.03	89.15	100.17	111.51	137.03	148.05
3-Hr	0.394	59.89	78.01	92.59	111.50	125.29	139.48	171.39	185.18
4-Hr	0.471	71.59	93.26	110.69	133.29	149.78	166.73	204.89	221.37
5-Hr	0.538	81.78	106.52	126.43	152.25	171.08	190.45	234.03	252.86
6-Hr	0.589	89.53	116.62	138.42	166.69	187.30	208.51	256.22	276.83
7-Hr	0.635	96.52	125.73	149.23	179.71	201.93	224.79	276.23	298.45
8-Hr	0.679	103.21	134.44	159.57	192.16	215.92	240.37	295.37	319.13
9-Hr	0.718	109.14	142.16	168.73	203.19	228.32	254.17	312.33	337.46
10-Hr	0.756	114.91	149.69	177.66	213.95	240.41	267.62	328.86	355.32
11-Hr	0.788	119.78	156.02	185.18	223.00	250.58	278.95	342.78	370.36
12-Hr	0.818	124.34	161.96	192.23	231.49	260.12	289.57	355.83	384.46
15-Hr	0.886	134.67	175.43	208.21	250.74	281.75	313.64	385.41	416.42
18-Hr	0.94	142.88	186.12	220.90	266.02	298.92	332.76	408.90	441.80
24-Hr	1	152.00	198.00	235.00	283.00	318.00	354.00	435.00	470.00

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4. Time factor disaggregation of Nagla is presented below.

Table 4-6 Disaggregated hourly rainfall for different return periods –Nagla Raingauge

Return Period		2.33-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR	1000-YR
1-day Rainfall in mm		123	174	216	269	308	348	438	477
Duration	TD Factor								
1-Hr	0.212	26.08	36.89	45.79	57.03	65.30	73.78	92.86	101.12
2-Hr	0.315	38.75	54.81	68.04	84.74	97.02	109.62	137.97	150.26
3-Hr	0.394	48.46	68.56	85.10	105.99	121.35	137.11	172.57	187.94
4-Hr	0.471	57.93	81.95	101.74	126.70	145.07	163.91	206.30	224.67
5-Hr	0.538	66.17	93.61	116.21	144.72	165.70	187.22	235.64	256.63
6-Hr	0.589	72.45	102.49	127.22	158.44	181.41	204.97	257.98	280.95
7-Hr	0.635	78.11	110.49	137.16	170.82	195.58	220.98	278.13	302.90
8-Hr	0.679	83.52	118.15	146.66	182.65	209.13	236.29	297.40	323.88
9-Hr	0.718	88.31	124.93	155.09	193.14	221.14	249.86	314.48	342.49
10-Hr	0.756	92.99	131.54	163.30	203.36	232.85	263.09	331.13	360.61
11-Hr	0.788	96.92	137.11	170.21	211.97	242.70	274.22	345.14	375.88
12-Hr	0.818	100.61	142.33	176.69	220.04	251.94	284.66	358.28	390.19
15-Hr	0.886	108.98	154.16	191.38	238.33	272.89	308.33	388.07	422.62
18-Hr	0.94	115.62	163.56	203.04	252.86	289.52	327.12	411.72	448.38
24-Hr	1	123.00	174.00	216.00	269.00	308.00	348.00	438.00	477.00

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5. Time factor disaggregation of Rudrapur/Kitchha is presented below.

Table 4-7 Disaggregated hourly rainfall for different return periods – Rudrapur/Kitchha Raingauge

Return Period		2.33-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR	1000-YR
1-day Rainfall in mm		132	173	206	248	279	311	383	417
Duration	TD Factor								
1-Hr	0.212	27.98	36.68	43.67	52.58	59.15	65.93	81.20	88.40
2-Hr	0.315	41.58	54.50	64.89	78.12	87.89	97.97	120.65	131.36
3-Hr	0.394	52.01	68.16	81.16	97.71	109.93	122.53	150.90	164.30
4-Hr	0.471	62.17	81.48	97.03	116.81	131.41	146.48	180.39	196.41
5-Hr	0.538	71.02	93.07	110.83	133.42	150.10	167.32	206.05	224.35
6-Hr	0.589	77.75	101.90	121.33	146.07	164.33	183.18	225.59	245.61
7-Hr	0.635	83.82	109.86	130.81	157.48	177.17	197.49	243.21	264.80
8-Hr	0.679	89.63	117.47	139.87	168.39	189.44	211.17	260.06	283.14
9-Hr	0.718	94.78	124.21	147.91	178.06	200.32	223.30	274.99	299.41
10-Hr	0.756	99.79	130.79	155.74	187.49	210.92	235.12	289.55	315.25
11-Hr	0.788	104.02	136.32	162.33	195.42	219.85	245.07	301.80	328.60
12-Hr	0.818	107.98	141.51	168.51	202.86	228.22	254.40	313.29	341.11
15-Hr	0.886	116.95	153.28	182.52	219.73	247.19	275.55	339.34	369.46
18-Hr	0.94	124.08	162.62	193.64	233.12	262.26	292.34	360.02	391.98
24-Hr	1	132.00	173.00	206.00	248.00	279.00	311.00	383.00	417.00

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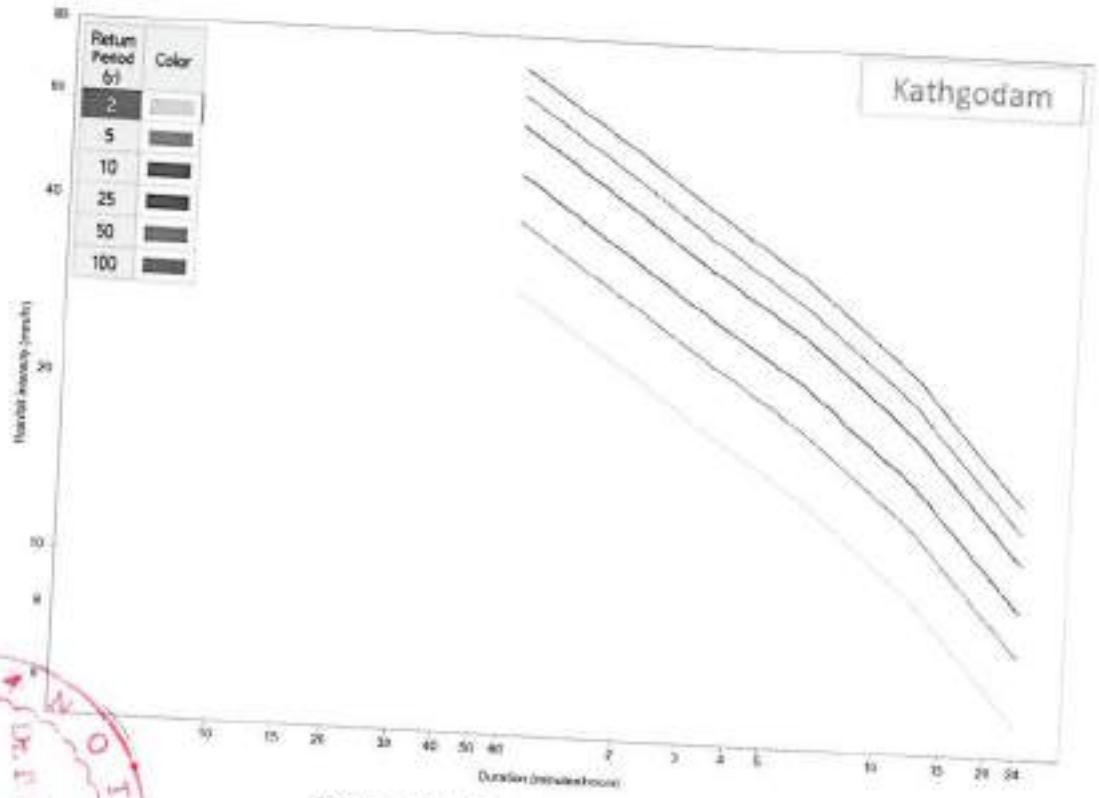


Figure 4-4 IDF Curves - Kathgodam

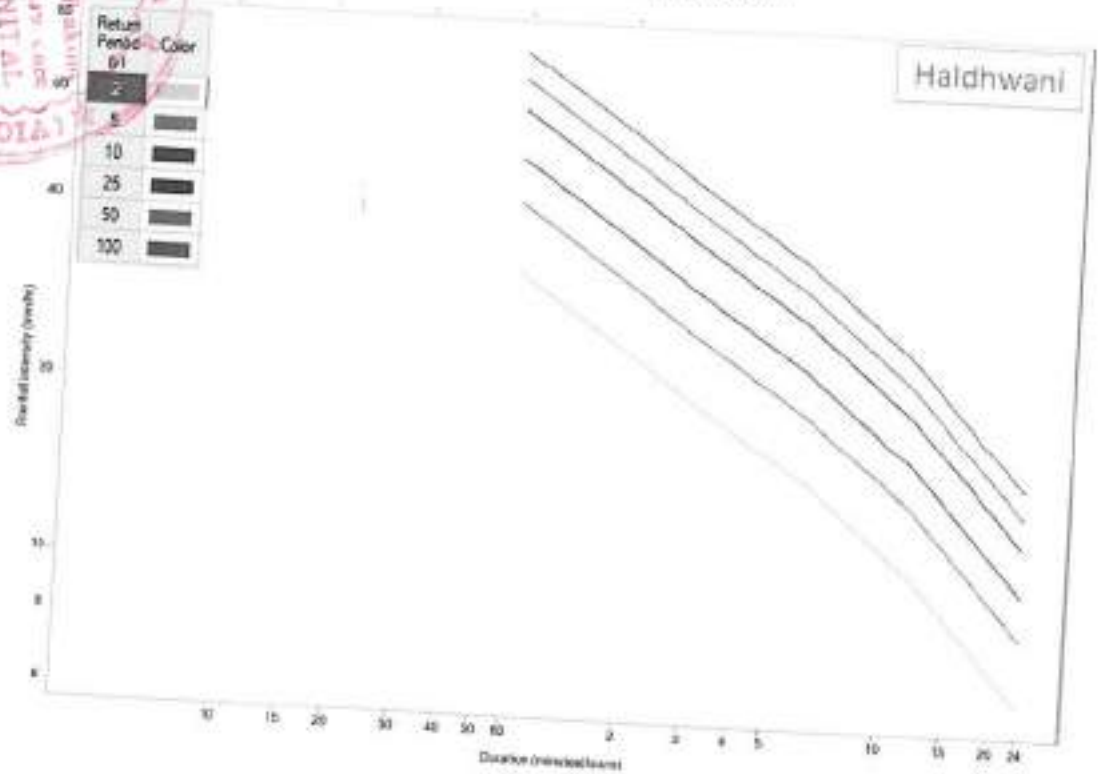


Figure 4-5 IDF Curves - Haldwani

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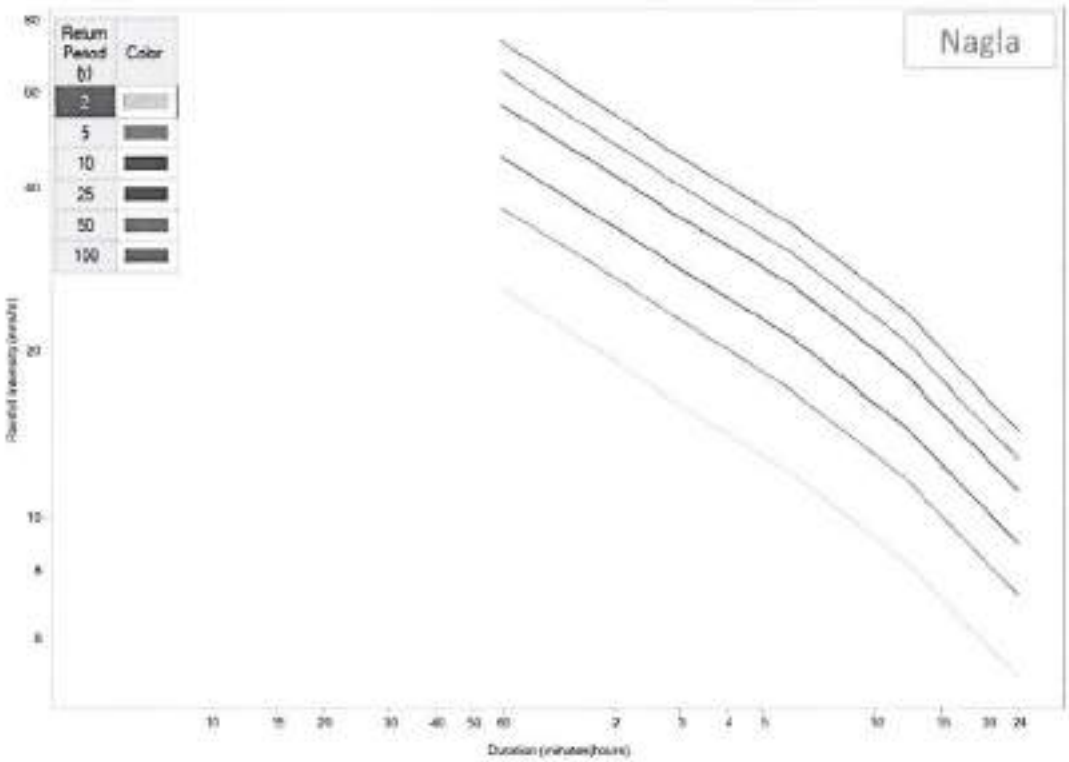


Figure 4-6 IDF Curves - Nagla

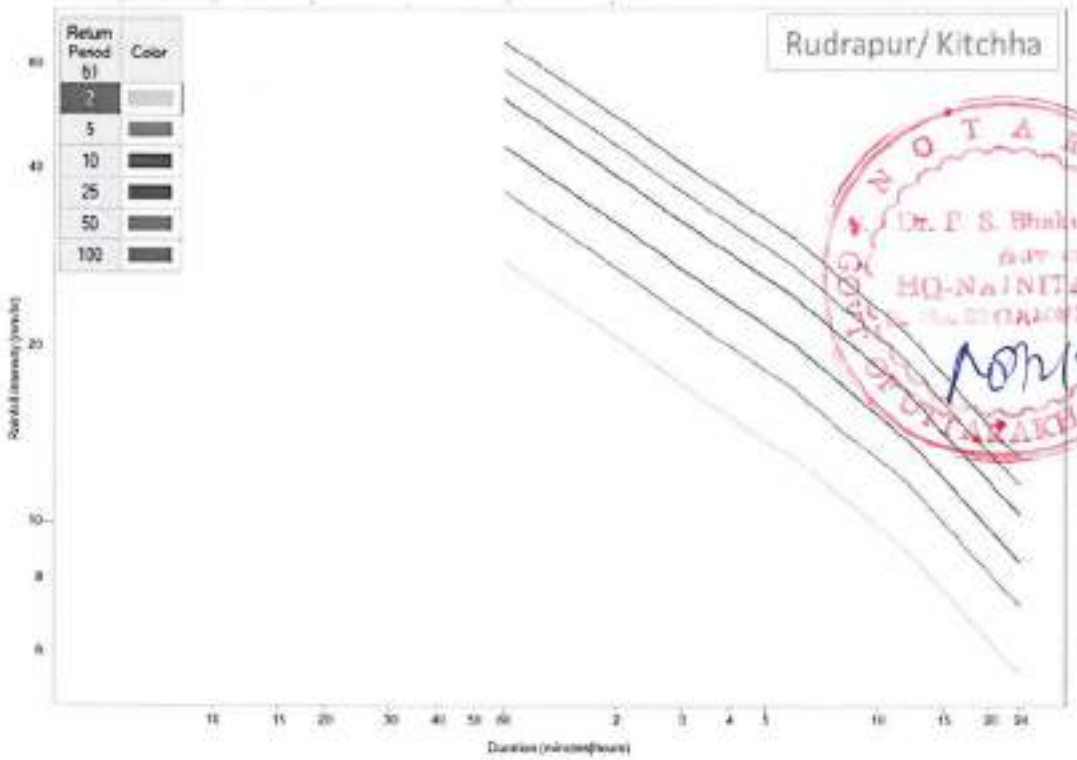


Figure 4-7 IDF Curves - Rudrapur/ Kitchha

4.5 Development of Rainfall Hyetographs

Based on the criterion explained in section 3.3, the hyetographs have been created for a design storm of 5, 10, 25, 50- and 100-Year return period rainfall for all the rain gauges to carry out hydrological analysis and calculate runoff all along the rivers.

The Figure 4.8 and Figure 4.9 show the design storm hyetograph for 50 year and 100-year return period (RP) rainfalls for Nainital raingauge stations.

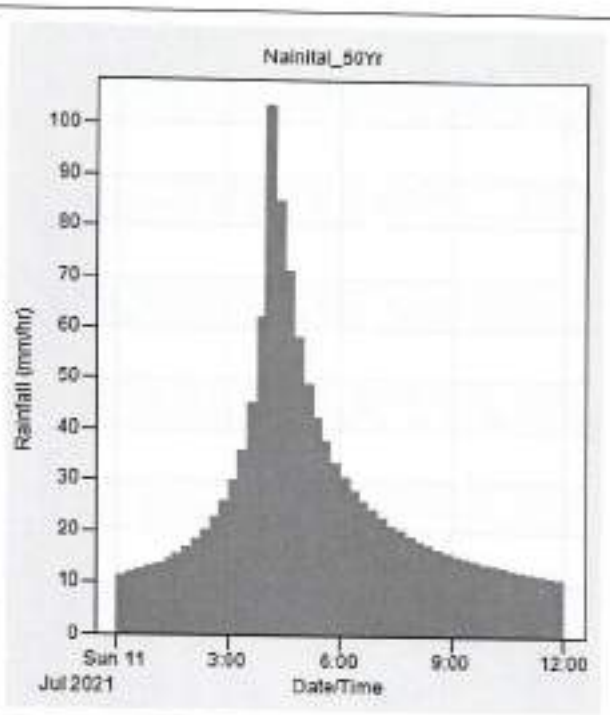


Figure 4-8 50 - Years RP Rainfall Hyetograph

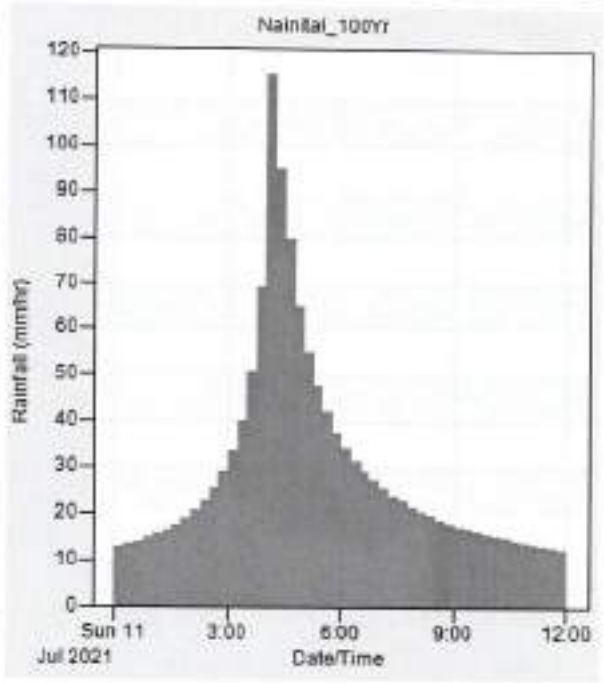


Figure 4-9 100 - Years RP Rainfall Hyetograph

Note: Similar exercise has been followed for all the five raingauge stations and the same can be found in Annexure 2.

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5 Chapter - Watershed Delineation

As mentioned in section 1.8, second component of hydrological analysis is watershed delineation and characterization of upstream catchment area.

5.1 Concept of Watershed Delineation

A watershed is an area of land that feeds all the water running under it and draining off of it into a body of water. Micro-watersheds form a network of rivers and streams that progressively drain into larger watershed. Topography determines where and how water flows. Ridge tops surrounding a body of water determine the boundary of a watershed.

For example, imagine turning an open umbrella upside down in the rain. Rain that hits anywhere within the umbrella's surface area would go to the bottom at the center of the umbrella. Any rain that didn't hit the umbrella would fall to the ground. The umbrella is like a watershed; it collects every drop of water that falls into it.

A catchment area or drainage basin is an area of land, where the surface water from rainfall, snowmelt, or ice flow into a lower elevation before getting drained to river/stream as shown in *Figure 5-1* below.

The lowest point in case our study is at the confluence of Gola river with Ramaganga river at the Shahi, Bareli district. All the rainwater falling on to that basins shall reach the respective sub-drains before getting drained into Ganga river through Gola river.



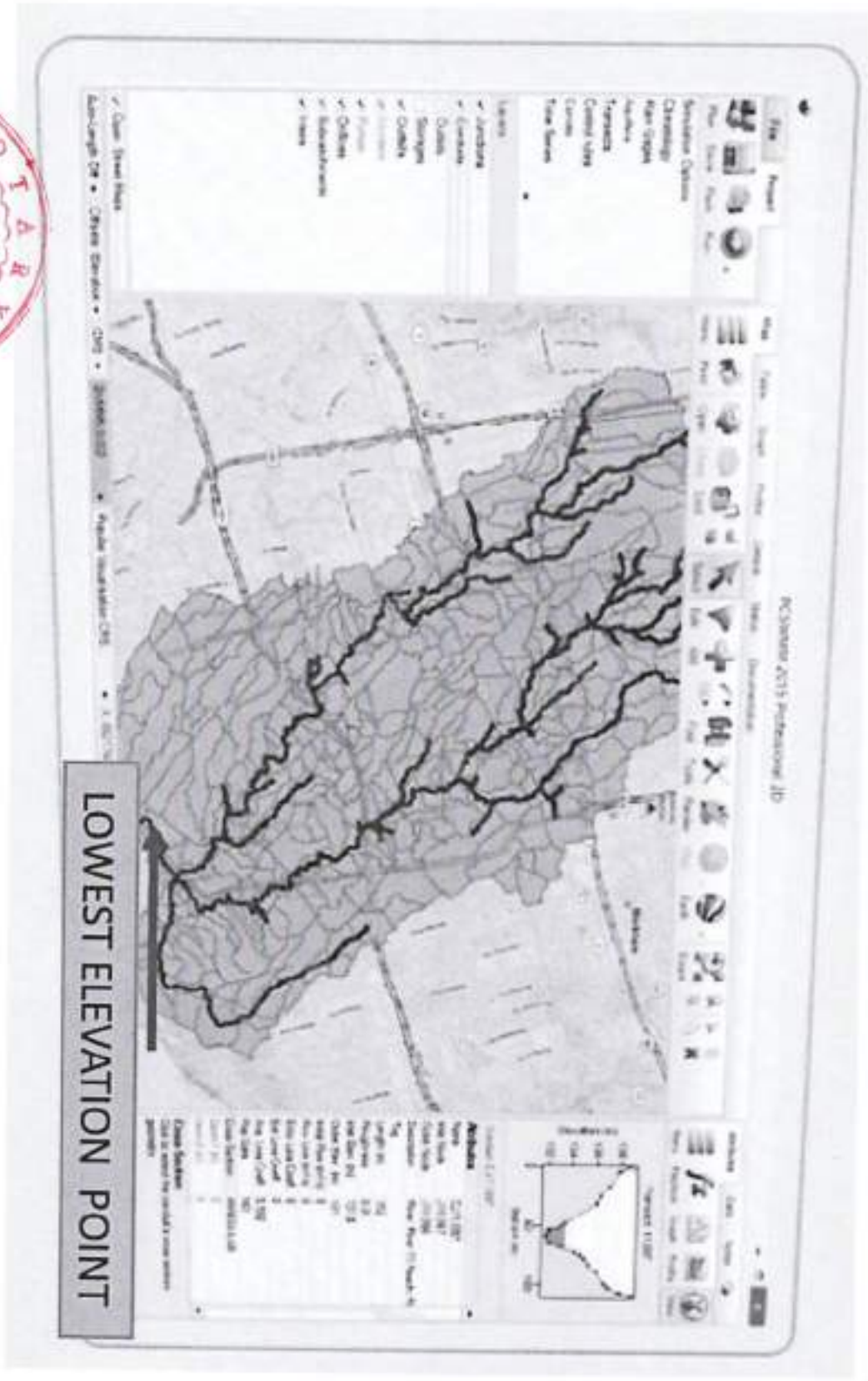


Figure 5-1 Representation of Flow of Rain Water to Lowest Elevation Point

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5.2 Process of Watershed Delineation

Catchment basin is also known as watershed. The process outlined below includes steps for delineating watersheds at a micro-scale level. PCSWMM software has been used for watershed delineation. Based on the given digital elevation model (DEM), sub catchments are delineated in said software by computing the flow direction, flow accumulation and stream delineation adhering to user defined thresholds.

The steps involved in watershed delineation using PCSWMM software are explained below:

- DEM is used and filled by flow direction and flow accumulation process (Figure 5.2).
- The path of natural stream developed beforehand can be used as the burn-in stream layer for the purpose of delineation. In the absence of stream data, software creates the stream's path itself based on elevation data.

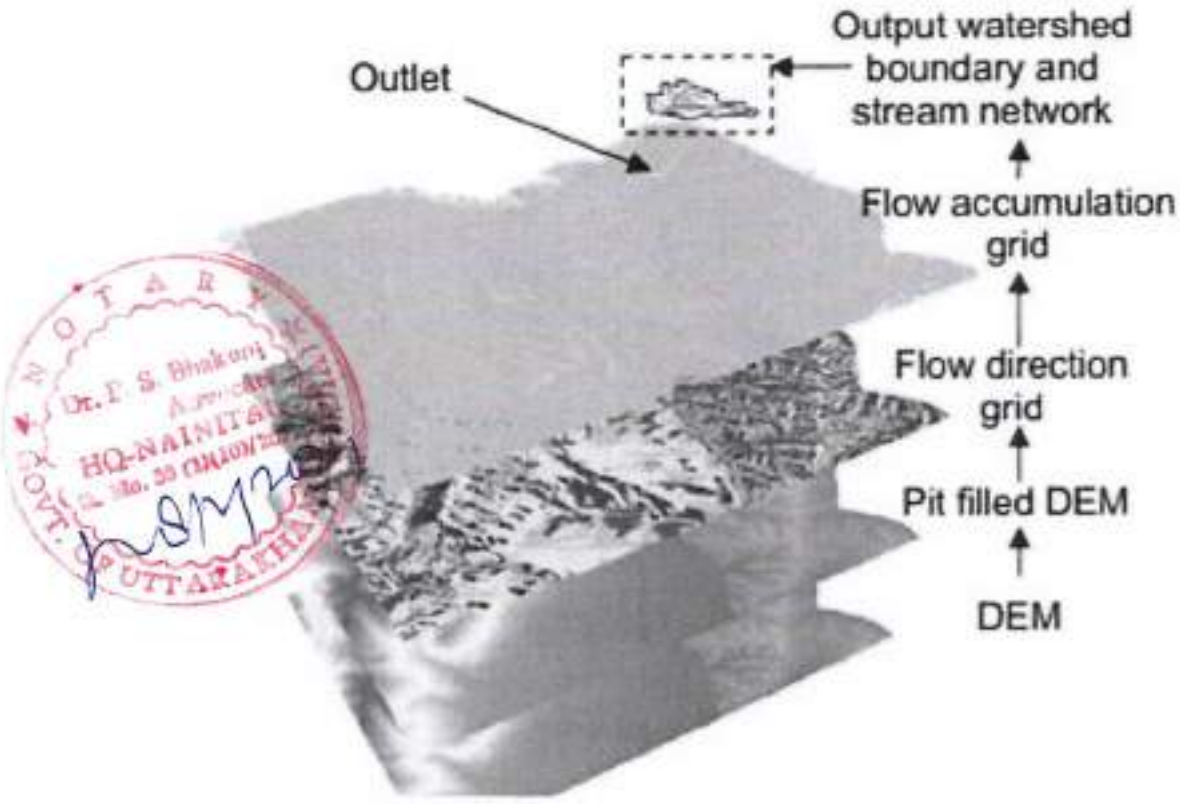


Figure 5-2 Watershed Delineation Process in PCSWMM (Source: CHI)

- A flow direction grid assigns a value to each cell to indicate the direction of flow – that is, the direction that water will flow from that particular cell based on the underlying topography of the landscape.
- This is a crucial step in hydrological modelling, as the direction of flow will determine the ultimate destination of the water flowing across the surface of the land.

- The flow accumulation process calculates the flow into each cell by identifying the upstream cells that flow into each down slope cell. In other words, each cell's flow accumulation value is determined by the number of upstream cells flowing into it based on landscape topography.
- All the natural stream paths present in the river basin are also identified during the catchment delineation process by PCSWMM based on elevation details.
- All the water from the upstream cells is drained into the downstream point either through cell-cell flow or through upstream natural stream path identified.

5.2.1 *Digital Elevation Models*

For this project, three DEMs namely SRTM elevation data, Japanese satellite ALOS 3-D elevation data and Indian satellite CARTOSAT elevation data were used for catchment area. Elevation data of above-mentioned satellite is at 30m resolution. Output of catchment area from each satellite data was corroborated with sub-basin data and natural streams data from ISRO's BHUVAN portal. The streams paths generated from all the DEMS was cross verified with natural streams data from digitized toposheets.

Additionally, some minor corrections to stream paths and catchment boundaries were made based on visual inspection of Google Earth image to arrive at accurate and precise catchment area based on open-source data.

Catchment area delineated form SRTM DEM has been used for characterization and simulation of rainfall runoff.

5.3 *Topographic Surveying of Gola River*

The hydrological response of a catchment is controlled by a combination of factors such as climate, vegetation, drainage, soil, and land use. For the hydrological assessment of the catchment, combination of topographical information, site investigations, hydrological data, flow surveys, rainfall data, geological information, and other historic data are utilized to determine the extent of catchment areas contributing to runoff and the flows in watercourses. These parameters have been detailed in Hydrological and Hydraulic report.

Similarly, the topography of the river area such as the steepness of the river valley, land use and land cover extent, plays an important role in river acquiring its flow parameters such as water depth, flow velocity, discharge quantity, and etc. Hence, for the proper simulation of flood inundation, clear understanding of the topographic profile of the river is necessitated. For this requirement, several river cross section profiles are obtained at regular intervals (as less as 50 meters) in order to obtain effective end results. This includes data obtained through field visit by conducting either drone surveying, Total Station Surveying or DGPS survey for the accurate studying of the topography which is explained in detail in the following section.

5.4 Surveying Methods Involved

Gola has different topographic profiles and land cover parameters which makes some regions difficult to access and hence gather efficient topographic data of the river using one surveying method. Hence depending upon the land use type and importance of the area, accessibility and economic feasibility, different site investigation methods such as Drone Surveying, Total Station Surveying or DGPS survey are opted for obtaining quality data of different topographic attributes of all the river stretches.

The following sections provide brief overview of the different survey methodologies used in this project.

5.4.1 Total Station surveying

Total station is a combination of Electromagnetic Distance Measuring Instrument and electronic theodolite with integrated microprocessor, electronic data collector and storage system. The total station has a range of from 2.8 km to 4.2 km with an accuracy of measurement up to 5 mm to 10 mm per km measurement: which makes the surveying process quick and convenient for the longer river stretches. Thus, Total station surveying is a convenient option for surveying along the valleys. It has been opted for surveying of initial lengths of rivers especially in hilly regions where drone surveying is not feasible.

5.4.2 Digital Global Positioning System (DGPS) Survey

Survey method uses **Differential Global Positioning System (DGPS)** as a reference to define the ground control points (GCPs) spread over the river stretches. It is an enhancement to GPS that provides improved location accuracy, from the 15-meter nominal GPS accuracy to about 10cm in case of the best implementations. DGPS Survey achieves higher positional accuracy by making use of the differential capabilities of two GPS antennas linked by a radio signal. DGPS is a system to provide positional correction to GPS signals. DGPS signals to use the known position as a reference to adjust real-life GPS signals to eliminate pseudo-range and to improve the accuracy of user position range and to improve the accuracy of user positions.

Thus, the obtained topographic results such as DEM will be much more accurate than the Total station survey. The obtained DEM values from DGPS have been compared with the GCPs and the overall accuracy of the DEM is noted to be ≈ 92%.

5.4.3 Drone surveying

Drone surveying is an aerial survey conducted using drones and special cameras to capture aerial data with downward-facing sensors with an accuracy range of 0.5cm – 2cm. During drone survey, the river terrain is photographed several times from different angles, and each captured image is tagged with corresponding coordinates. Use of drone makes the surveying quick and easier with accurate results. Drone surveying is preferred for most of the river lengths because of its accurate results of the profile and topographic parameters such as slope, land cover and etc. As Drone Surveying provides high-resolution images of even smaller objects

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it becomes easier to analyse the cause of action and provide suitable solutions in the crowded areas along the river stretch. Post-processing of drone data yields Digital Elevation Models (DEM) which form the river terrain.

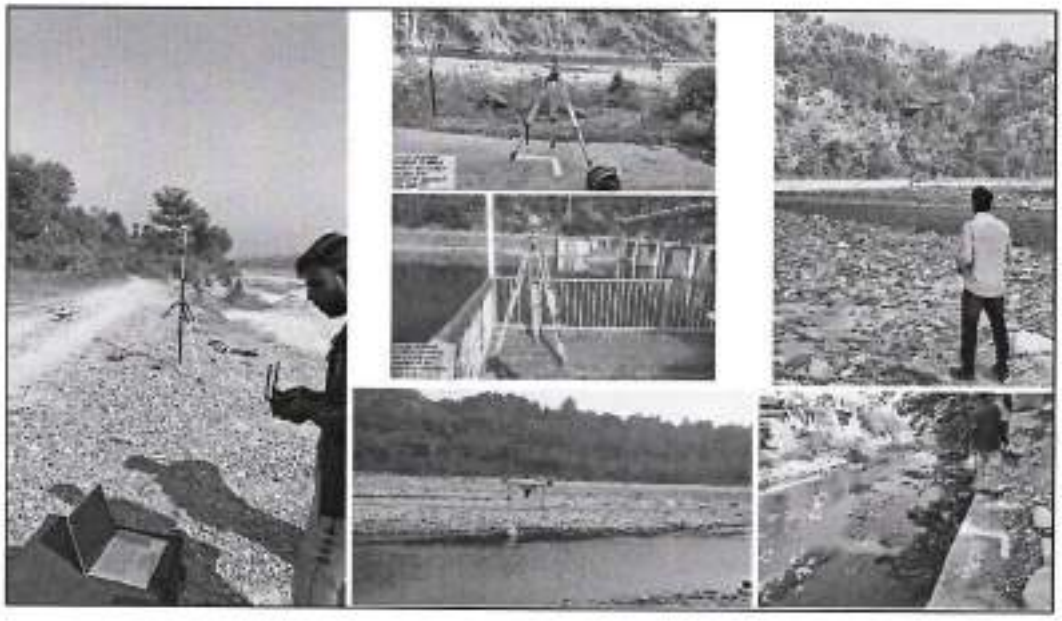


Figure 5-3 Visuals of Conducting Drone Survey in Gola River

5.4.4 Post processing of Drone Survey Data

The data obtained from drone survey has to be further processed to obtain the Digital Elevation Model (DEM) which is used for the terrain generation. For very precise drone surveying, it is necessary to accurately locate the position of a drone in flight. The georeferencing of the position of the drone is performed by using the GCP points. GCPs are reference points present in the ground whose coordinates are already obtained through DGPS Survey. GCPs enables the drone to return accurate data about its location and the distance it travelled between the two places. After the georeferencing, the Position Orientation System (POS) of the drone using which the aerial triangulation is performed to generate the required DEM data recorded with vertical accuracy in the range of approximately 0.05 to 0.1 m and spatial resolution of approximately 0.1 m. The association between four hydrographic survey cross-sections and corresponding cross-sections drawn using DEM is strong and acceptable. The row image used in the study has good processing result and used to produce contour as required for hill and foothill region as per NDMA guidelines.



Figure 5-4 ORI image of Gola river obtained by Drone Survey

5.5 Delineation of Gola River Watershed

Based on the concept explained in section 5.2, Gola River watershed has been delineated using the SRTM DEM and delineation tool in PCSWMM software. An image below shows the catchment area, micro watersheds and stream paths in the complete catchment area. The total catchment area delineated is about 908.22 sq.km which closely matches with available government records.

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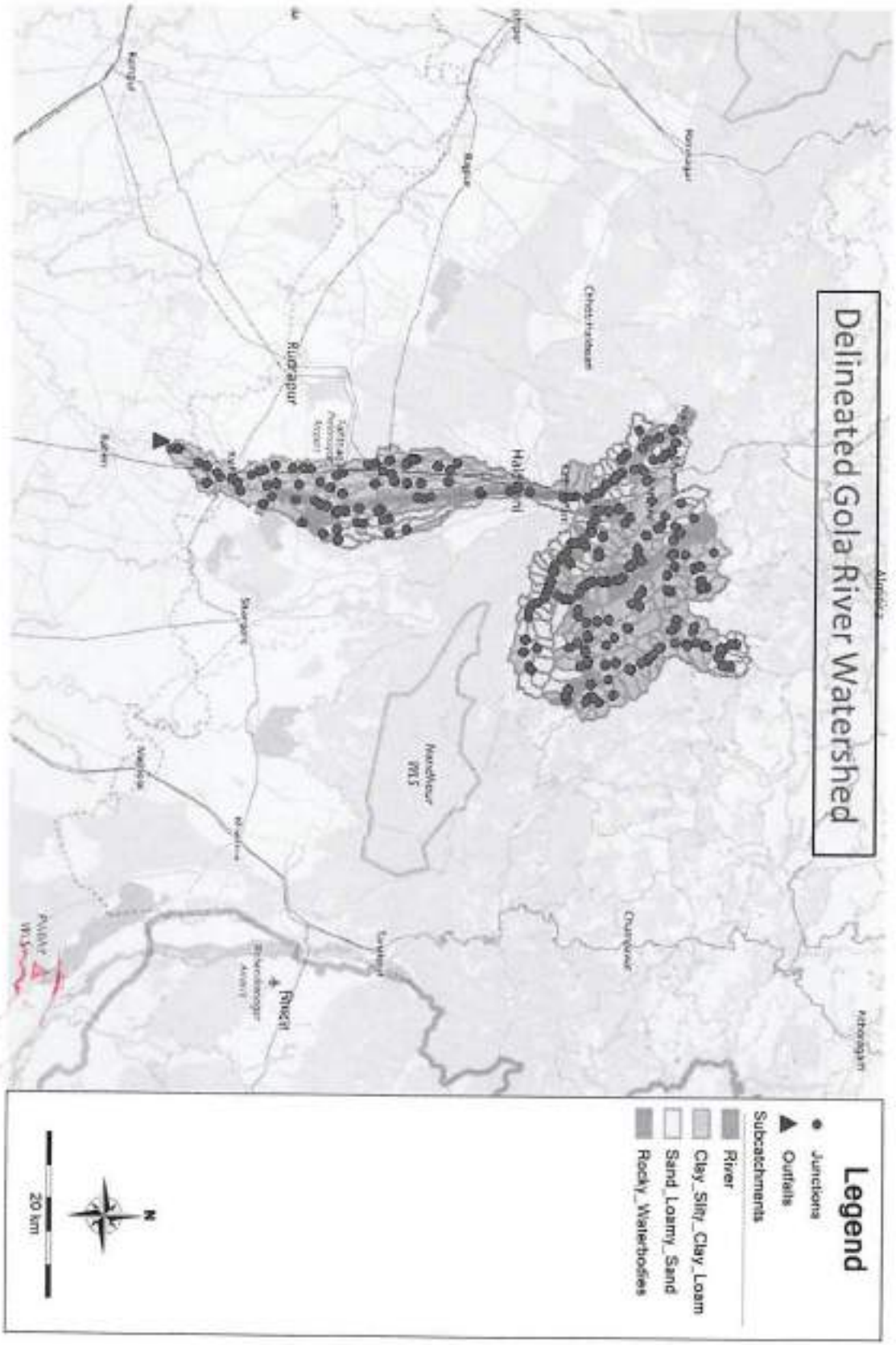


Figure 5-5 Integrated Watershed Delineation

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6 Chapter - Catchment Area and Open Channels Characterization

6.1 Catchment Area Characterization

Once the catchment area is delineated and finalized, the next step is characterization of sub-catchments based on land used land cover (LULC). Each sub-catchment is assigned % imperviousness, soil parameters, depression storage, manning roughness for overland flow etc. All these factors determine the runoff generated from a sub catchment. Based on these input parameters, for a particular rainfall event simulated, runoff generated from each sub catchment area is derived from the model. Slope of each sub-catchments is automatically determined from elevational data of DEM.

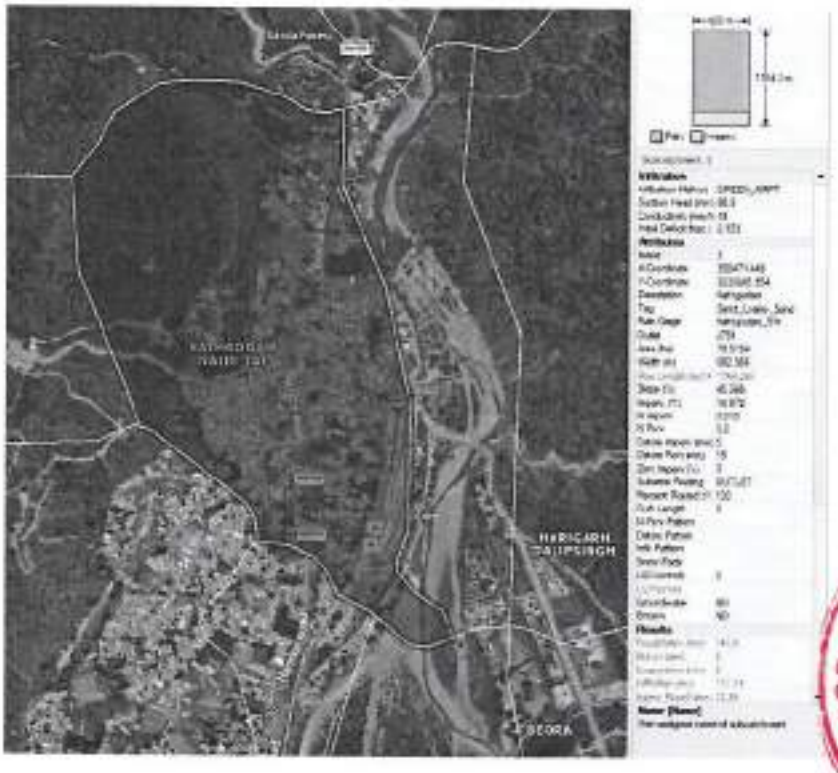


Figure 6-1 Sub-catchment Characterization

Above Figure 6.1 shows an image of a sample sub catchment with details of above said parameters assigned to it. Similarly, parameters are assigned for all sub-catchments. A total of 459 sub catchments have been delineated for this study.

Urban area, village habitations roads have been considered as impervious areas. Percentage impervious has been arrived at for each sub-catchment by digitizing the urban areas in the catchment area as shown in the image below.

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Figure 6-2 Sub-catchment Characterization 1A – Impervious Area

Infiltration parameters have been considered based on the soil classification data obtained from **India WRIS site Annexure 4.** There are four classifications of soil in the catchment area based on the soil map. The classification is as follows:

Sl #	Colour	Soil Classifications
1		Clay, loamy clay, sandy clay, silty clay, sandy clay
2		Loam, silt loam, silt, sandy loam
3		Loamy sand, sand
4		Rocky, other non-soil categories

Note: The India WRIS map can be found in Annexure 3.

In *Figure 6-2*, it can be seen that sub-catchments have been characterized based on the above-mentioned soil classifications. For the classifications mentioned in above table, Green Ampt Infiltration parameters are provided as in Table 6-1 provided below.

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Table 6-1 Green Ampt Infiltration Parameters

SL #	Colour	Soil Classifications	Suction Head (mm)	Hydraulic Conductivity (mm/hr)	Initial Deficit (fraction)
1		Clay, loamy clay, sandy clay, silty clay, sandy clay	110.1	21.8	0.246
2		Loam, silt loam, silt, sandy loam	110.1	36	0.246
3		Loamy sand, sand	61.3	59.8	0.312
4		Rocky, other non-soil categories	166.8	7	0.171

Note: These infiltration values have been considered based on soil classifications from ***Handbook of Hydrology, D.R. Maidment,*** *Editor in Chief, McGraw-Hill, Inc., 1993, pp 5.1-5.39. The reference table can be found in* Annexure 4.

The values have been slightly modified to calibrate discharge results with flood frequency analysis results in the absence of detailed soil classification information.

Manning's roughness coefficient for **overland flow** has been considered between 0.15 – 0.4 for pervious area based on land use land cover and value of 0.015 is considered for impervious area. [3]

The summary of various catchment parameters considered is tabulated below:

Table 6-2 Catchment characterization parameters

Displayed Name	Description	Remarks
Area	Area of the subcatchment (acres or hectares).	From DEM
Slope	Average percent slope of the subcatchment.	From DEM
Displayed Name	**Description**	**Value**
Imperv	Percent of land area which is considered directly connected impervious area (DCIA) . This is indicated in yellow and red in the figure above. Pervious area is represented in green.	From Digitization
N Imperv	Manning's n for overland flow over the impervious portion of the subcatchment (typical values).	0.015
N Perv	Manning's n for overland flow over the previous portion of the subcatchment (typical values).	0.15, 0.25, 0.4
Dstore Imperv	Depth of depression storage on the impervious portion of the subcatchment (inches or millimetres) (typical values).	5
Dstore Perv	Depth of depression storage on the pervious portion of the subcatchment (inches or millimetres) (typical values).	10 - 50

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All total of 459 sub-catchments have been delineated in Gola watershed and all of them have been characterised for the above-mentioned catchment parameters individually.

6.2 Open Channel /Streams Characterization

After the completion of catchment area, natural streams i.e water flow area needs to be characterized before simulation of rainfall runoff (hydrological-hydraulic) model.

As mentioned in section 5.2, path of natural streams is finalized based on digital elevations models and main river have been streamlined based on the survey data. For these paths, transects (cross Sections) are drawn at a particular interval perpendicular to the flow direction to deduce the available flow area at that particular location. Figure 6.3 below shows a sample of various transects created for the natural streams within the area of interest. In the next Figure 6.4 below typical cross-sectional area of stream created is shown.



Figure 6-3 Creations of cross sections across flow stream

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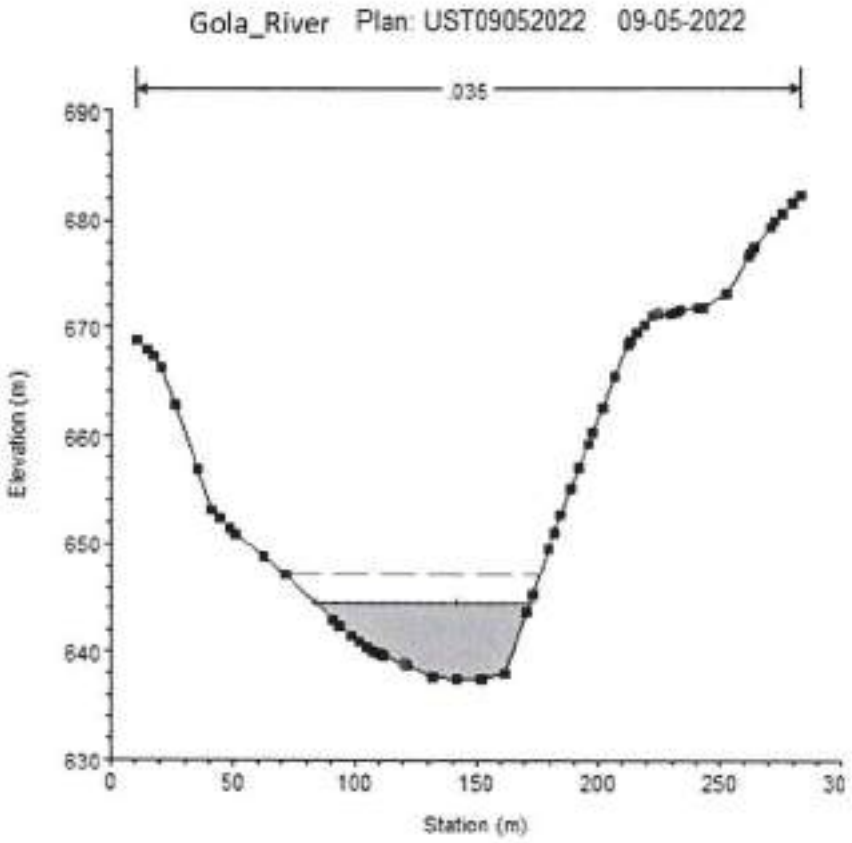


Figure 6.4 Cross sectional area of stream at a location created from transects

These cross sections are assigned to natural streams at their respective locations. In addition to the area, water flow in natural streams/open channel is also governed by manning's roughness coefficient and bed slope of channel. Slope of streams is assigned based on DEM and the roughness coefficient considered for modelling of Gola River at different reaches is explained in the next section.

6.2.1 *Assignment of Manning's Coefficient for river streams*

The manning's coefficient for the Gola River has been ascertained based on the river bed and bank conditions. Rivers have been divided into different reaches and for the respective reach's 'n' value has been taken from a source's manual with the description that exactly matches with that of river bed condition.

Four sources have been considered for the above exercise:

1. IS 2912 (1999): Liquid Flow Measurement in Open Channels - Slope Area Method [WRD 1: Hydrometry] – [Short form – IS 2912]
2. Manual on Physical Hydraulic Model Studies - IRRIGATION RESEARCH INSTITUTE ROORKEE – 247 667 (UTTARAKHAND) - [Short form – MPHMS - IRI]
3. Roughness Characteristics of Natural Channels - U.S. GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1849 – [Short form - RCNS – U.S GS]

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4. Manning's n for Channels (Chow, 1959).

The details of manning coefficient n value considered for different reaches for the Gola River is given below.

The coefficient of roughness for riverbanks is considered to be higher by 0.005 compared to river bed.

6.2.2 *Manning's Coefficient 'N' for Gola River*

Gola river has been divided into 8 different reaches for the purpose of assignment of n values. The below table show reachwise manning's n value along with the description.

Reference	Location	River reach		Description	Manning's n Value
USGS, 1987	Near Tilwari	81994	74141	Bed is composed of sand, gravel, and boulders; Thick undergrowth is along right bank and along the left bank	0.030
USGS, 1987	Between Chhakhata Range and Amritpur	74091	60337	Bed consists of well- rounded boulders; Banks are composed of gravel and boulders, and have tree and brush cover	0.028
IS 2912:1999	Between Amiya village and Ranibagh	60287	59637	Main Channel is like Jagged and irregular river	0.040
USGS, 1987	Between Smanora Range till Gola Barrage	59587	56486	Bed consists of cobbles and small boulders. Banks are lined with small trees and brush	0.043
Chow, 1959	Between Kathgodam and Sadar Bazaar	55436	48734	Main Channel is clean, winding, some pools and shoals	0.040
USGS, 1987	Banbhoolpura to Gola range Sanjaynagar	48696	30431	The bed consists of sand and gravel, and has light cover of brush in some places	0.030
USGS, 1987	Gola range Sanjaynagar to Noorpur	30381	12294	Bed covered by sand, gravel deposits over smooth to rough rock. Banks are covered with grass and have a few outcrops	0.027
USGS, 1987	Pantpura to Sutuiya	12244	0	Bed covered by sand, gravel, and boulders, and has light cover of brush in some places	0.03



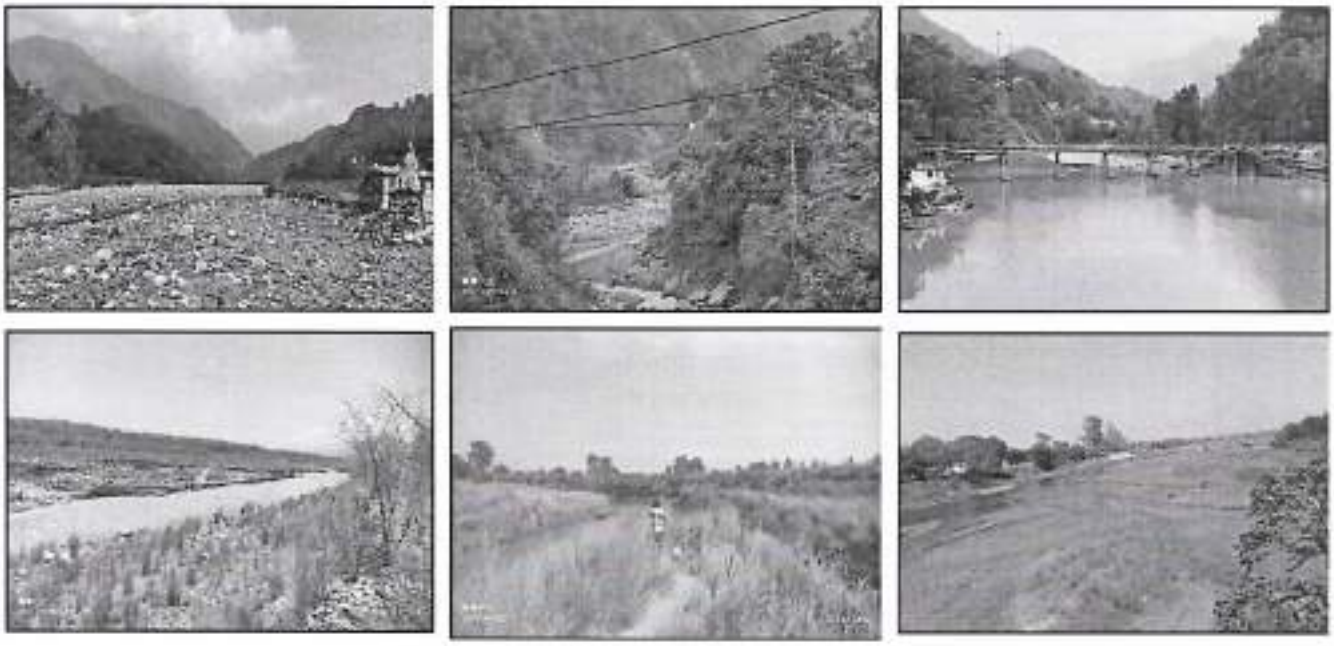


Figure 6-4 Gola River channel and banks photographs for defining manning's n value

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7 Chapter - Hydrological Modelling Results

7.1 1-D Numerical H & H Model

After the completion of rainfall analysis, watershed delineation, characterization of catchment area and natural streams, Hydrological – Hydraulic (rainfall-runoff) model is simulated. That is, rainfall of a particular return period is simulated over characterized sub catchments and overland flow, flow in natural streams is analyzed. Hydrological and hydraulic parameters such as individual sub catchment runoff, upstream catchment area run off, velocity, discharge and water depth in channels at various locations of interest are arrived at. For this project, rainfall-runoff has been stimulated for 5, 10, 25, 50- and 100-year return period rainfalls:

Outcome of rainfall runoff simulations have been presented in the next section titled Results.

Note:

The outlined methodology involves employing the HEC-RAS model for 1-D flood simulation, encompassing direct sub-catchment runoff into the river and inflow from smaller tributaries. Detailed HEC-RAS 1-D modeling specifics follow, while hydraulic modeling through PCSWMM software is utilized to estimate river discharge at various points, offering a discharge range based on SRTM-derived river segments. This discharge data is then incorporated into HEC-RAS for comprehensive flood mapping.

7.2 Results

As mentioned above, rainfall runoff model has been simulated for 5, 10, 25, 50 and 100-year return period rainfall using design storm creator in the model.

The runoff response from catchment area at Gola Barrage, Kathgodam gauge location is presented in the graph below for the above-mentioned return period rainfalls:

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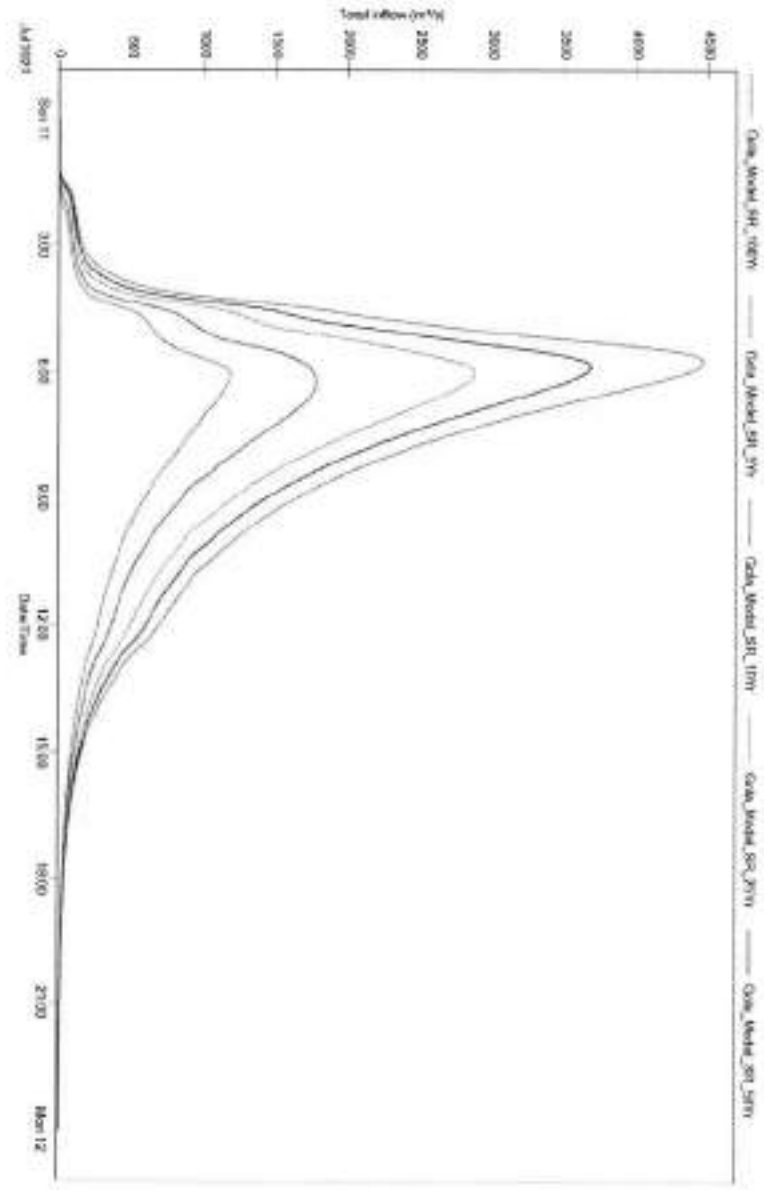


Figure 7-1 Rainfall runoff response for different RP rainfalls

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7.2.1 Discharges Output from H & H Model

Table below provides discharges at different locations at Gola River for different return period of rainfalls.

Table 7-1 Discharge Summary at Key Locations on Gola River

SL #	Identification Name	Catchment Area (Sq.km)	Max. Discharge in (Cumec) for Different Rainfall Frequencies				
			5 Year	10 Year	25 Year	50 Year	100 Year
Gola							
1	Gola River Starting Point	136.7	459	703	1088	1344	1581
2	Bhoriya	372.2	767	1260	2089	2683	3268
3	MURKARIYA	427.8	808	1317	2183	2809	3425
4	JAMRANI DAM SITE	451.1	847	1349	2231	2869	3497
5	Amiya	481.2	870	1394	2306	2970	3624
6	D/S to confluence by Bhimtal Gadera	516.0	968	1521	2498	3211	3912
7	Ranibagh Bridge	599.8	1176	1769	2859	3656	4437
8	GOLA BARRAGE	606.2	1184	1783	2881	3686	4475
9	Haldwani Bye Pass Road Bridge	627.7	1207	1827	2942	3765	4571
10	Halduchaur	652.4	1237	1878	3031	3852	4685
11	Bindukhatta	676.8	1243	1904	3057	3882	4721
12	KICHHA BARRAGE	856.1	1375	2126	3425	4303	5220
13	Gola river End point	892.0	1381	2147	3453	4370	5367

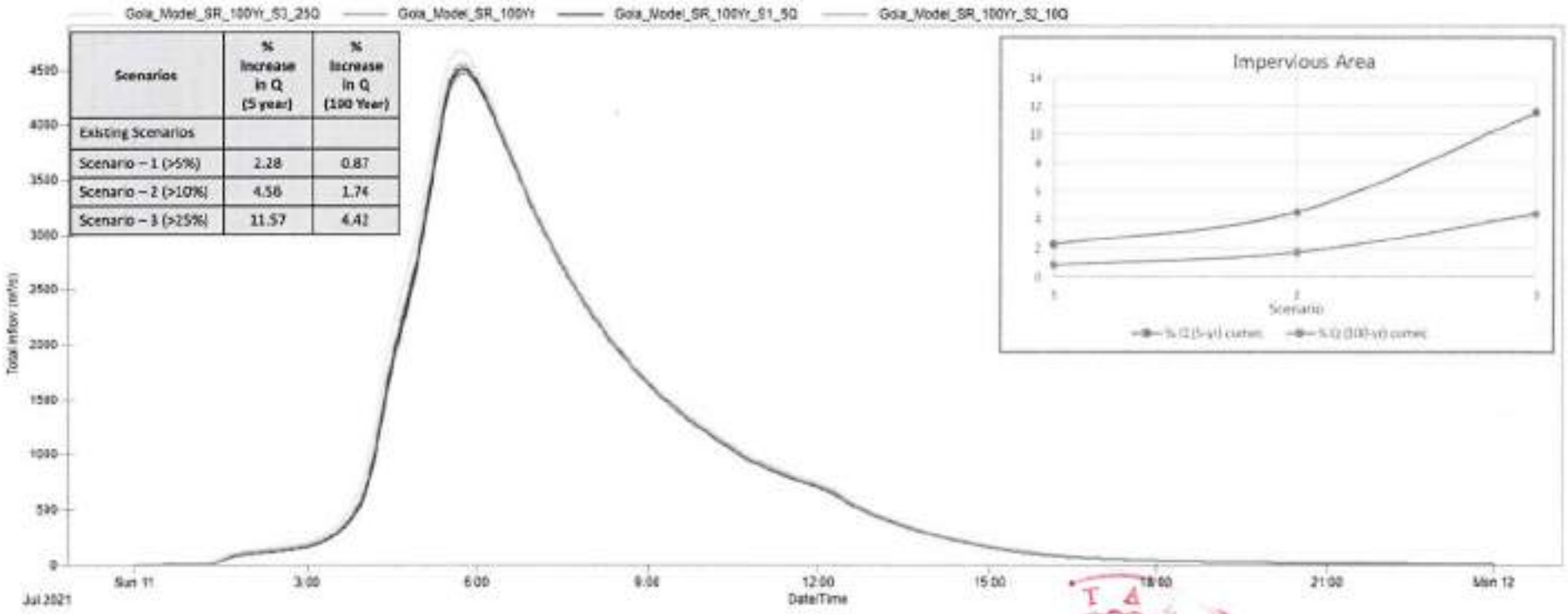
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7.2.2 *Sensitivity Analysis*

Sensitivity analysis of impervious area and infiltration parameter hydraulic conductivity was carried out to understand impact of these parameters on runoff. The results are presented below.

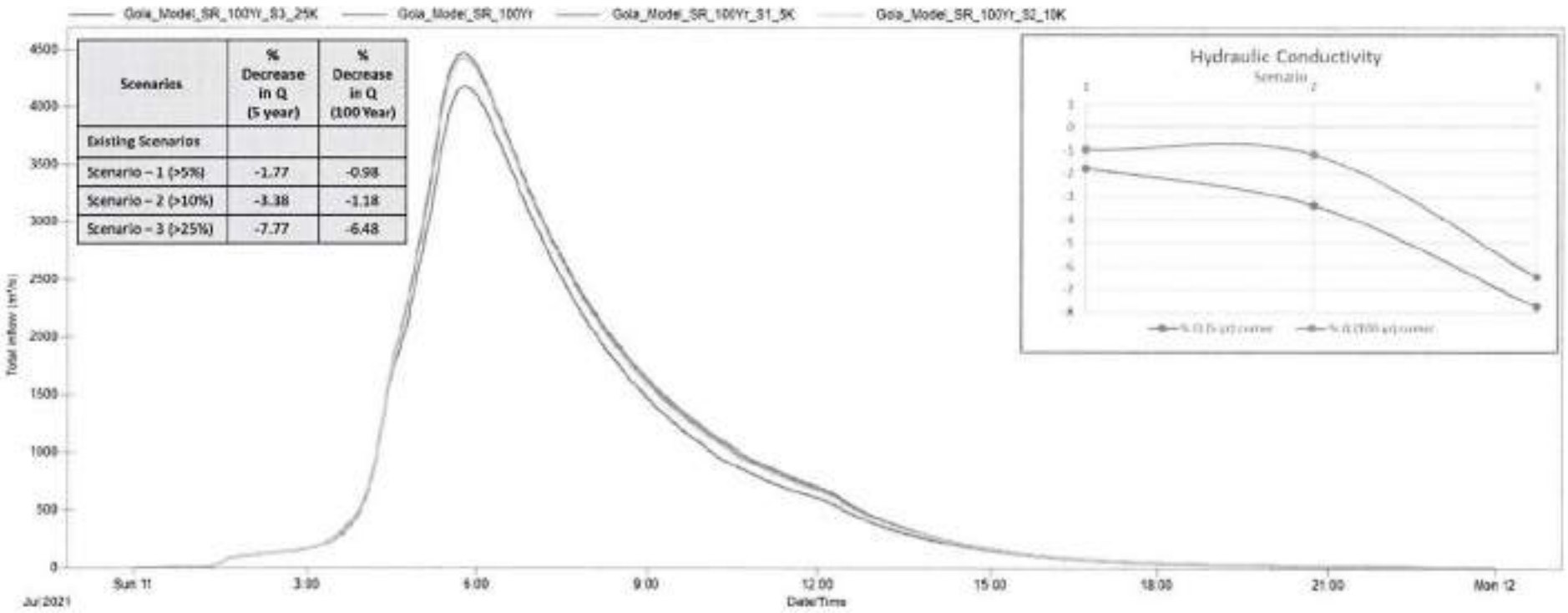


Scenarios	% Increase in Q (5 year)	% Increase in Q (100 Year)
Existing Scenarios		
Scenario – 1 (>5%)	2.28	0.87
Scenario – 2 (>10%)	4.56	1.74
Scenario – 3 (>25%)	11.57	4.42

Figure 7-2 Sensitivity Analysis – Impervious area

As the impervious area is increases by 5% to 25%, the discharge for 100-year rainfall increases by 0.87% to 4.42% whereas for the 5-year rainfall the discharge varies by 2.28% to 11.57%.

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Scenarios	% Decrease in Q (5 year)	% Decrease in Q (100 Year)
Existing Scenarios		
Scenario – 1 (>5%)	-1.77	-0.98
Scenario – 2 (>10%)	-3.38	-1.18
Scenario – 3 (>25%)	-7.77	-6.48

Figure 7-3 Sensitivity Analysis – Hydraulic Conductivity

As the hydraulic conductivity is increases by 5% to 25%, the discharge for 100-year rainfall reduces by 0.98 % to 6.48% whereas for the 5-year rainfall the discharge reduces by 1.77 to 7.77%. Generally, the runoff contribution is more from the impervious area for less intense rainfalls. However, in this case the upstream portion of the catchment is with only 12.74% impervious area and remaining 87.26% is pervious area. So, the change in hydraulic conductivity influences on even 5-yr return runoff considerably and hence the decreasing trend in the above picture. *The variation in trends for both parameters are in line with the standard trends expected indicating good parameterization of the hydrological model.*

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7.2.3 Comparison of discharges at Gola Barrage, Kathgodam from different methods

The table below summarizes the different return period discharges arrived at using the Log Normal, GEVT-1 and LPT-III against modelled discharges for respective return period based on hydrological and hydraulic modelling. The location considered is Gola Barrage.

Table 7-2 Comparison of Discharge at Gola Barrage, Kathgodam from different methodologies

SL #	Rainfall Frequency	Log Normal	LPT - III	GEVT - I	Modelled Discharge Values
1	5 Year	1541	1535	1756	1184
2	10 Year	2080	2094	2281	1783
3	25 Year	2863	2931	2944	2881
4	50 Year	3520	3650	3435	3686
5	100 Year	4238	4457	3924	4475

Note: All the values are in cumecs.

The same has been represented in graphical format below.

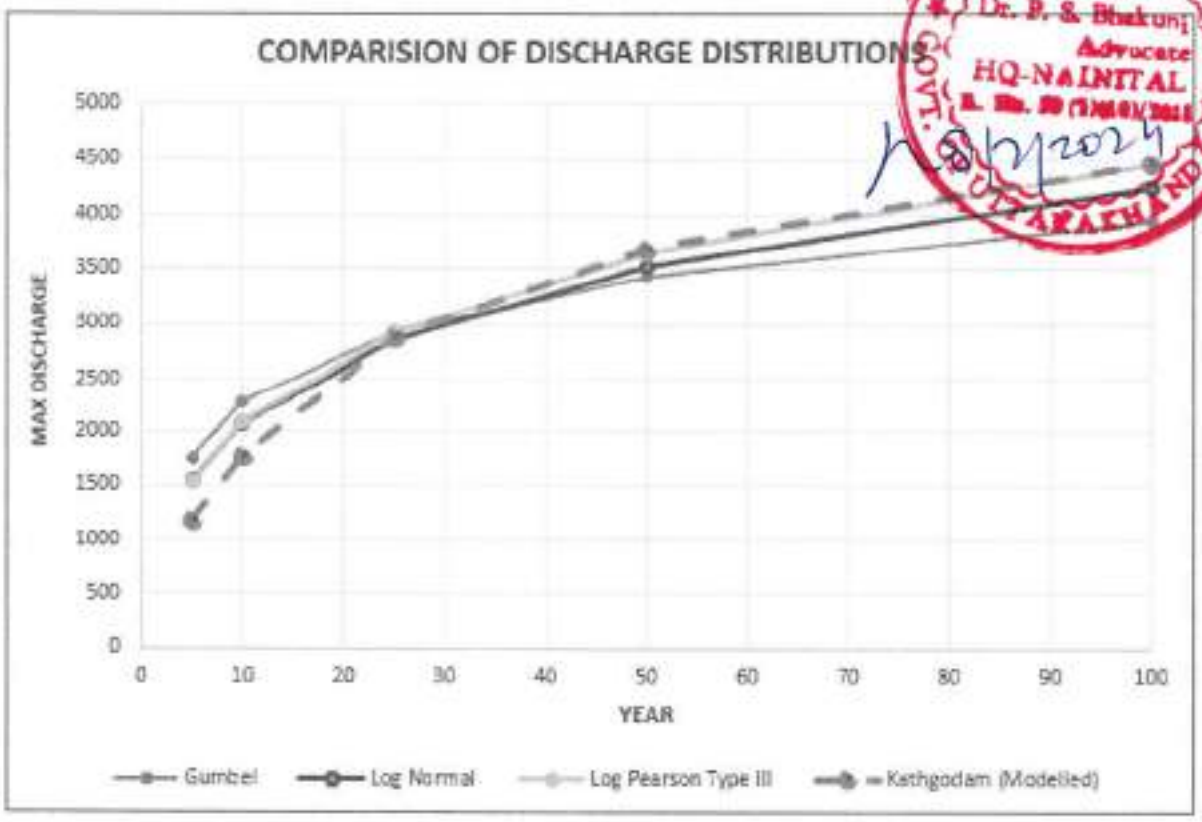


Figure 7-4 Discharge based on distribution methods for different return period

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The above Figure 7.4, shows the comparison of the discharges calculated based on the distribution methods and the calibrated model discharge values for the 5-year, 10-year, 25-year, 50-year and 100-year periods. In case of Gumbel distribution, the discharge value is correlating with calibrated modelled discharge values for only 25-year return period. It can be seen from the results that; the calibrated model discharge values are correlating with Log-Pearson Type III and Log Normal distribution methods. The Anderson-Darling goodness of fit test also shows 99% probability for these two distributions and hence it can be concluded that the discharge values modelled and calibrated for different returns periods are in the correct confidence interval.

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8 Chapter - Hydraulic Flood Modeling

8.1 1-D Numerical Hydraulic/ Flood Model

The 1-D Numerical Hydraulic/Flood Model is a computational tool used to simulate and predict the behavior of water flow in rivers, channels, and floodplains. It is specifically designed to analyze the one-dimensional (1-D) movement of water, considering factors such as flow velocities, water levels, and the interaction between water and structures. The model aims to simulate and predict the hydraulic behavior of water during flood events. It helps in understanding the extent and severity of flooding, identifying flood-prone areas, and assessing the effectiveness of flood management measures.S

Flood inundation mapping is carried out for visualizing and assessing areas that are likely to be affected by flooding. By providing visual representations of potential flood extents, it aids in informed decision-making, emergency preparedness, and mitigation efforts to reduce the impact of flooding on communities and infrastructure. It involves creating maps that illustrate the extent of potential flooding under different scenarios, such as different flood magnitudes or rainfall intensities. Based on the rainfall intensities (referring to above section) and resulting floods assessed by different scenarios say 5 years, 25 years, 50 years, and 100 years return period for the Gola River.

To identify the flood prone areas of the Gola River, hydraulic modeling software viz. HEC-RAS (Hydrologic Engineering Center's River Analysis System) used to simulate for the different return periods. The model needs several key data inputs viz. are listed below

- Topographic information (elevation, channel geometry, and cross-sections),
- rainfall data, and boundary conditions (such as inflow and outflow rates).
- Other inputs may include the roughness coefficients representing channel roughness.
- Hydraulic structures across the river (bridges or barrages and Flood retaining walls)

All the above key components are used to build the Gola River for the 80.3 Km stretch with 50m interval cross-sections and the terrain is generated from the topographical survey discussed in detail below.

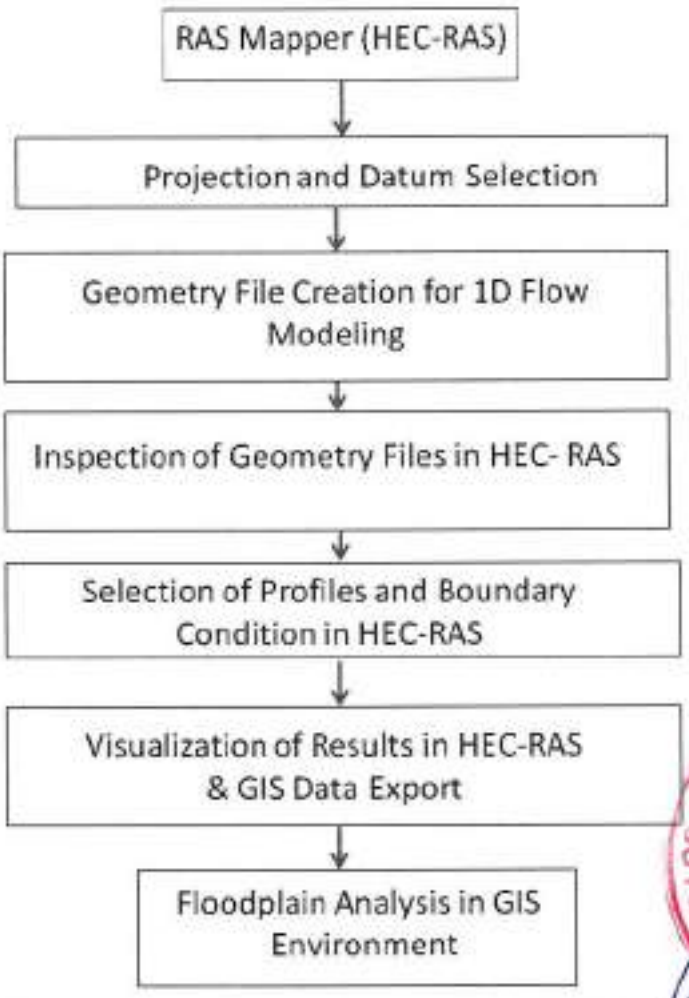
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9 Chapter- Flood Analysis using HEC-RAS

9.1 HEC-RAS Model Development

To initiate flood plain modelling and analysis, projection and definition of river geometry are crucial. The HEC-RAS model for the Gola River developed by defining the terrain, river reaches, cross-sections, and hydraulic structures such as bridges, culverts, and weirs and also boundary conditions, such as inflows and outflows.

HEC-RAS uses a number of input parameters such as terrain, channel geometry and water flow for hydraulic analysis. The flow chart *Figure 9-1* below summarises the overall flood modelling procedure in HEC-RAS model.



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Figure 9-1 HEC-RAS flow chart for floodplain mapping at 5-, 25-, 50- and 100-year return period floods.

9.1.1 Geometry Terrain

In the RAS tab of HEC-RAS, defining the projection and datum (UTM Zone 44 N, WGS 84), the River geometry has been created using survey data such as Digital Elevation Model (DEM) of drone survey, elevation outputs of total stations and DGPS. The primary input terrain generated by combining the survey data (Total Station, DGPS and Drone Data), a new terrain is created by using RAS Mapper in the HEC-RAS to represent the Gola River channel, its left/right banks including the barrages, bridges and finally flood retaining walls.

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9.1.2 Summary of Surveying & Terrain Data Gola River

Gola river has a total length of 80.3KM and a total catchment area of 908.22 KM^2. Initially, Gola flows through hilly regions for about 53km. Hence, for few areas inaccessible to the drone in this stretch total station survey has been carried out. From the downstream of Gola Barrage, drone survey is carried out. Few stretches as mentioned in the table below, are the areas under military command and thus drone survey was not allowed. Hence, total station survey was carried out in these stretches as well.

The Table 9-1 below summarises the different topographic survey data generated and used for Gola River. Details Given in Annexure 5.

Table 9-1 Survey details of Gola River

River Chainage	Type of Survey
80682-75730	Total Station Survey
75680-58425	Drone Surveying
58375-57075	Total Station Survey
57025-53074	Drone Surveying
53024-49573	Total Station Survey
49523-0	Drone Surveying

9.1.3 Defining Geometry Data

In HEC-RAS, defining geometry data involves providing the necessary information about the river channel, cross-sections, and other hydraulic structures to accurately model the flow of water. Here are the key aspects of defining geometry data in HEC-RAS:

River Reach defined to represent a specific portion of the river system under the study. The Gola River has a total length of 80.3KM which is drawn at centrally.

Bank Stations are digitized to represent the location along the river reach where the channel banks transition from natural to engineered or modified features. Bank stations help in accurately representing changes in channel geometry.

The Cross-Sections are drawn perpendicularly to the river reach at every 50m interval throughout the chainage of Gola River. They include information such as stationing (distance from a reference point), elevation, channel width, and side slope angles.

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In each cross-section, the locations of the stream banks are identified and used to divide into segments of left floodway, main channel, and right floodway. At each cross-section, HEC-RAS uses several input parameters to describe shape, elevation, and relative location along the stream such as:

- River station (cross-section) number.
- Lateral and elevation coordinates for each (dry, unflooded) terrain point.
- Left and right bank station locations.
- Reach lengths between the left floodway, stream centreline, and right floodway of adjacent cross-sections.
- Geometric description of any hydraulic structures, such as bridges, culverts, and weirs.
- Manning's roughness coefficients.
- Channel contraction and expansion coefficients.

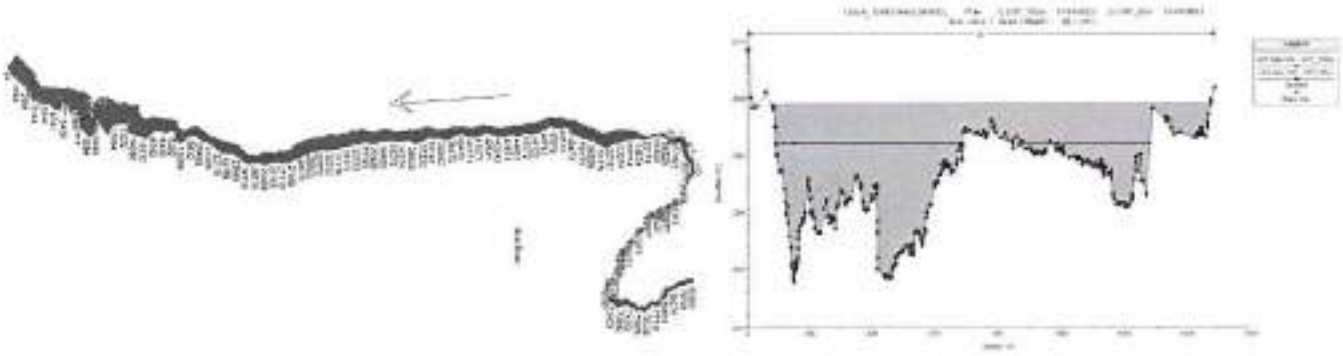


Figure 9-2 Gola River geometry with cross section

Hydraulic Structures: Define the hydraulic structures in the river system, such as bridges, culverts, weirs, and flood control structures are included in the model. The data of all existing bridges and barrages i.e., elevations of the top and bottom of the deck slab elevation of the left and right abutments and the number of piers is entered with respect to the adjacent cross sections.

The following image shows the cross-sectional view of a bridge included in a model.

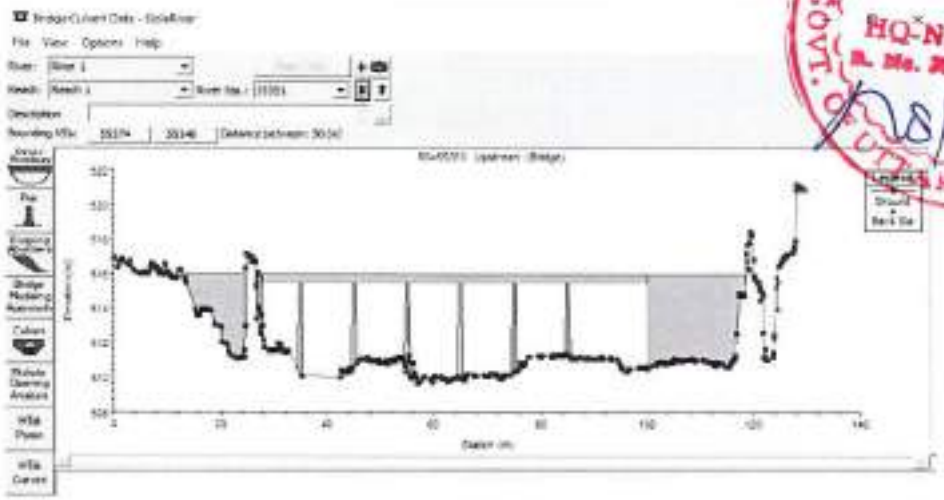


Figure 9-3 Cross sectional view of a bridge

HEC-RAS computes the following energy losses caused by bridges and culverts:

1. The losses that occur in the reach immediately upstream of the structure where the flow is contracting to get through the opening.
2. The losses at the structure itself.
3. Losses that occur in the reach immediately downstream from the structure where an expansion of flow takes place.

9.1.4 Manning's Values (n)

Manning's N values for built-up areas, forest, river bed, scrub and arable land on a transverse cross-section has been taken from Chow (1959) and Syme (2008). The manning's coefficient for the cross-section wise is used as the model inputs as tabulated above

9.1.5 Discharges Output from H & H Model

The peak discharge and discharge vs time at different locations of Gola River for different return period rainfalls estimated by Hydrological model is further used in the HEC-RAS model. Initially the model is simulated for steady state condition and also simulated for the unsteady condition using hydrograph from the calibrated validated PCSWMM model.

Table 9-2 Discharge (Cumec) at different return periods considered at flow change locations in HEC-RAS Steady Flow modelling.

Sl. No.	Location	Catchment Area of Drain (Km^2)	Cumulative Catchment Area of Drain (Km^2)	Max. Discharge in (Cumec) for Different Rainfall Frequencies				
				5 Year	10 Year	25 Year	50 Year	100 Year
1	Gola River Starting Point	136.66	136.66	459	703	1088	1344	1641
2	Bhoriya	237.27	373.93	767	1260	2089	2683	3268
3	Murkariya	53.90	427.84	808	1317	2183	2803	3425
4	Jamrani Dam Site	26.52	454.36	847	1349	2231	2869	3497
5	Amiya	26.80	481.15	870	1394	2306	2970	3624
6	D/S To Confluence by Bhimtal Gadera	34.82	515.98	968	1521	2498	3211	3912
7	Ranibagh Bridge	83.82	599.80	1176	1769	2859	3656	4437
8	Gola Barrage	6.37	606.17	1184	1783	2881	3686	4475
9	Haldwani Bye Pass Road Bridge	21.57	627.74	1207	1827	2942	3765	4571
10	Halduchaur	24.69	652.43	1237	1878	3031	3852	4685
11	Bindukhatta	24.42	676.85	1243	1904	3057	3882	4721
12	Kichha Barrage	179.27	856.12	1375	2126	3425	4303	5220
13	Gola River @Up Border	52.11	908.23	1381	2147	3453	4370	5367

Above inputs defined at the flow changing location in the HEC-RAS model. The modelled flood depth and inundated areas at different return periods have been further analysed in GIS environment for floodplain demarcation. At

each cross-section, HEC RAS computes the flood level (above mean sea level) and also generates points for 5-, 25-, 50- and 100-year return period (shown in Figure 9-4 – 9-12). On the longitudinal profile, HEC RAS also computes flood depth (above mean sea level) at the different return periods (Figure 19).

9.1.6 RAS Geometry Used in HEC RAS 1D Flow Modelling and Floodplain Zoning

In 1D river hydraulic modelling, all water flows are assumed to flow in a longitudinal direction. One-dimensional models represent the terrain as a sequence of cross-sections and simulate the flow in order to provide estimates of flow parameters such as flow velocity, water depth, and water surface elevation.

For the previously entered Geometric data, a sum of 1483 cross-sections at 50 m intervals were drawn for 1D flow modelling. As a primary step, steady flow data at the selected cross sections is entered for different return periods and the steady flow analysis is performed. For the obtained steady flow data, Unsteady Flow Analysis is carried out for the corresponding return periods. The boundary conditions at the upstream cross-sections have been defined using the Flow Hydrograph. The Uniform Hydrograph and Lateral Inflow Hydrograph data for corresponding chainage ranges are entered at definite time intervals. As mentioned earlier, the obtained results of both Steady and Unsteady Analysis provide the estimates of flow parameters such as flow velocity, water depth water surface elevation and extent of flood for different return periods.

The given change in flow rate at different cross-sections evaluated by using rating curves at different return periods to know the water surface elevation (stage) and the corresponding flow rate (discharge) in a river or channel. Each data point in graph represents a known stage and its corresponding discharge. Figure 9-4 to Figure 9-7 shows the rating curve generated from the HEC-RAS at different return periods. The modelled flood depth and inundated areas at different return periods have been further analysed in GIS environment for floodplain demarcation. At each cross-section, HEC RAS computes the flood level (above mean sea level) for different return periods (Say 5yr, 10yr, 25yr, 50yr and 100 year) shown in Figure 9-9 to Figure 9-12.

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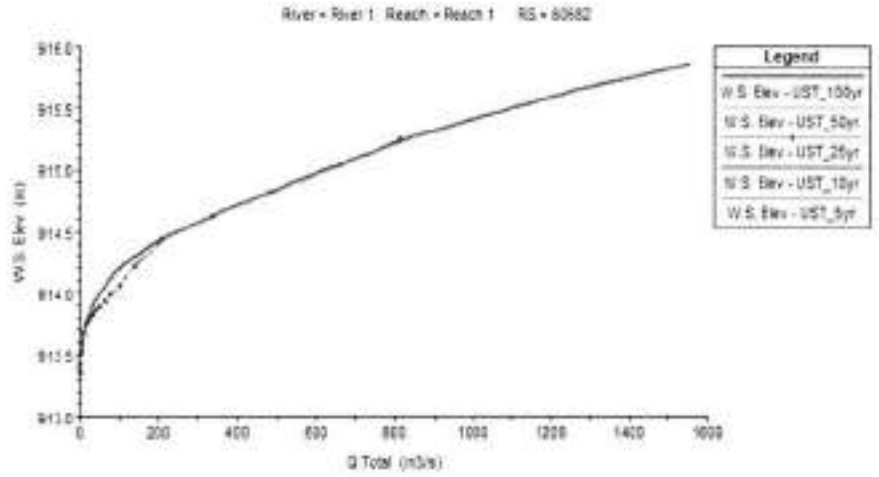


Figure 9-4 Rating Curve at Gola Starting Point

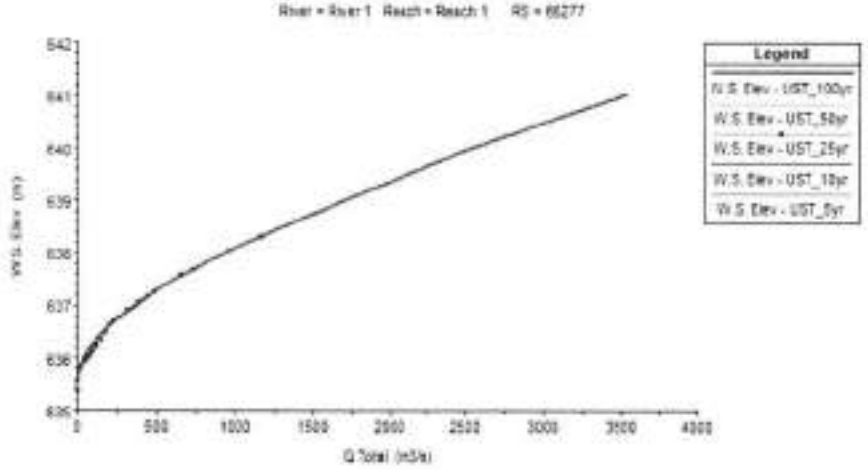


Figure 9-5 Rating Curve at Jamrani Dam Site

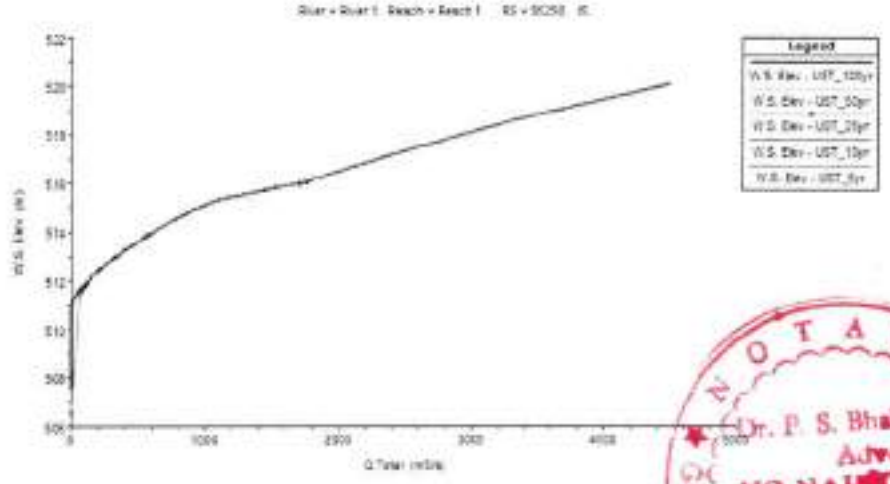


Figure 9-6 Rating Curve at Gola Barrage

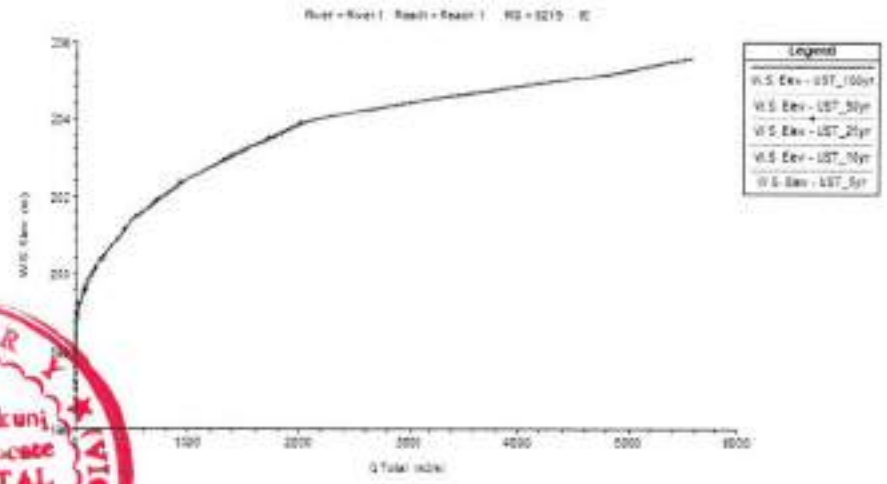


Figure 9-7 Rating Curve at Kichha Barrage

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Figure 9-8 Rating Curve at a certain cross section of a river at different return periods

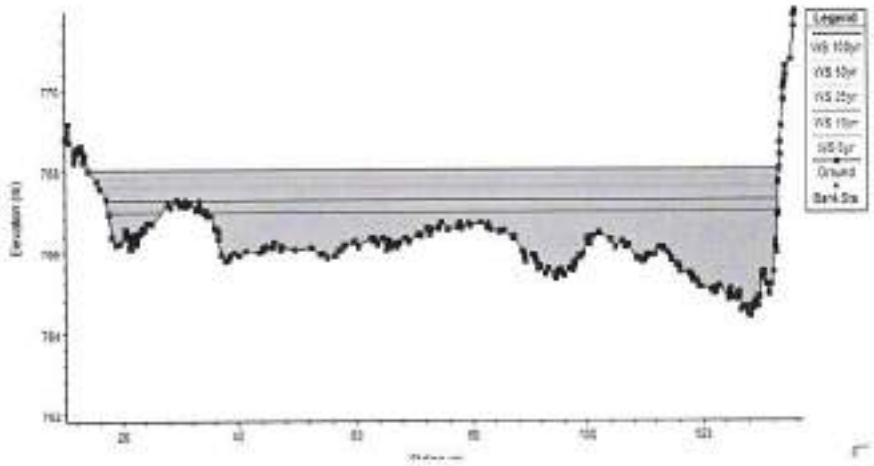


Figure 9-9 WSE at Gola Starting Point

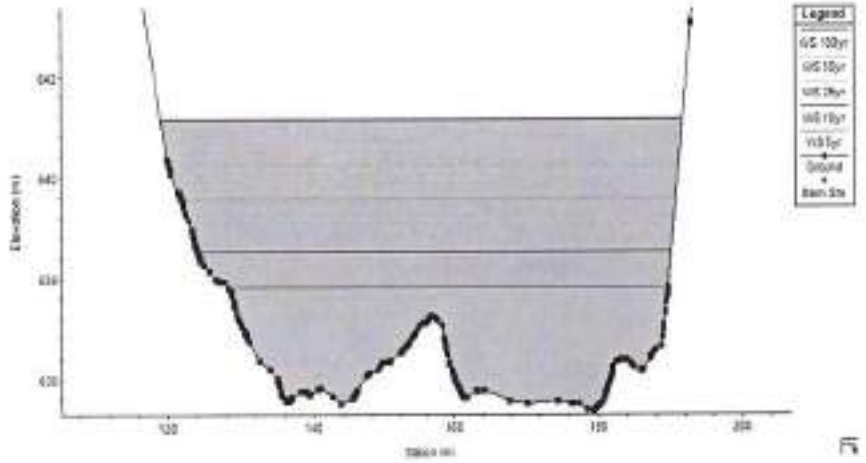


Figure 9-10 WSE at Jamrani Dam Site

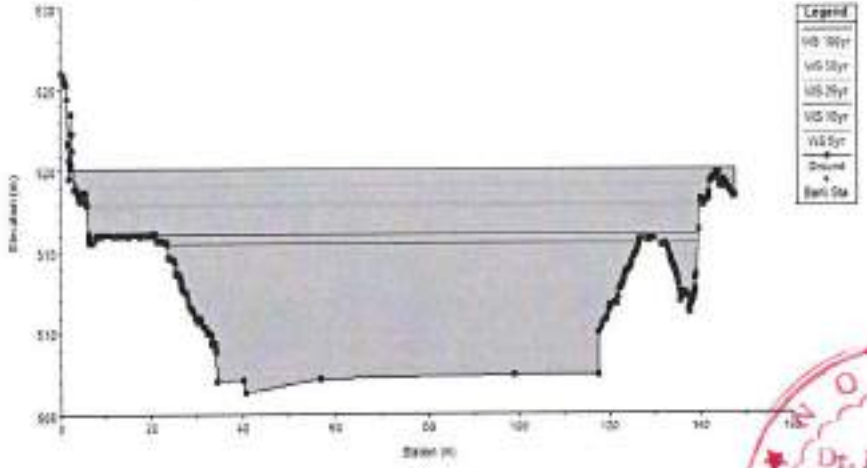


Figure 9-11 WSE at U/S of Gola Barrage

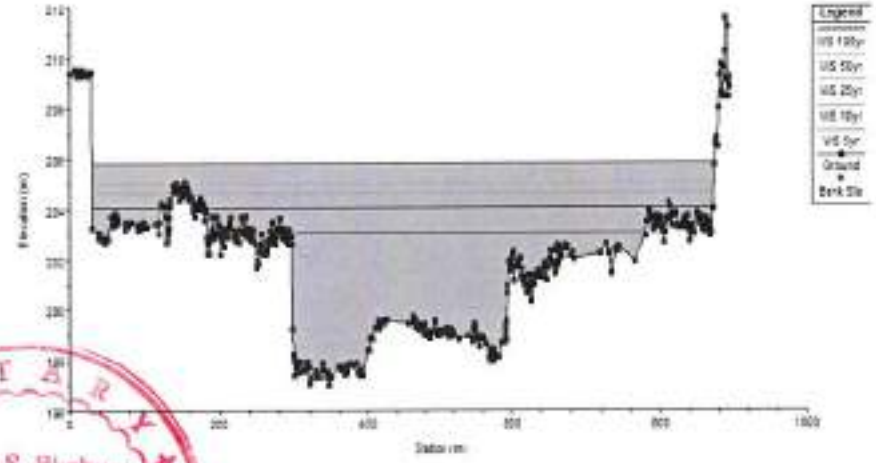


Figure 9-12 WSE at Kichha Barrage

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The longitudinal profile of the Gola River with different return period are graphically represented by chainage wise along the course from its source to its mouth. As stated in the section 1.7, Gola River with average gradient till Kathgodam is 14m/km and 200-500 m width, and thereafter the river gradient changes to 300-600m width with flat surface spreading the floods to the left and right bank. Due to uncertain events the river changing its course downstream to Kathgodam till Kichha barrage (Spatio-temporal observations and recent 2021 flood). The profile gradient also varies due to un-scientific sand mining within the river bed.

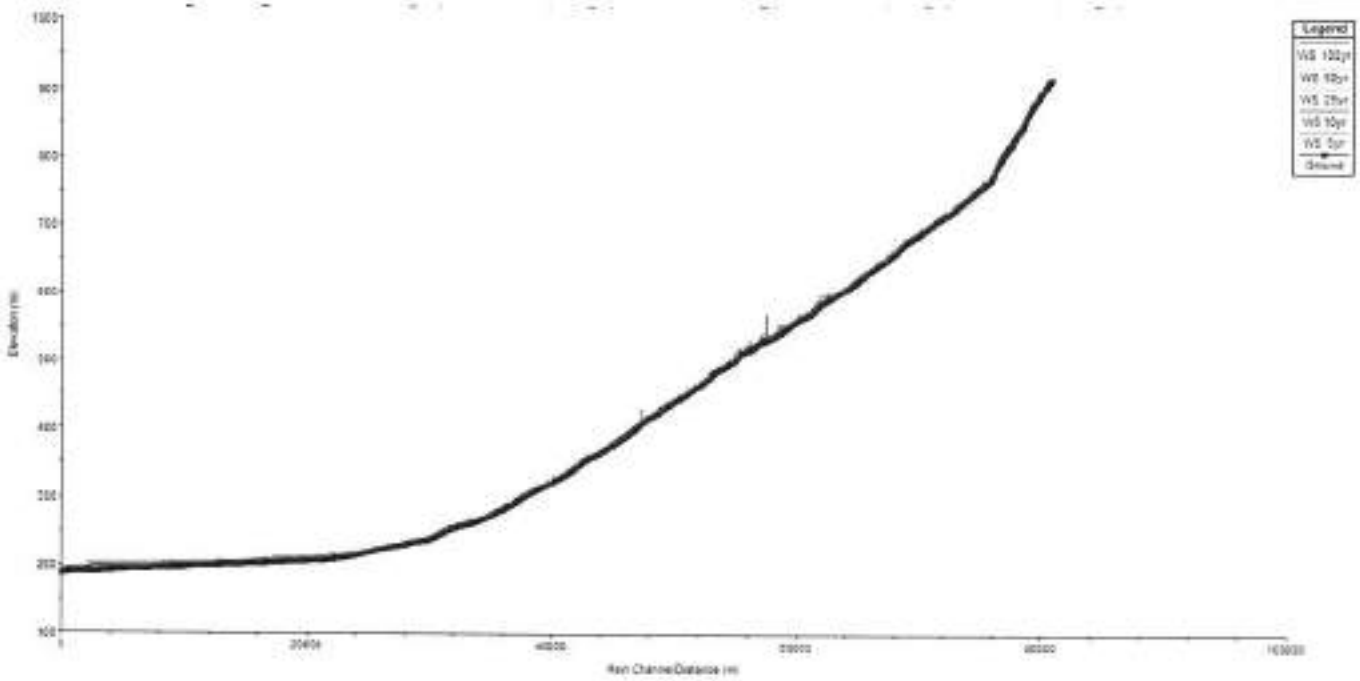


Figure 9-13 longitudinal profile of the Gola River for 5-, 10-, 25-, 50- and 100-year return period flood

10 Chapter Flood Modelling Results

10.1 1-D Flood Model

After the completion of rainfall analysis, watershed delineation, characterization of catchment area and natural streams, Hydrological – Hydraulic (rainfall-runoff) modelling. Hydrological and hydraulic parameters such as individual sub catchment runoff, upstream catchment area run off, velocity, discharge and water depth in channels at various locations of interest are arrived at. Considering the obtained parameters, the Flood assessment of Gola River is carried out. The Flood parameters including Flood water depth, velocity and water surface elevations of different return periods (Say 25-, 50- and 100 years) are obtained.

Our analysis involves the identification of flood extents for different return periods utilizing hydraulic modeling. Given the dynamic and meandering characteristics of the river and the alluvial soils, which are prone to sudden changes in course, we have incorporated insights from the engineers of Irrigation Research Institute. This collaborative effort has enabled us to extend the flood extents to align with those observed historically. By integrating the expertise of both the research institute field engineers and hydrodynamic model, we aim to enhance the accuracy and reliability of our estimated flood extents, taking into account the ever-changing nature of the river's behavior. Furthermore, based on client suggestions, an effort has been made to cover the entire existing river bed with flood extent for all return frequencies. This comprehensive approach not only acknowledges the inherent complexities of river dynamics but also ensures that our flood extent projections are robust and reflective of real-world conditions, ultimately contributing to more effective flood management strategies.

Note:

As mentioned earlier, 1-D flood modelling is carried out in HEC-RAS model using overland runoff as input for sub-catchments that are draining directly into the river and for the sub-catchments draining water into the river through secondary and tertiary streams, to total inflow in those streams just before the confluence is considered for modelling. In HEC-RAS modelling, river cross sections have been considered for the actual surveyed data.

10.2 Result Analysis and Response

As mentioned above, the flood extents and flood parameters are generated for 25, and 100-year return period through 1-D flood modelling in HEC-RAS.

To validate and finalise model results, inputs are taken from various sources listed below:

1. Topographical data of the river from drone survey outputs and total station elevation data.
2. Observations from field validation
3. Comparison with river extents depicted in old Sajra maps
4. Comparison with spatial temporal satellite images from open-source Google Earth

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Field observation yields data such as wall breaches and specific local conditions that are difficult to spot in images. Old Sajra maps containing historic river courses, and spatial temporal satellite images allow the study of changing river paths which is a common phenomenon in the alluvial plains. Inputs from these sources facilitate the finalization of flood plain and extents on the basis of both historic and real-time data. As the river flows through alluvial plains, its courses are affected by various factors. The flood modelling results are presented in the following section.

10.3 Results & Findings

The river Gola from its concerned location of its originating portion (the western lower Himalayan region from Bhidapani valley) till the Uttar Pradesh state border with a length of 80.3 km discussed based on different return periods, historical events from the field observations. The locations of the flood inundation along the right and left bank for the 25-, 50- and 100yr are tabulated for the below 13 known locations shown in Figure 10-1 Location Identification of Gola RiverFigure 10-1.

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Figure 10-1 Location Identification of Gola River

It is known and stated in the Section 1.7 that, the river water way varies from 100-200 m upstream to 300 – 600 m downstream. Hence, the effect of different return period and flood depth variation and the minimum water way required at the sensitive locations are analysed and presented in the section below. The Gola River at the known location with respect to the different return periods (peak discharge) and the water surface elevation (WSE) observed is presented in the below Table 10-1. It shows that, the Gola barrage under these different return periods receives more than the danger level marked by CWC (https://ffs.india-water.gov.in). Specifically, field validation supports the model results with Gola barrage received and overflows during past.

Table 10-1 Location/ cross-section wise flood level (m) above mean sea level at different return periods

Sl. No.	Location	25-yr	50-yr	100-yr
1	Gola River Starting Point	915.48	915.68	915.85
2	Bhoriya	761.95	762.25	762.52
3	Murkariya	723.32	723.71	723.95
4	Jamrani Dam Site	638.67	639.35	640.24
5	Amiya	585.31	586.07	586.77
6	D/S To Confluence by Bhimtal Gadera	554.84	555.7	556.5
7	Ranibagh Bridge	535.99	537.12	538.11
8	Gola Barrage	517.89	519.06	520.04
9	Haldwani Bye Pass Road Bridge	412.19	412.56	412.88
10	Halduchaur	268.89	269.26	269.85
11	Bindukhatta	232.15	232.39	232.61
12	Kichha Barrage	204.62	204.96	205.76
13	Gola River @UP Border	196.35	196.94	197.34

10.4 SENSTIVITY WATERWAY

As stated in the above section, identifying the Gola River waterway is crucial for any protection and development works. As shown in Figure 10-2, the Gola River during the recent flood in the year 2021 washed away the approximately 9 acres of land along the right banks. Understanding the river geomorphology in the alluvial terrain, change of river course is common. Hence, the estimated discharge for different return periods for each flow change location considered and calculated to identify the water way width with Lacey's water way. This helps to identify the location at more concerned for any development along the right and left banks of the Gola River.

Ideally, the minimum waterways help to protect and avoids land use and other the development activities. As per the decadal changes and observation of the Gola River, changed drastically, shifting course. In such cases, the Lacey's regime width implementation is crucial. As the per theory, the Laceys's regime width in boulder reach of the river, the practice of providing waterway varies a great deal. The waterway ranging from 0.25 to 0.9 time Lacey's Waterway shall be provided depending upon the topography prevailing at site. For present study, the areas where the natural waterway is less than 0.65 times the Lacey's Waterway has been considered as sensitive. (Source: Theory and Design of Irrigation Structures by Dr. Varshney). Table 10-2 shows the Lacey's Waterway (m) at 25- and 100year Return flood considered at flow change location.

10.4.1 Lacey's Regime

Lacey's Regime for waterway width design is a widely accepted approach for determining the width of an open channel, river, or stream to maintain a stable flow and prevent excessive erosion. The regime provides a comprehensive methodology to strike a balance between water flow capacity and the natural stability of the waterway.

Lacey's Regime is primarily based on two significant parameters: the discharge (Q) and the mean flow velocity (V) of the water. The discharge represents the volume of water passing through a cross-section of the waterway per unit of time, typically measured in cubic meters per second (m^3/s). The mean flow velocity represents the average speed at which the water flows through the channel, usually measured in meters per second (m/s).

The formula for calculating the minimum waterway width (B) using Lacey's Regime is as follows:

$$B = K * \sqrt{\left(\frac{Q}{V}\right)}$$

where:

B = Minimum waterway width (in meters)

K = Empirical constant that depends on the channel characteristics and flow conditions (typically ranging from 1.5 to 3.0)

Table 10-2 Lacey's Waterway (m) at 25- and 100year Return flood considered at flow change location

Sl. No.	Location	Q25 (m^3/s)	Lacey's regime width	Minimum Waterway	Q100 (m^3/s)	Lacey's regime width	Minimum Waterway
1	Gola River Starting Point	1089	156.75	101.89	1581	188.87	122.76
2	Bhoriya	2089	217.10	141.12	3268	271.54	176.50
3	Murkariya	2183	221.93	144.26	3425	277.99	180.69
4	Jamrani Dam Site	2231	224.36	145.83	3497	280.89	182.58
5	Amiya	2306	228.10	148.26	3624	285.95	185.87
6	D/S To Confluence by Bhimtal Gadera	2498	237.40	154.31	3912	297.09	193.11
7	Ranibagh Bridge	2859	253.98	165.09	4437	316.40	205.66
8	Gola Barrage	2881	254.96	165.72	4475	317.75	206.54
9	Haldwani Bye Pass Road Bridge	2942	257.64	167.47	4571	321.14	208.74
10	Halduchaur	3031	261.51	169.98	4685	325.12	211.33
11	Bindukhatta	3057	262.63	170.71	4721	326.37	212.14
12	Kichha Barrage	3425	277.99	180.69	5220	343.19	223.07
13	Gola River @Up Border	3453	279.12	181.43	5367	347.98	226.19

10.5 Critical Sections

Some of the critical sections where the flow velocity was found to exceed 3.5 m/s are tabulated below.

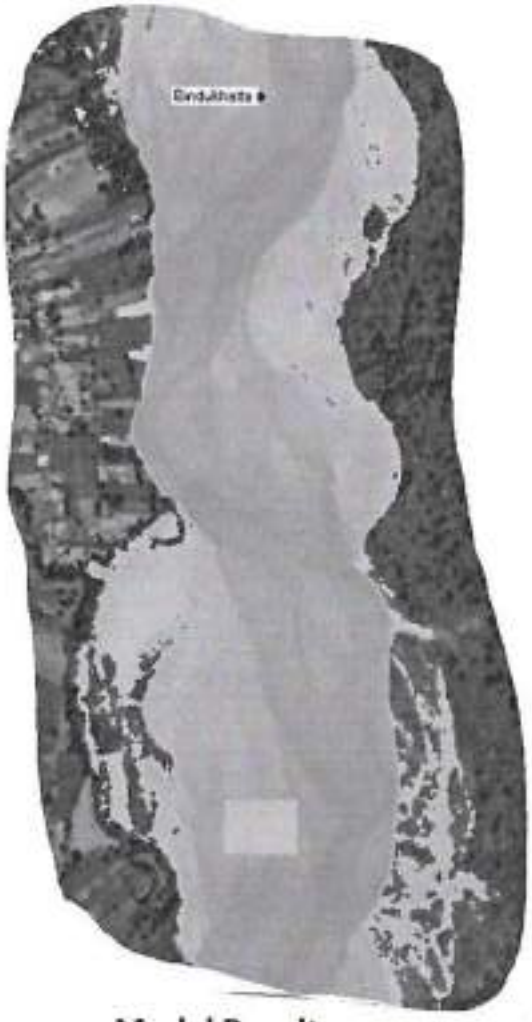
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Table 10-3 Gola River Critical Points for 100 Year Return Flood

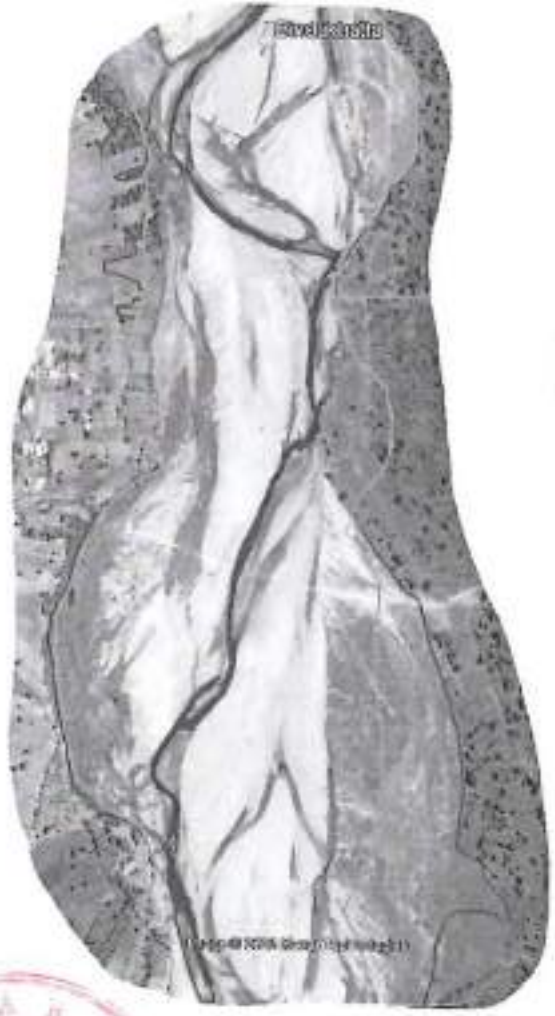
S. No.	River Station	Channel Velocity (m/s)	Froude Number
1	80682	14.48	2.44
2	80653	14.24	2.25
3	80629	14.19	2.08
4	80524	14.05	2.48
5	80514	13.19	2.11
6	80482	13.06	1.87
7	80451	12.94	2.11
8	80432	12.92	2.08
9	80407	12.58	1.74
10	80382	12.57	2.32
11	80358	12.29	1.83
12	80332	12.23	1.78
13	80309	12.21	1.73
14	80282	12.18	1.97
15	80259	11.89	1.95
16	80232	11.24	1.75
17	80207	11.1	1.67
18	80181	11.08	2.12
19	80145	11.08	2.14
20	80110	11.06	1.53
21	80077	11.02	2.2
22	80043	10.73	1.36
23	80000	10.71	1.84
24	79970	10.71	1.54
25	79931	10.71	1.73



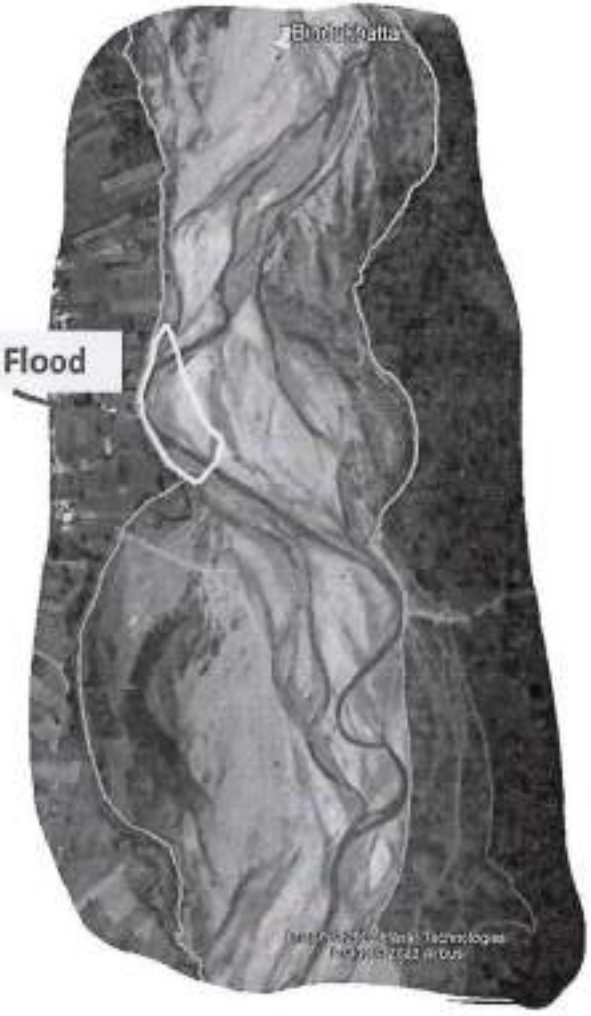
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Model Results



Satellite Imagery in 2011 year



Satellite Imagery in 2022 year with Flood Extents

Figure 10.2 Change of Gola River course during recent flood

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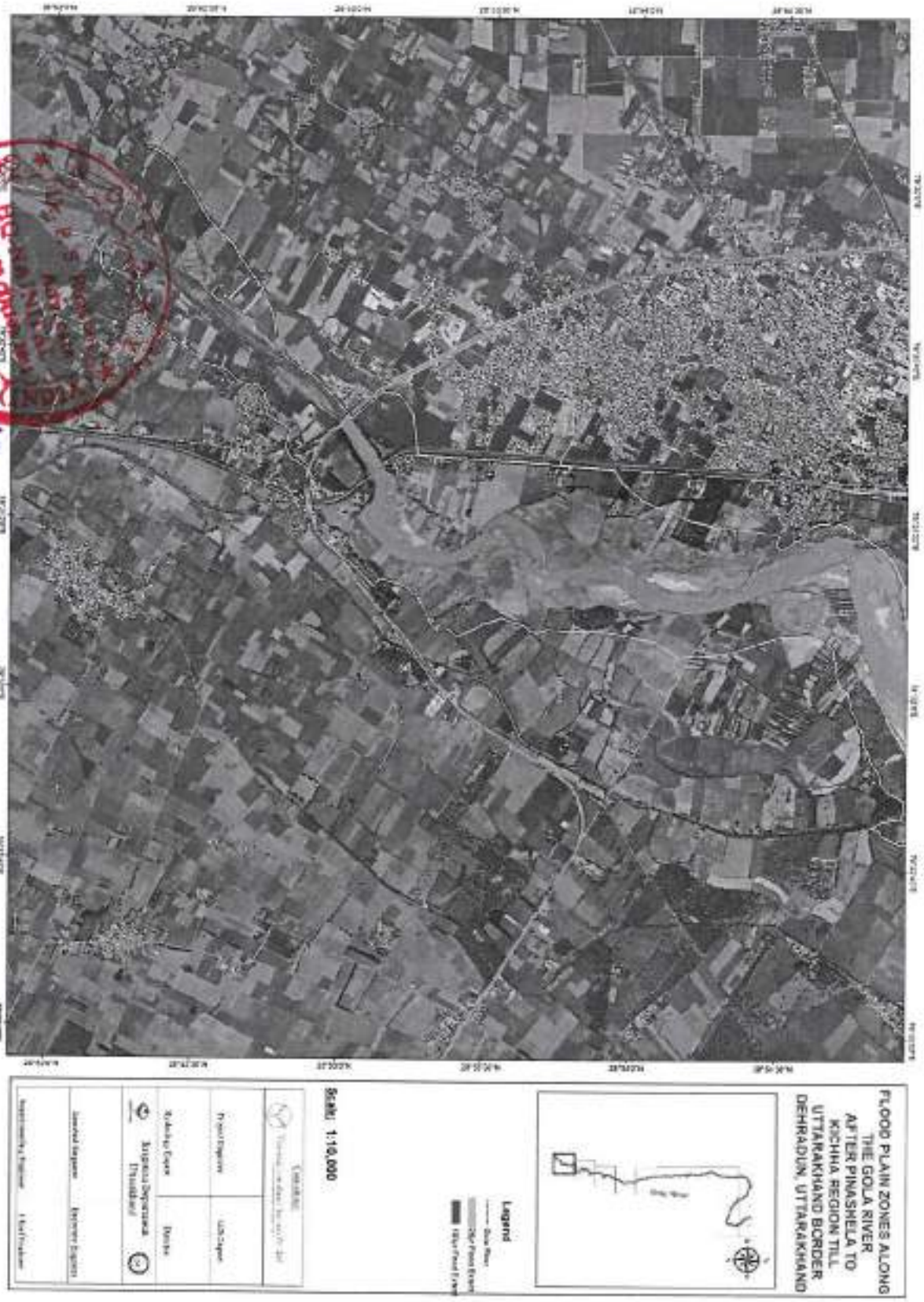
10.6 Flood Severity

The Gola River, has experienced severe flood events in the past. The Gola River is primarily influenced by the monsoon rains that occur between June and September. The severity of the floods in the Gola River varies depending on factors such as rainfall intensity, duration, and the river's waterways to handle the excess water. It's important to note that specific details regarding the severity and impacts of floods along the Gola River may vary from one event to another. Hence it is recommended in this report sufficiently to allow the river waterways including the changing course aspect. Table 10-4 shows the Flood Severity in Gola River and mean flood depth above MSL.

Table 10-4 Flood Severity in Gola River and mean flood depth above MSL.

Return Period	Total Flooded Area (km2)	Mean Flood Depth (m)
25yr	10.5	5.80
100yr	12.0	7.30

As per the NGT guidelines the Gola River with severity of flood and inundation extents shown in below *Figure 10-3*



25yr and 100 yr Extents of Gola River upstream of in the Kichha Region

10.7 Field Observation & Recommendations

The following are the observations discussed upon validating model results with current and historic field data:

- Origin of Gola River to Murkariya: The river follows its course, however land parcels on the left and right of the river are plain areas and are susceptible to both flooding and landslides. Thus, development is not advised in these areas.
- Downstream of Murkariya: In this region, few land parcels on the left and right bank will be inundated in the 100-year flood. These areas include Haidakhan Ashram and few temples.
- Jamrani Dam Site: In this region, gabion protection structures on right bank are observed to be eroded. The river tends to follow paleochannels, thus, the river spreads and land parcels on right bank are submerged both in 25- and 100-year floods. (*Figure 10-4*)
- Amiya: In this region, the river starts to meander. Scouring is observed near Amritpur. Hence, it is advised to undertake protection measures, maintenance and ensure no land development takes place. (*Figure 10-4*)
- Ranibagh Bridge: Downstream to the Ranibagh Bridge, a part of Indiranagar is vulnerable to floods. Thus, no further development is advised in this region. (*Figure 10-5*)





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Figure 10-4 Gabion Structure Eroded near Jamrani Dam Site (LHS), Scouring of protection structures near Amiya (RHS)



Figure 10-5 Properties located adjacent to river bed at Indiranagar, Downstream of Ranibagh Bridge, vulnerable to floods (LHS), Protection Wall of maximum height 1m that easily gets breached during 100-year flood

- Gola Barrage: The Gola Barrage overflows for both 25year and 100-year floods. The park located downstream of the barrage on the right bank completely submerges. Small settlements downstream of Kathgodam bridge will also submerge in the 100-year flood. Further downstream, there are two railway tracks on the right bank which are affected by both 25- and 100-year floods and thus need to be protected. Following this, the river extents have been extended to high banks due to presence of old spurs suggesting frequent changes in river course in the past. On the right bank, opposite to Indira Gandhi International Cricket Ground, the 100-year flood submerges some parts of Kidwani and Haldwani. Thus, protection structures need to be provided here. (*Figure 10-6, Figure 10-7, Figure 10-8*)

- Haldwani Bye-Pass Bridge: The river follows its course in this region. However, old spurs are located on the left bank and thus no developmental activity should be taken up in this area between current river bed and old spurs. Downstream of this bridge, the river extents widen during the 100-year flood.

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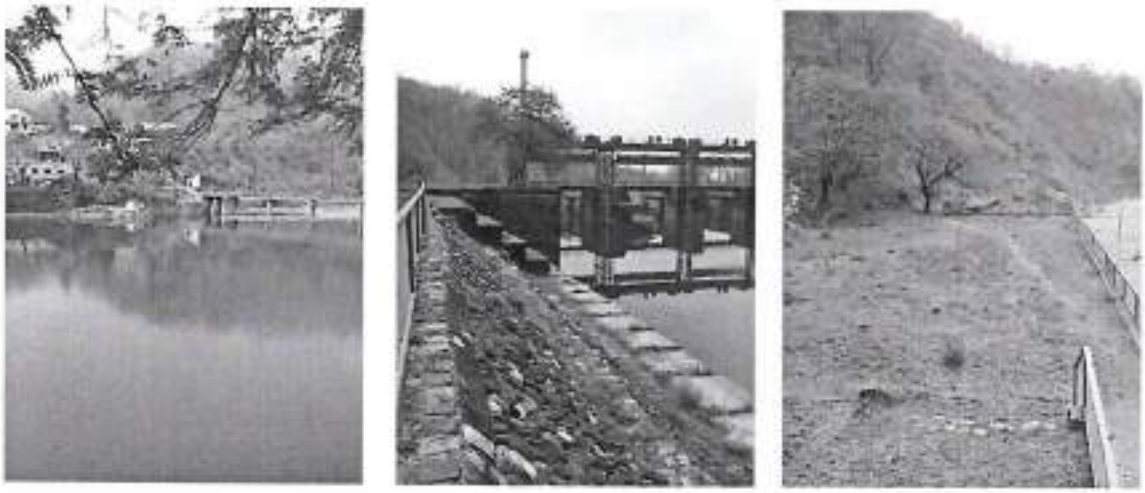


Figure 10-6 Gola Barrage, the river will rise to overflow the gates in both 25- and 100-year floods, thus inundating surrounding park and temples located in plain land.



Figure 10-7 Downstream of Kathgodam Bridge, Eroded and Scoured Protection Structures, Scoured embankment of Railway track

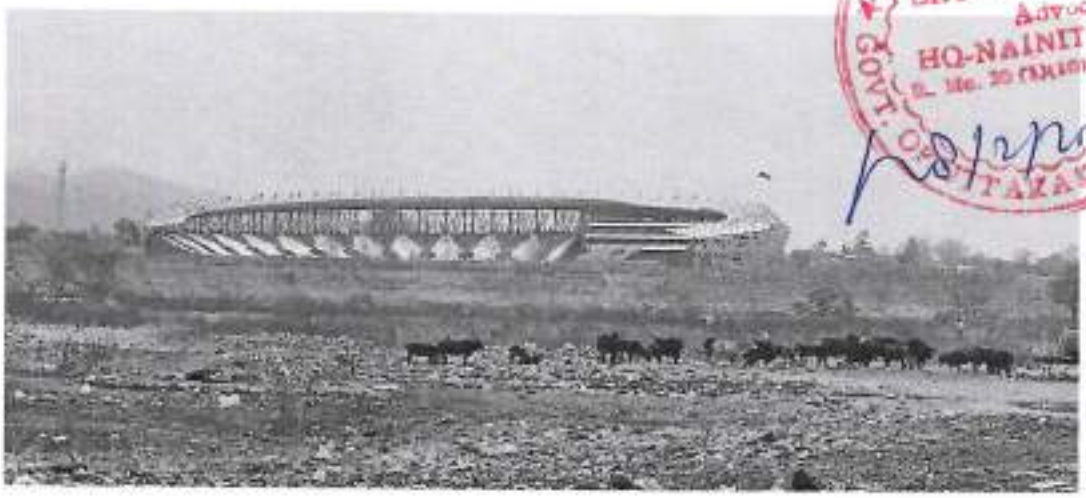


Figure 10-8 Plain River Bed opposite to Indira Gandhi International Cricket Stadium

1. Halduchaur and Bindukhatta: From this point onwards, the river changes course regularly and thus inundates its banks. In the 19th October 2021 floods, about 9 acres of agricultural land was inundated due

to the river changing its course. Open areas downstream of Bindukhatta on right bank will face inundation during the 100-year flood while the left bank is protected by spurs. However, further downstream of Bindukhatta, nearing the Kichha Barrage Shri lanka Tapu and Shantipuri areas will be flooded as the river follows its paleochannels and widens during 100-year flood.

2. The river has changed course in the 2018 and 2021 floods and flows with a width extending beyond the width of the Kichha barrage. The river meanders further downstream and will inundate areas of Rajpura, Pantpura, Gangoli, and Bandia on the right bank and Bakhpur, Chachar and Dhadha on the Left Bank upstream and downstream of the barrage until Gola end Point Figure 10-2.

3. Gola End Point: Near the Gola River Railway Bridge, the extents of the river widens both upstream and downstream and submerges several agricultural lands on both banks. The water levels will rise until Highway embankments. (*Figure 10-9, Figure 10-10, Figure 10-11)*



Figure 10-9 Gola River Railway Bridge



Figure 10-10 Gola River Railway Bridge during 2021 flood

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Model Results **Satellite Imagery in 2010 year** **Satellite Imagery in 2022 year with Flood Extents**

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Figure 30 : Model Results from upstream of Kichcha Barrage to Gola River End Point

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11 Annexures

- *Annexure 1- Outlier Analysis*
- *Annexure 2 - Rainfall Hyetographs*
- *Annexure 3- Soil Characteristics (India WRIS)*
- *Annexure 4- Green-Ampt. Infiltration Parameter Reference*
- *Annexure 5- Terrain Generation from Drone Data*
- *Annexure 6- Cross-Section Generated by HEC-RAS*
- *Annexure 7-High Flood Levels at Different Return Period*

(Attached as a separate Document)

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11 Annexure 1 - Outlier Analysis

Outlier Limits	
Quarantile	Median
lower	5100
25	16461.5
50	24219.5
75	37868.75
Max	123900
IQR	21407.25
Lower Limit	-4946
Upper Limit	102091

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Lower is considered based on 1 order deviation whereas upper limit is freezed based on 2 order deviation.

- All the discharge values considered are within the lower and upper limits.
- This indicates good consistency of the data considered

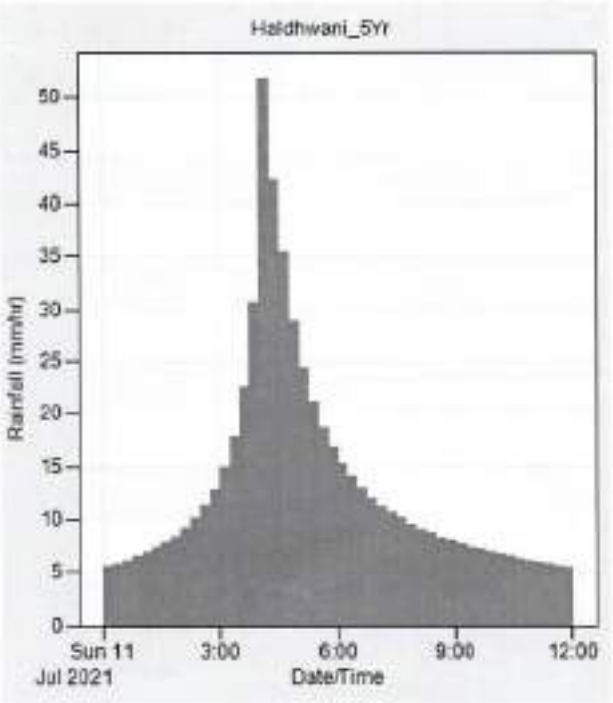
Year	Daily Max. Q (cumec)	Instantaneous Max. Q (Cumec)	RANK (M)	PROBABILITY (P)	RI YEARS (T)
1993	123900	148680	1	0.015	68.0
2004	95916	115099	2	0.029	34.0
2011	92245	110694	3	0.044	22.7
1927	89100	106920	4	0.059	17.0
2010	86881	104257	5	0.074	13.6
1924	78400	94080	6	0.088	11.3
2000	71238	85486	7	0.103	9.7
1998	68340	82008	8	0.118	8.5
1962	67290	80748	9	0.132	7.6
2014	51596	61915	10	0.147	6.8
2008	50370	60444	11	0.162	6.2
2016	44160	52992	12	0.176	5.7
2005	42510	51012	13	0.191	5.2
1990	41364	49637	14	0.206	4.9
2003	41209	49451	15	0.221	4.5
1963	39525	47430	16	0.235	4.3
1995	38315	45978	17	0.250	4.0
1986	37720	45264	18	0.265	3.8
2013	37228	44674	19	0.279	3.6
2017	35055	42066	20	0.294	3.4
1999	34470	41364	21	0.309	3.2
1955	33900	40680	22	0.324	3.1
2009	33120	39744	23	0.338	3.0
2006	31750	38100	24	0.353	2.8
2012	30333	36400	25	0.368	2.7
1989	30000	36000	26	0.382	2.6
2002	29218	35062	27	0.397	2.5
1988	27576	33091	28	0.412	2.4
2007	27576	33091	29	0.426	2.3
1997	27116	32539	30	0.441	2.3
1967	26000	31200	31	0.456	2.2
1976	26000	31200	32	0.471	2.1
1981	26000	31200	33	0.485	2.1
1984	24439	29327	34	0.500	2.0
1973	24000	28800	35	0.515	1.9
1985	23370	28044	36	0.529	1.9
1991	23166	27799	37	0.544	1.8

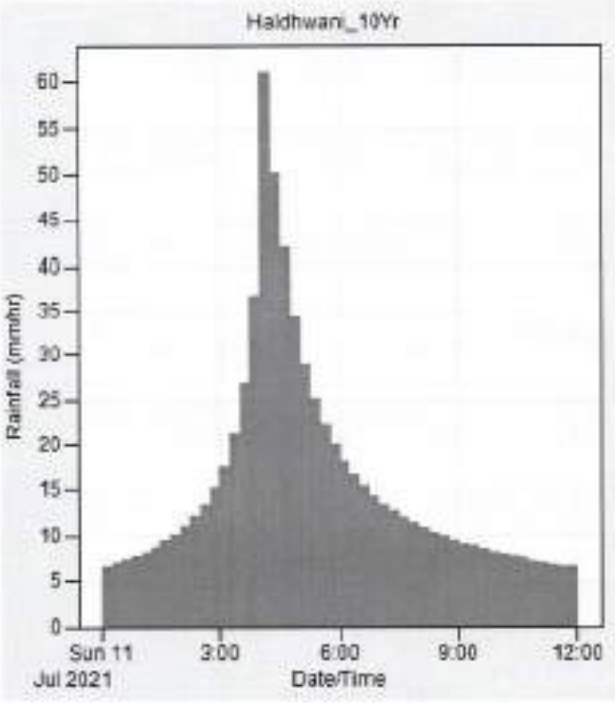
Year	Daily Max. Q (cumec)	Instantaneous Max. Q (Cumec)
1956	22100	26520
1965	22100	26520
1966	22100	26520
1969	22100	26520
1972	22100	26520
1974	22000	26400
1996	20856	25027
1983	20073	24088
1982	19115	22938
1992	19100	22920
1968	17800	21360
1994	17234	20681
1978	16800	20160
2015	16548	19858
1987	16202	19442
2020	16186	19423
2001	16086	19303
1958	14800	17760
1961	14800	17760
1964	14800	17760
1980	13500	16200
1960	12600	15120
1975	12400	14880
2018	11490	13788
1977	10600	12720
2019	10571	12685
1970	10075	12090
1959	8050	9660
1979	7700	9240
1957	5375	6450
1971	5100	6120

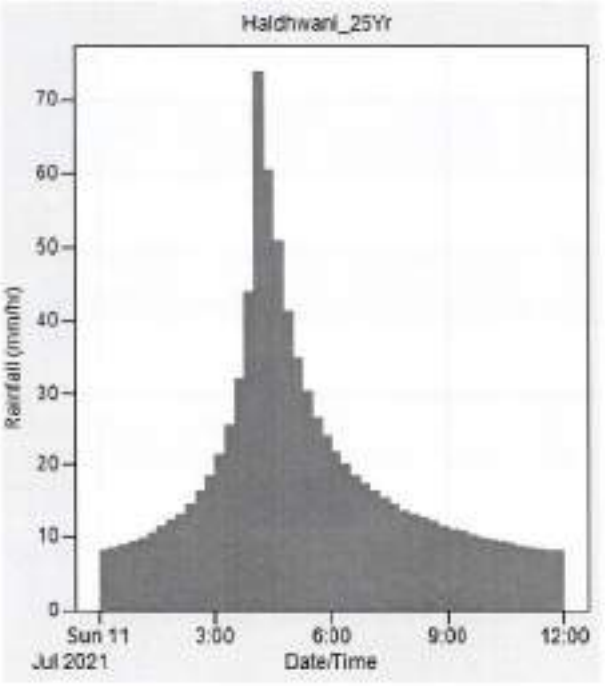
NOTARY Dr. B. S. Bisht Advocate HIGH COURT OF UTTARAKHAND GOVT. OF UTTARAKHAND

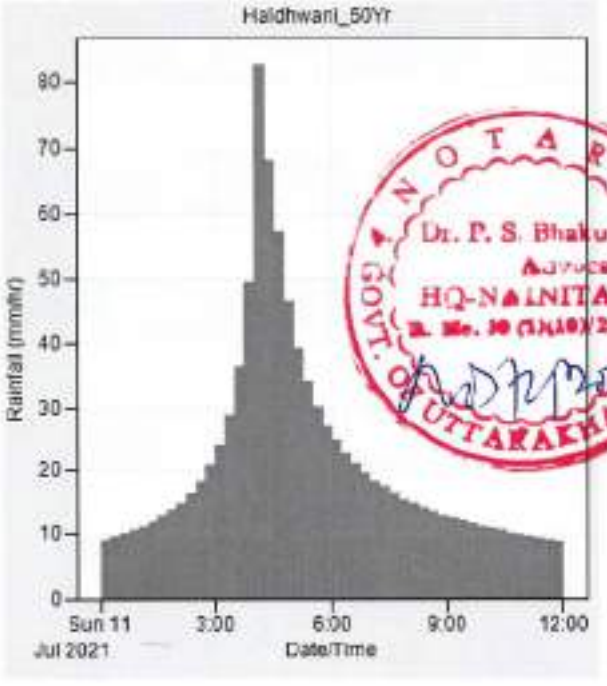
12 Annexure 2 – Rainfall Hyetograph

Haldhwani Station

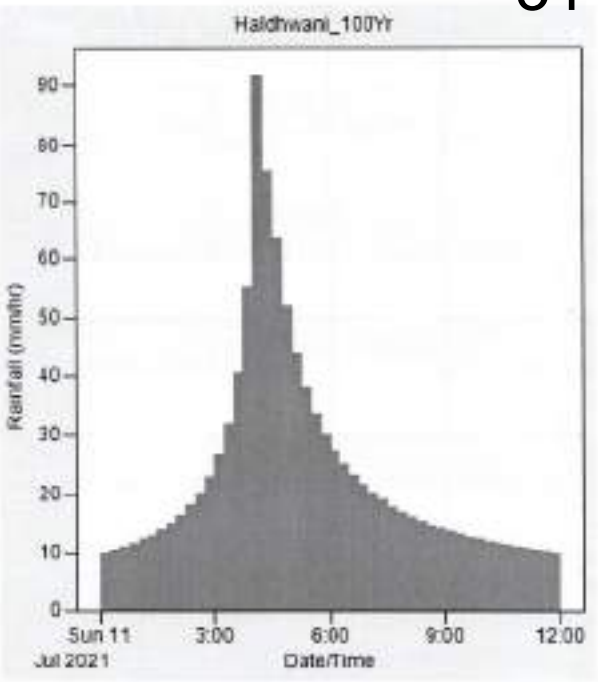








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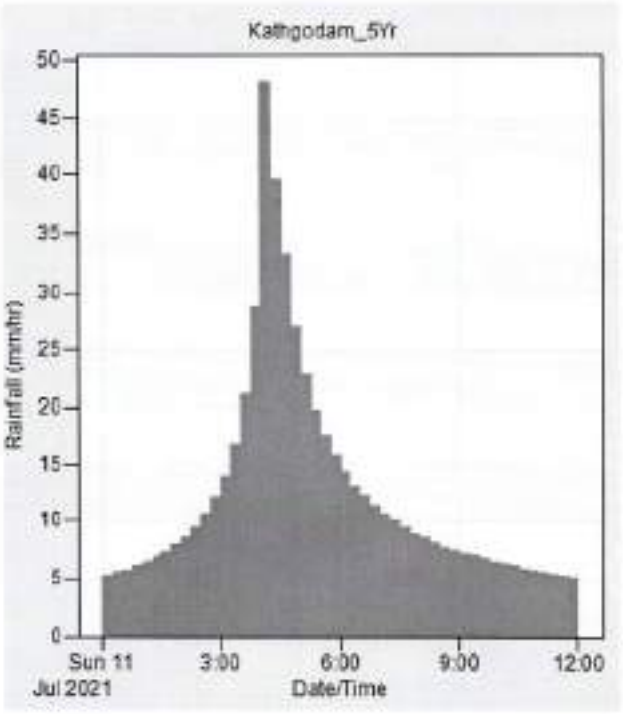


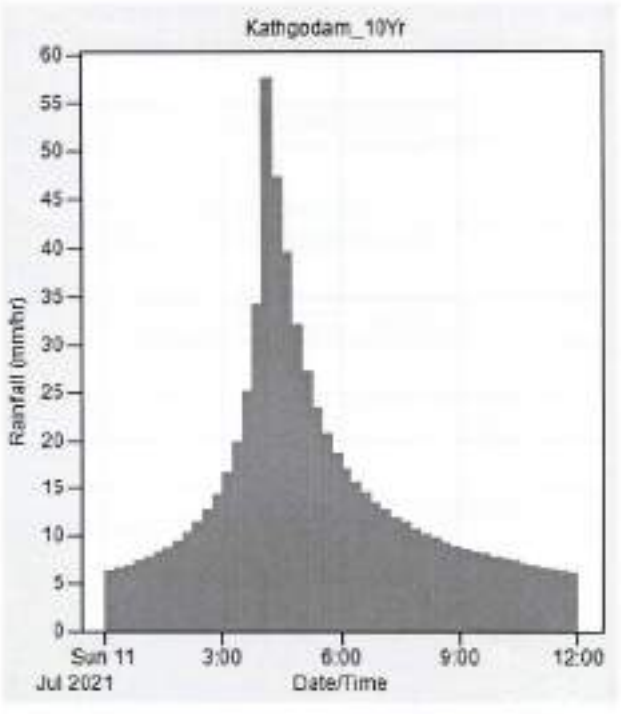
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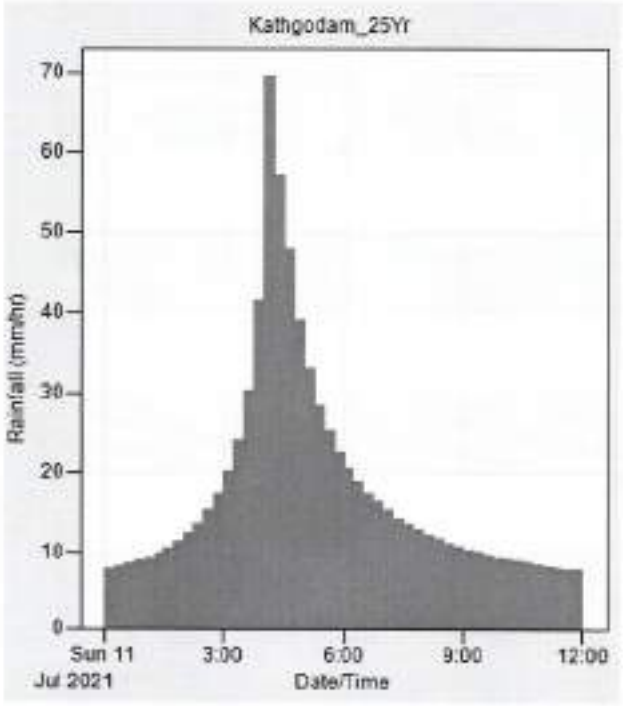
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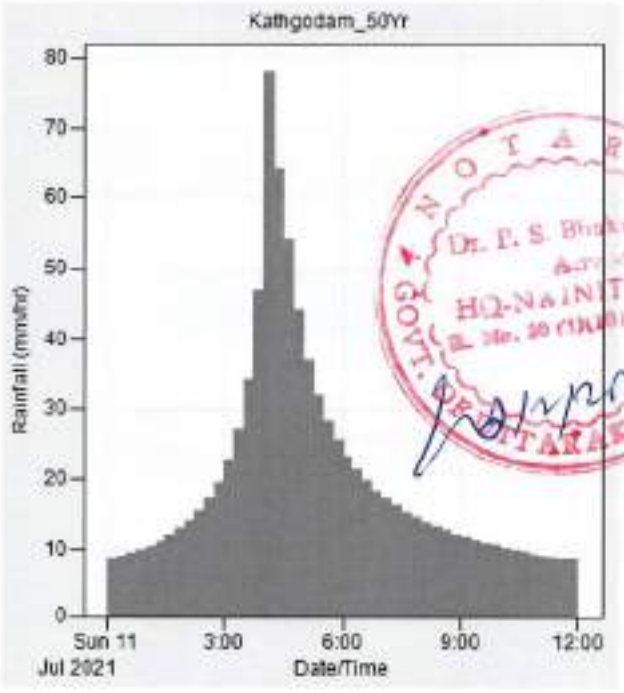
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Kathgodam Station

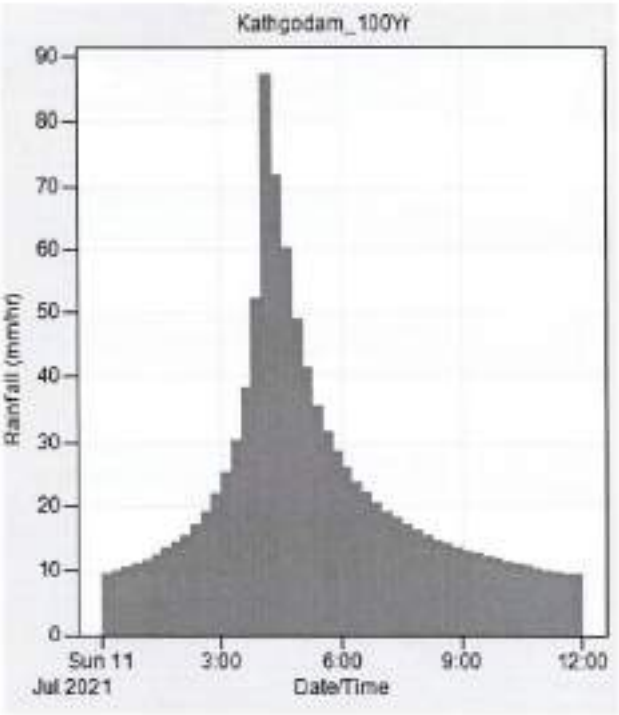








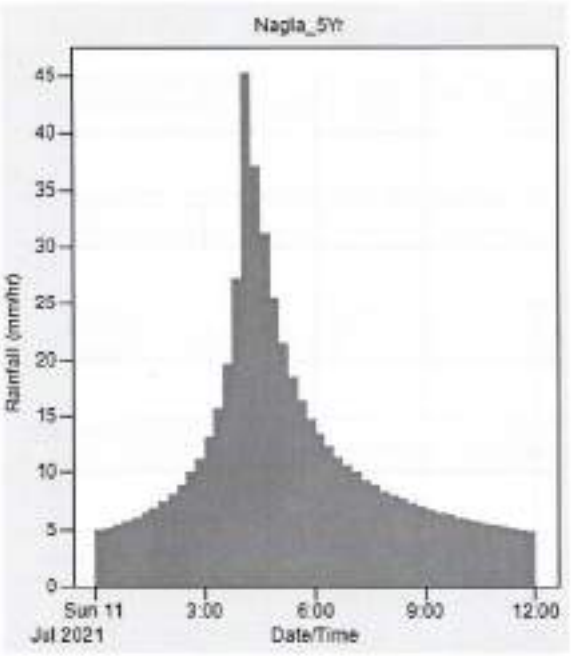


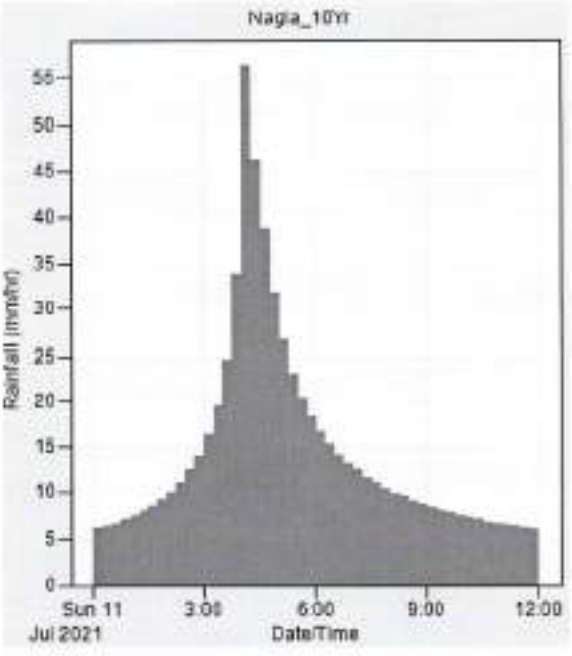


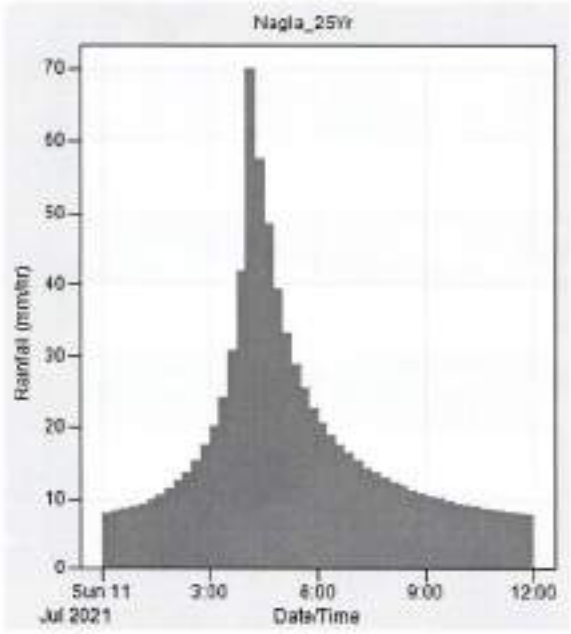
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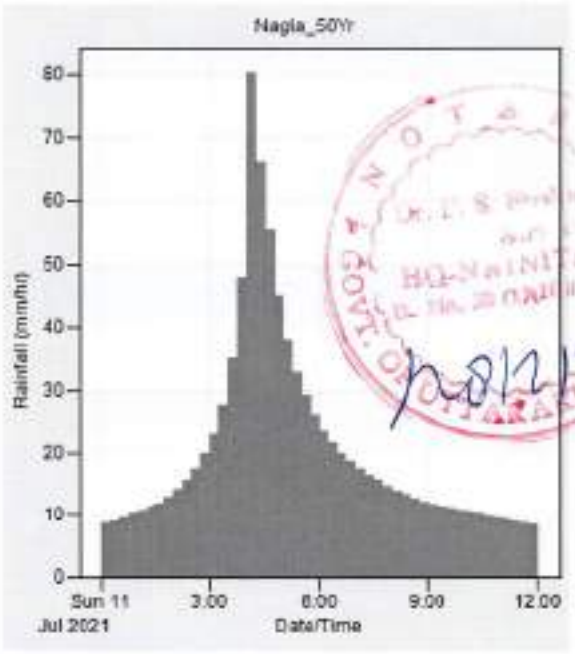
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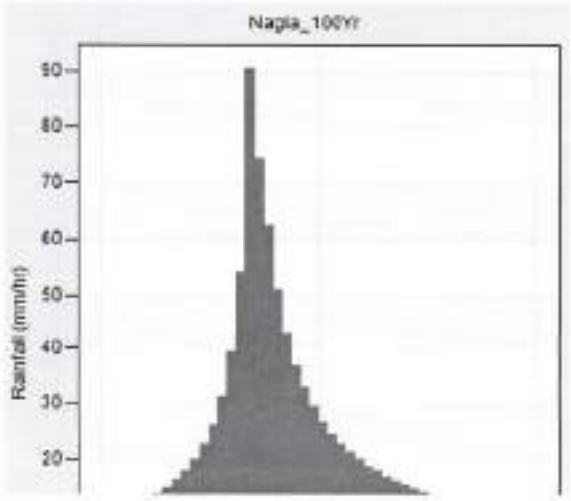
Nagla Station





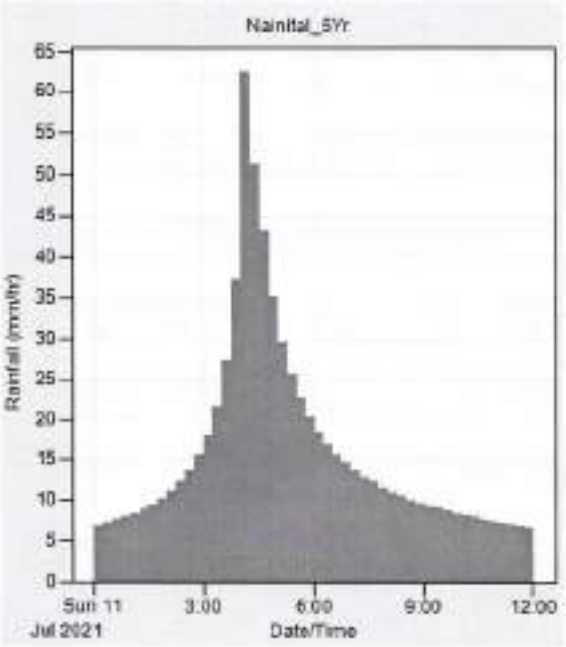


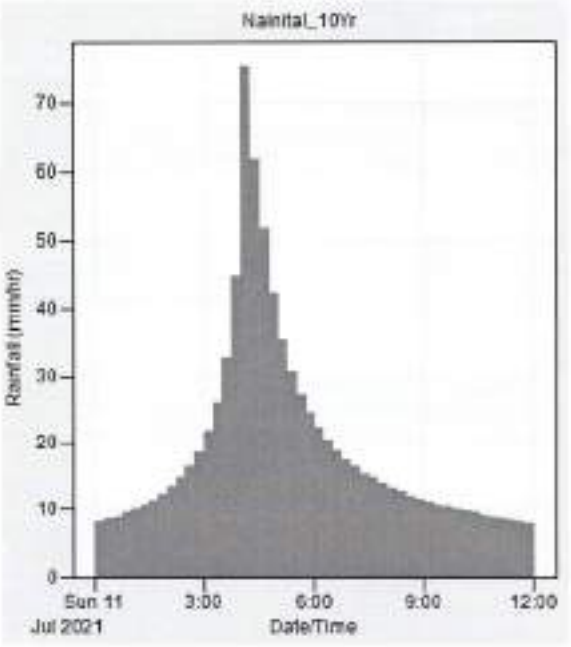


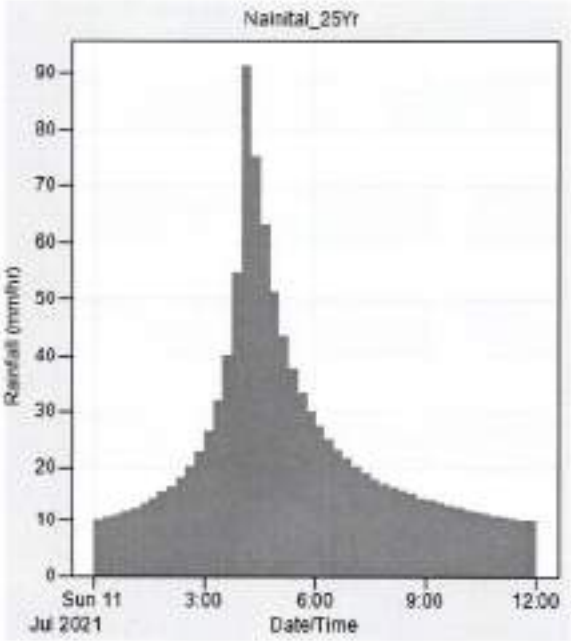


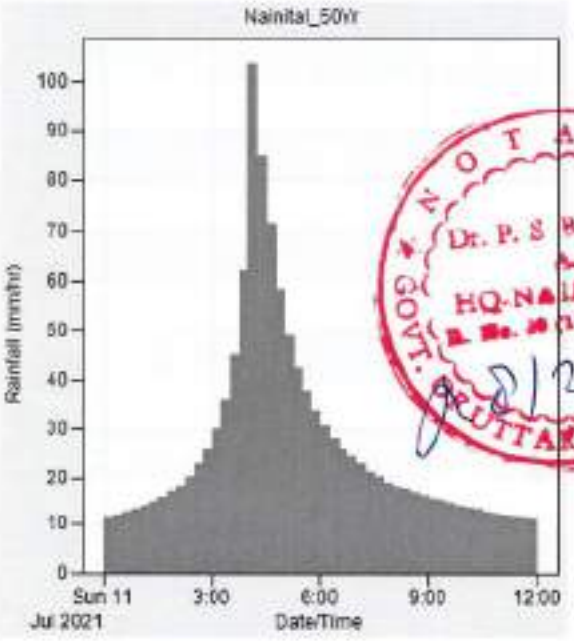
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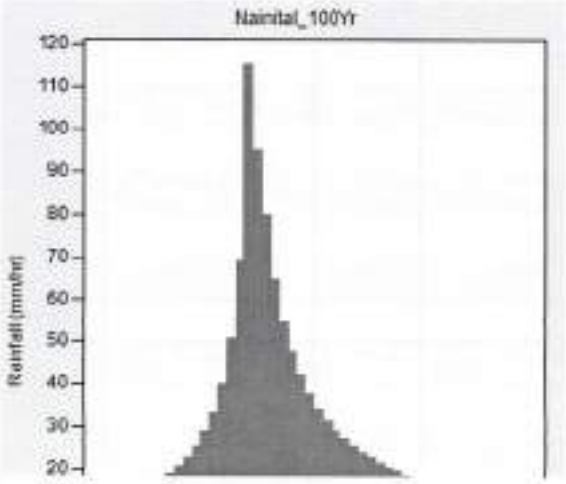
Nainital Station





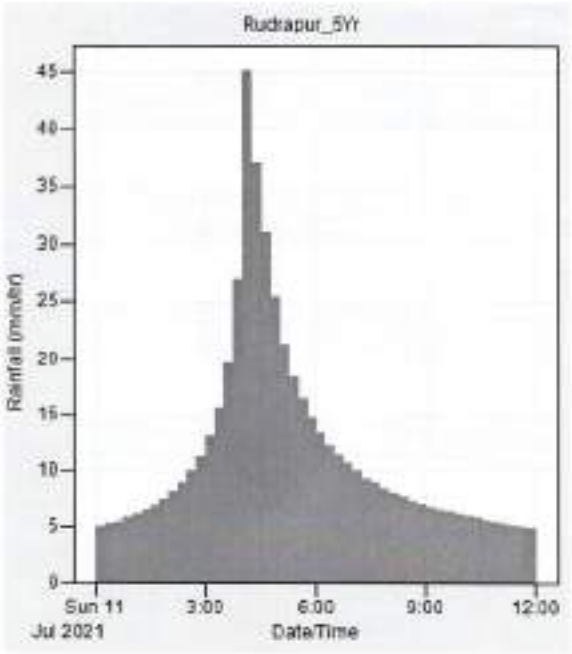


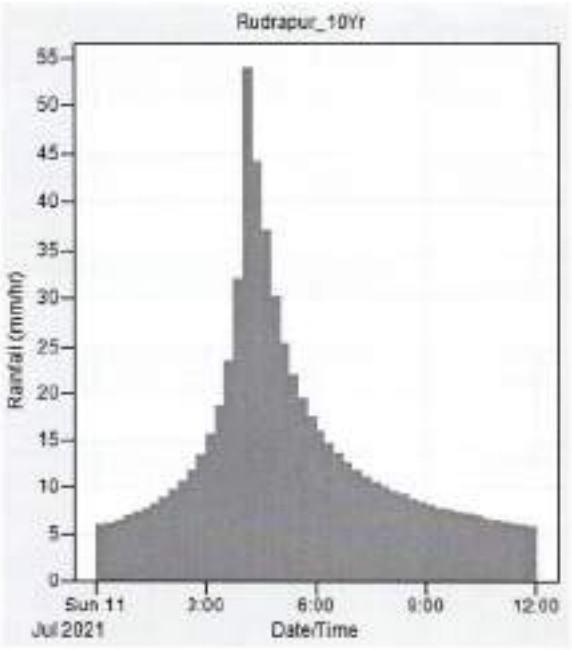


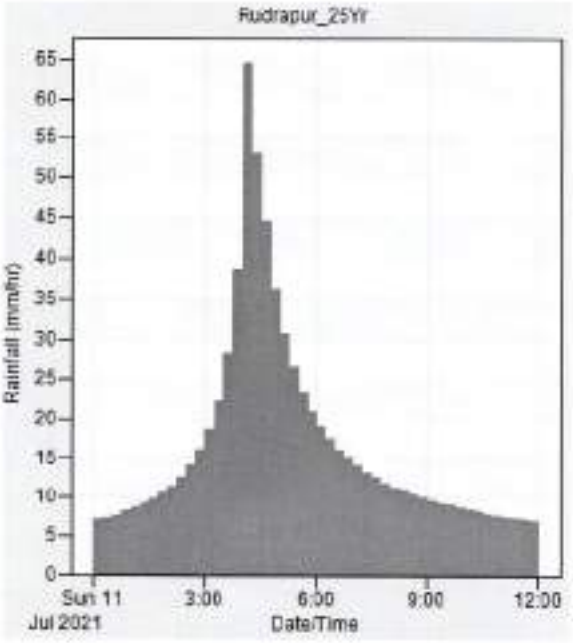


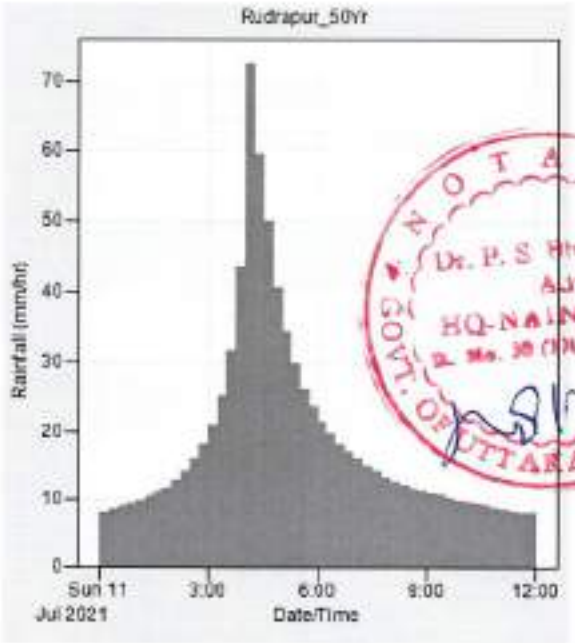


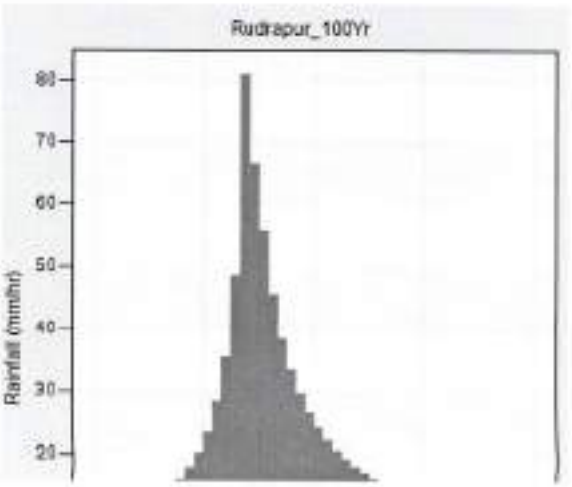
Rudrapur/Kichha Station







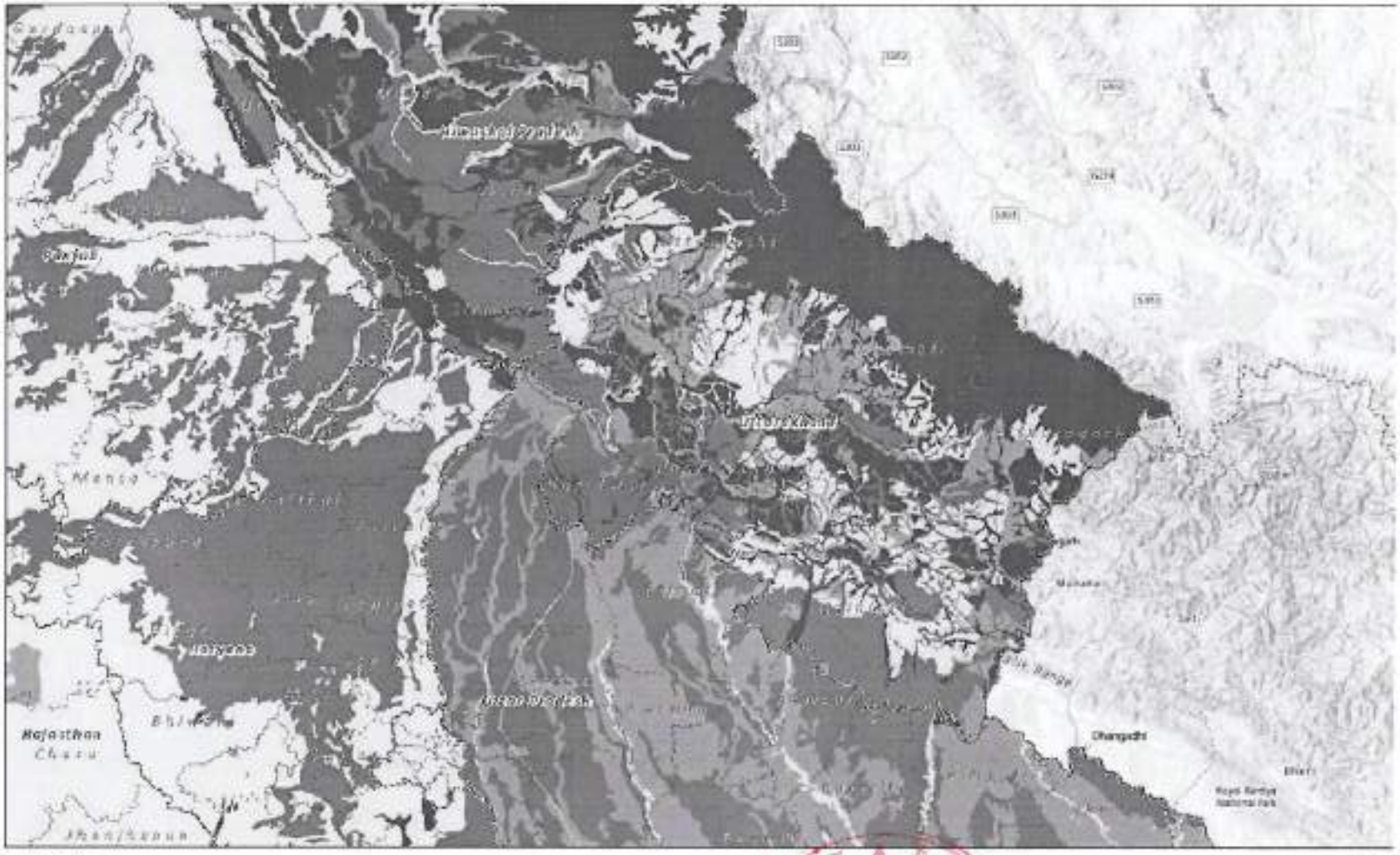




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13 **Annexure 3 – Soil Characteristics**

Uttharkhand_Soil_Texture



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Annexure 4 - Green-Ampt. Infiltration Parameters

Texture Classification	SUCT Avg. Capillary Suction		HYDCON Saturated Hydraulic Conductivity		SMDMAX Initial Moisture Deficit for Soil (Vol. of Air / Vol. of Voids, expressed as a fraction)	
	(in)	(mm)	(in/hr)	(mm/hr)	Moist Soil Climates	Dry Soil Climates
Sand	1.95	49.5	9.27	235.6	.346	.404
Loamy Sand	2.41	61.3	2.35	59.8	.312	.382
Sandy Loam	4.33	110.1	0.86	21.8	.246	.358
Loam	3.50	88.9	0.52	13.2	.193	.346
Silt Loam	6.57	166.8	0.27	6.8	.171	.368
Sandy Clay Loam	8.60	218.5	0.12	3.0	.143	.250
Clay Loam	8.22	208.8	0.08	2.0	.146	.267
Silty Clay Loam	10.75	273.0	0.08	2.0	.105	.263
Sandy Clay	9.41	239.0	0.05	1.2	.091	.191
Silty Clay	11.50	292.2	0.04	1.0	.092	.229
Clay	12.45	316.3	0.02	0.6	.079	.203

Source :

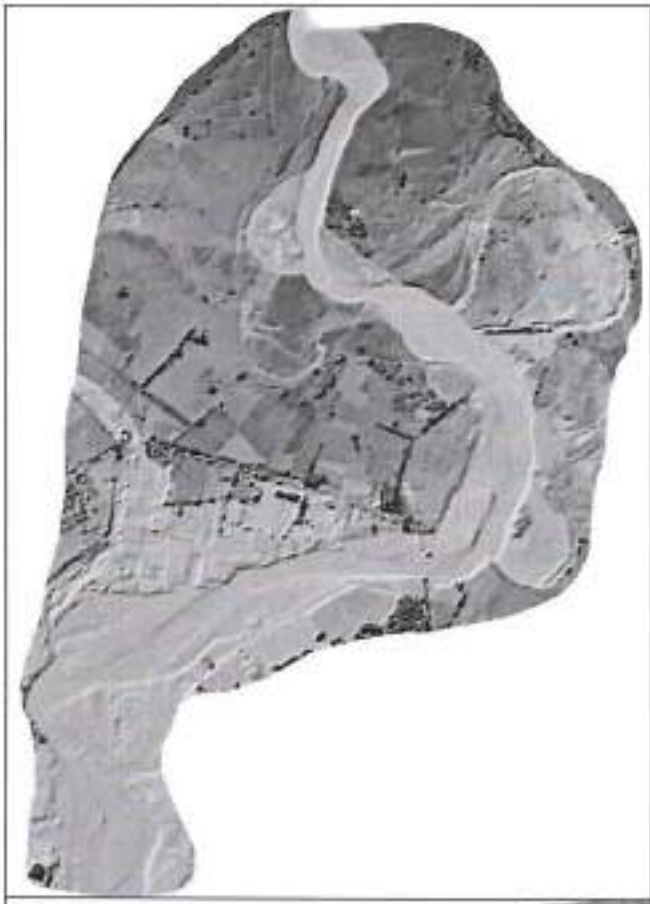
Synthesized from Handbook of Hydrology, D.R. Maidment, Editor in Chief, McGraw- Hill, Inc., 1993, pp 5.1-5.39.

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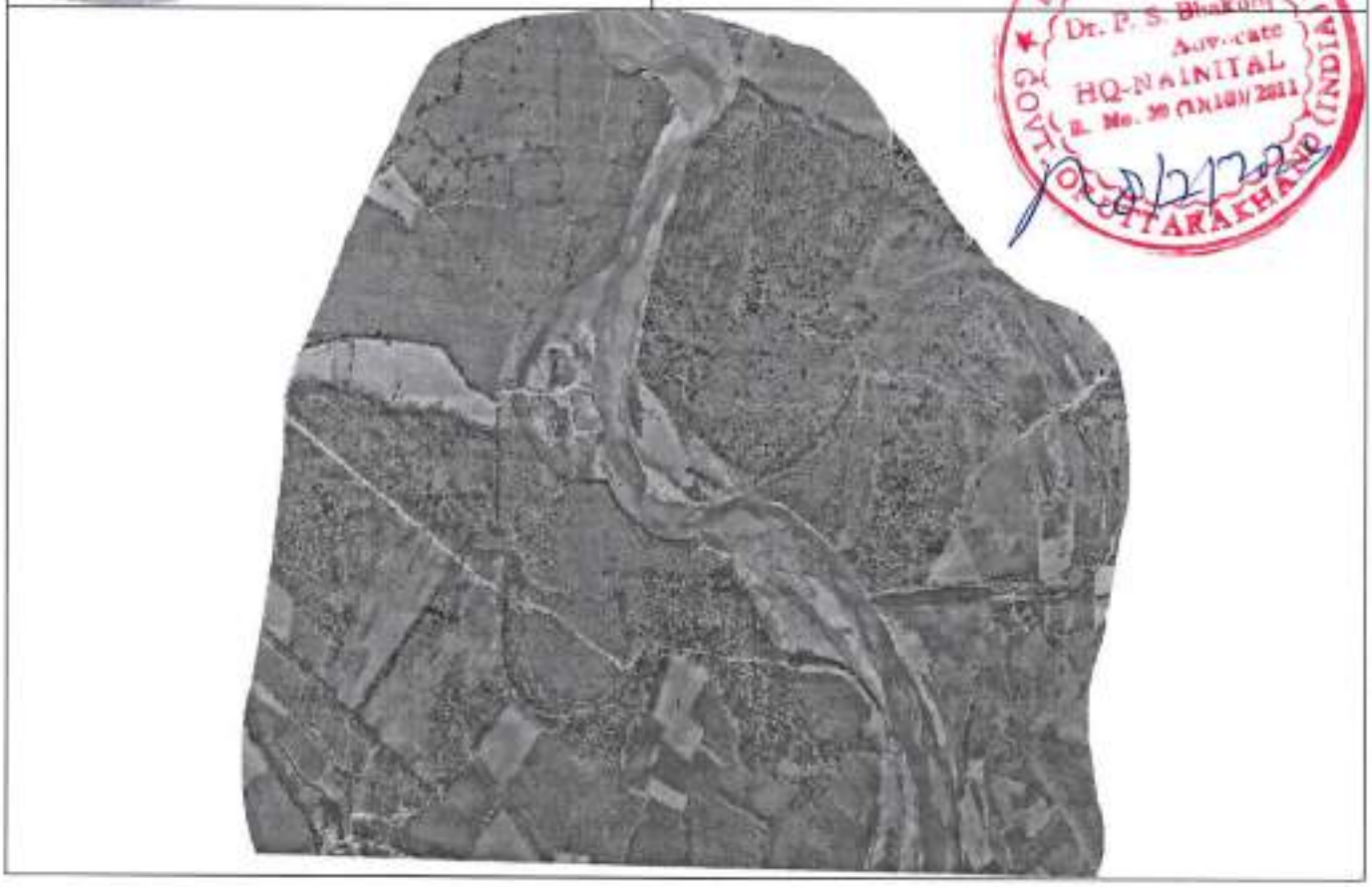
2-42

15 Annexure 5 -*Terrain Generation from Drone Data*





- Total Drone surveyed area = 64 Sq. Km
- All Drone orthorectified images (ORI) are validated using GCP points
- Generated terrain and ORI for the surveyed area with 0.15m resolution
- River cross-section generated by using drone data



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Ground Control Points Setup Location

Point ID	Easting (X)	Northing (Y)	Elevation (m)
GB-1	358081	3232162	382.002
GB-2	358167	3229976	345.485
GB-3	358391	3226742	304.545
GB-4	358661	3222182	252.794
GB-5	358916	3219656	223.802
GB-6	359408	3215574	193.126
GB-7	359984	3213992	185.715
GB-8	360407	3212589	178.041
GB-9	360392	3210885	171.689
GB-10	358596	3207804	164.795
GB-11	358560	3206330	163.898
GB-12	359394	3208779	164.623
GB-13	357699	3203594	158.306
GB-14	357766	3199785	153.141
GCP-1	357959	3232107	381.986
GCP-2	357986	3232088	364.224
GCP-3	358275	3229812	330.433
GCP-4	358341	3227067	297.13
GCP-5	358536	3226703	292.399
GCP-5A	358821	3224094	261.664
GCP-7	358890	3223143	250.002
GCP-8	358789	3222673	246.372
GCP-9	359062	3222193	239.683
GCP-10	358664	3221640	232.888
GCP-11	359015	3221200	229.895
GCP-13	359078	3220254	222.485
GCP-15	359171	3219210	220.866
GCP-17	359250	3218237	213.557
GCP-19	359448	3217164	202.236
GCP-21	359589	3216222	194.883
GCP-22	359419	3215509	192.412
GCP-23	359746	3215275	190.662
GCP-24	359749	3214644	187.015
GCP-25	360235	3214412	185.119
GCP-26	359983	3213988	186.189
GCP-27	360597	3213637	180.896
GCP-28	360326	3212996	178.279
GCP-29	360685	3212493	176.274
GCP-30	360336	3212071	177.564
GCP-31	360679	3211592	173.041
GCP-33	360618	3210726	169.22
GCP-34	359937	3210318	165.858
GCP-35	359862	3209856	166.402
GCP-36	359615	3209139	161.213
GCP-37	359545	3208737	165.334
GCP-38	358997	3208226	158.425
GCP-39	358889	3207907	158.003
GCP-40	358637	3207611	161.315
GCP-41	358592	3206925	159.122
GCP-42	359113	3206440	158.852
GCP-43	358561	3206309	163.568
GCP-44	358462	3206042	157.108
GCP-45	358377	3205902	155.044
GCP-46	358155	3205300	154.754
GCP-47	358162	3204957	154.065
GCP-48	358210	3204499	154.57
GCP-49	358133	3204239	158.87
GCP-50	358397	3203918	155.036
GCP-51	357705	3203592	158.919
GCP-52	358353	3203289	153.56
GCP-53	357325	3203294	157.224
GCP-54	358073	3202932	152.913
GCP-55	358686	3202969	158.247
GCP-56	356734	3202766	151.403
GCP-57	357145	3202569	152.888
GCP-58	358235	3202730	157.839
GCP-59	356776	3202251	155.796
GCP-60	357141	3202018	153.993
GCP-61	357938	3202205	155.719
GCP-62	356606	3201620	152.443
GCP-63	358034	3201964	156.102
GCP-64	357295	3201795	153.19
GCP-65	356680	3201296	153.61
GCP-66	357188	3201387	151.068
GCP-67	358483	3201109	151.662
GCP-68	357034	3201017	152.404
GCP-69	357815	3200785	150.022
GCP-70	358427	3200701	156.322
GCP-71	356923	3200746	153.365
GCP-72	358044	3200465	150.36
GCP-73	358341	3200227	151.521
GCP-74	356910	3200289	154.67
GCP-75	358032	3199997	149.151
GCP-76	356226	3200103	153.055
GCP-77	357882	3199298	153.526
GCP-78	357347	3199704	148.227
GCP-80	356939	3199313	148.297
GCP-82	356537	3198321	148.129
GCP-85	356347	3197358	144.328
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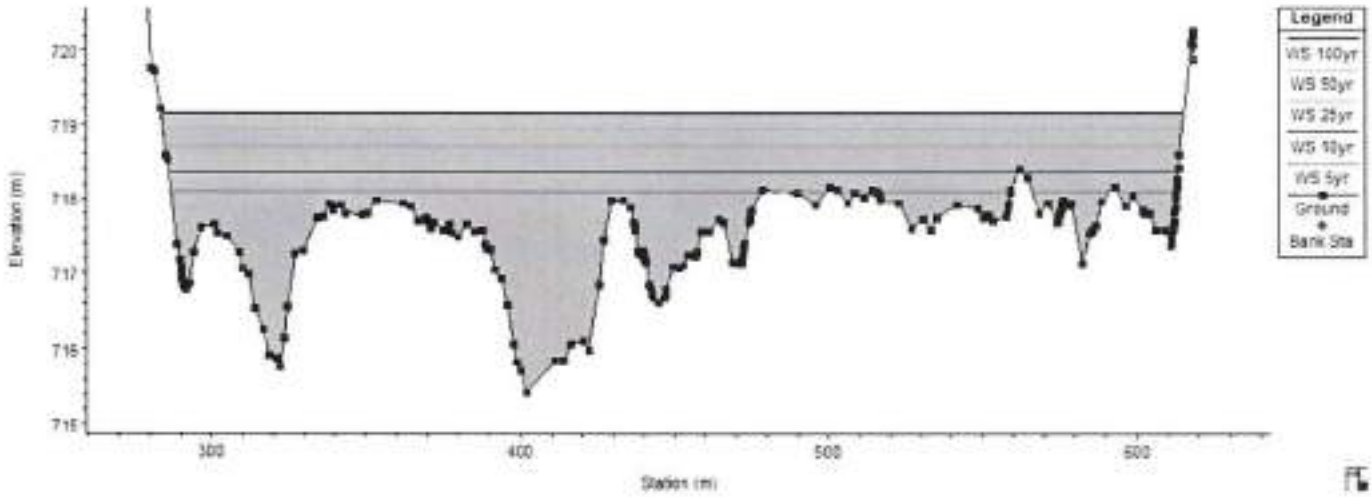
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16 Annexure 6 – Cross-Section Generated by HEC-RAS from Drone Terrain

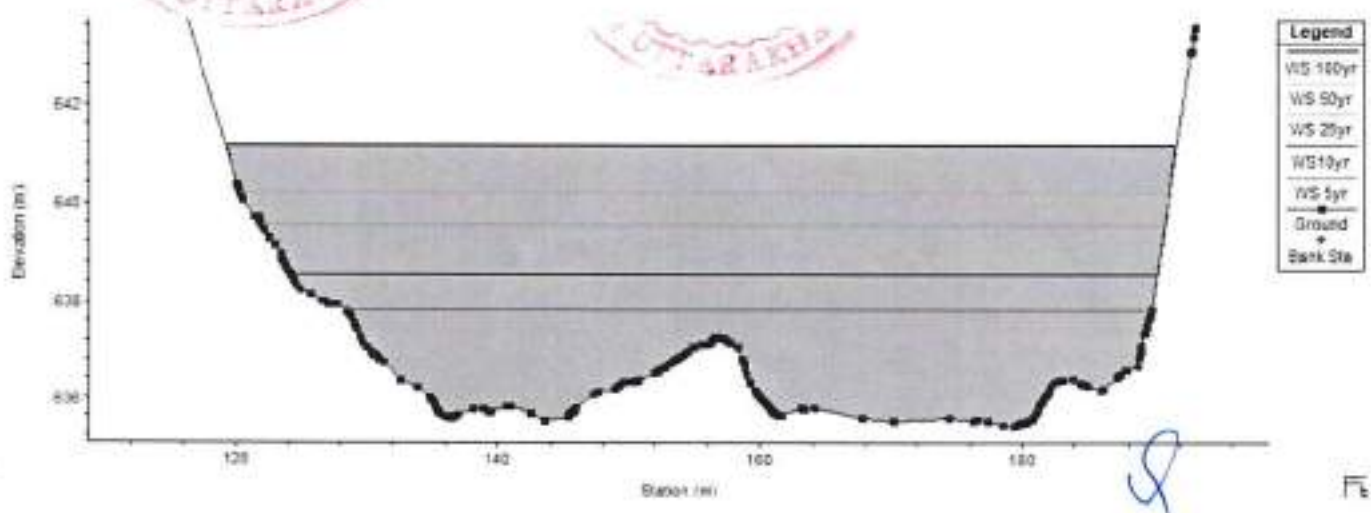
Location: Haidakhan Babaji Ashram (Murkariya)

Sl. No.	Return Period	Discharge (Cumec)	High Flood Level (m)
1.	5 Years	808	718.09
2.	10 Years	1317	718.35
3.	25 Years	2183	718.70
4.	50 Years	2809	718.94
5.	100 Years	3425	719.15



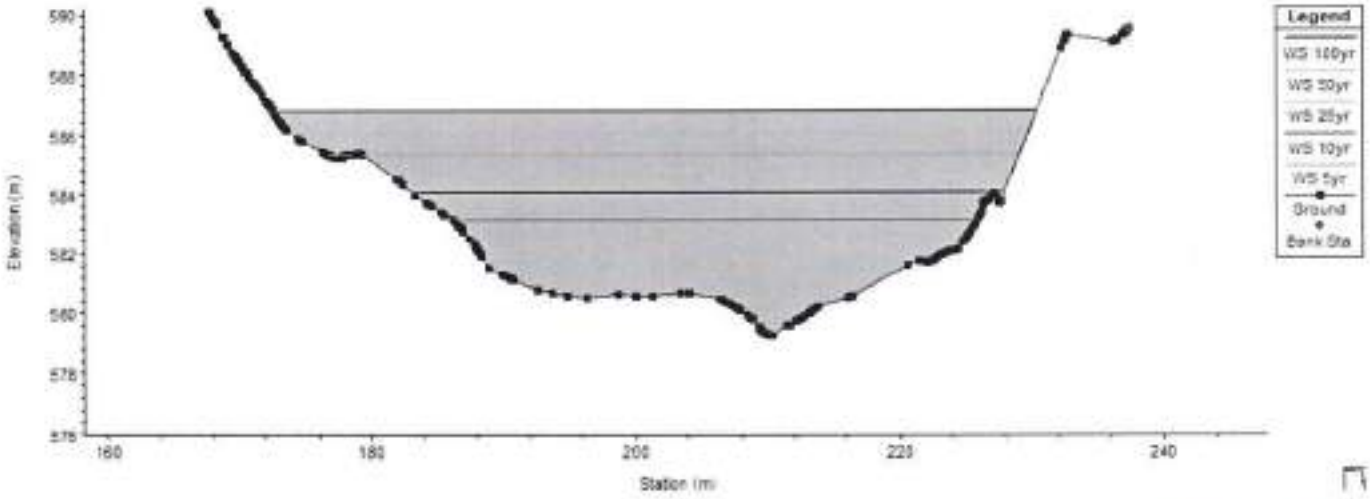
Location: Jamarani Dam Site

Sl. No.	Return Period	Discharge (Cumec)	High Flood Level (m)
1.	5 Years	847	636.95
2.	10 Years	1349	637.62
3.	25 Years	2231	638.67
4.	50 Years	2869	639.35
5.	100 Years	3497	640.24



Location: Amritpur (Amiya)

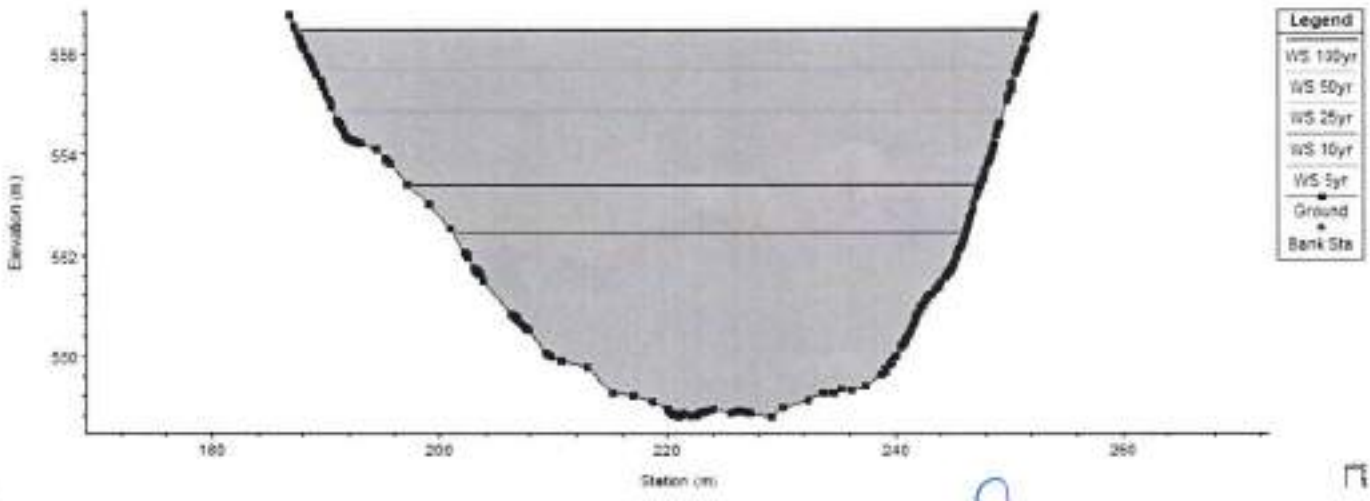
Sl. No.	Return Period	Discharge (Cumec)	High Flood Level (m)
1.	5 Years	870	583.09
2.	10 Years	1394	584.02
3.	25 Years	2306	585.31
4.	50 Years	2970	586.07
5.	100 Years	3624	586.77



Location: D/S to Confluence by Bhimtal Gadera (Amritpur)

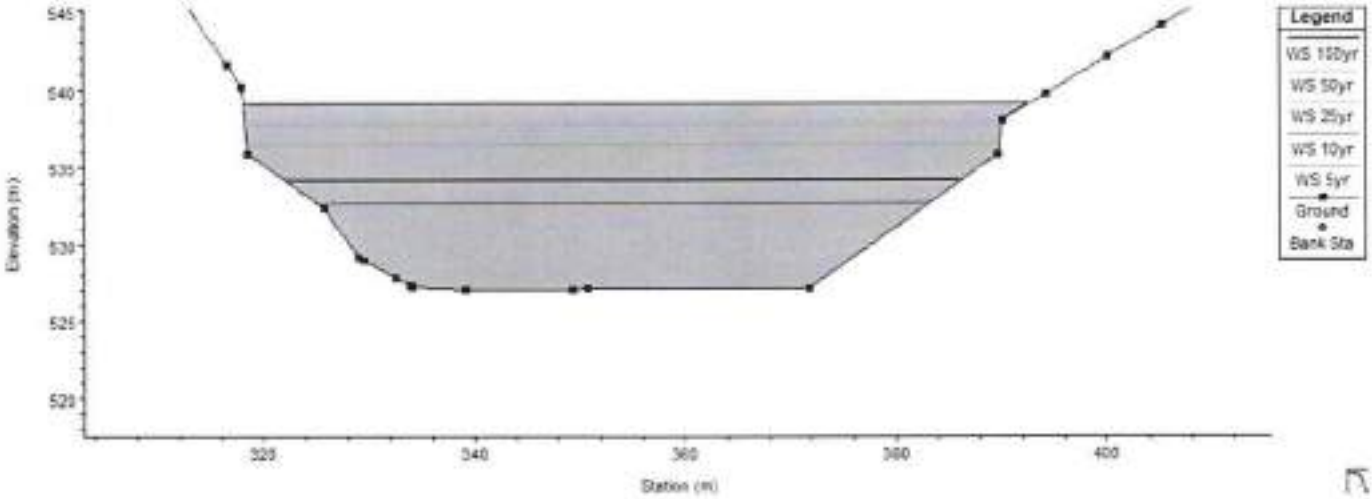
Sl. No.	Return Period	Discharge (Cumec)	High Flood Level (m)
1.	5 Years	968	552.43
2.	10 Years	1521	553.40
3.	25 Years	2498	554.84
4.	50 Years	3211	555.70
5.	100 Years	3912	556.50

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Location: Ranibagh Bridge (Indiranagar)

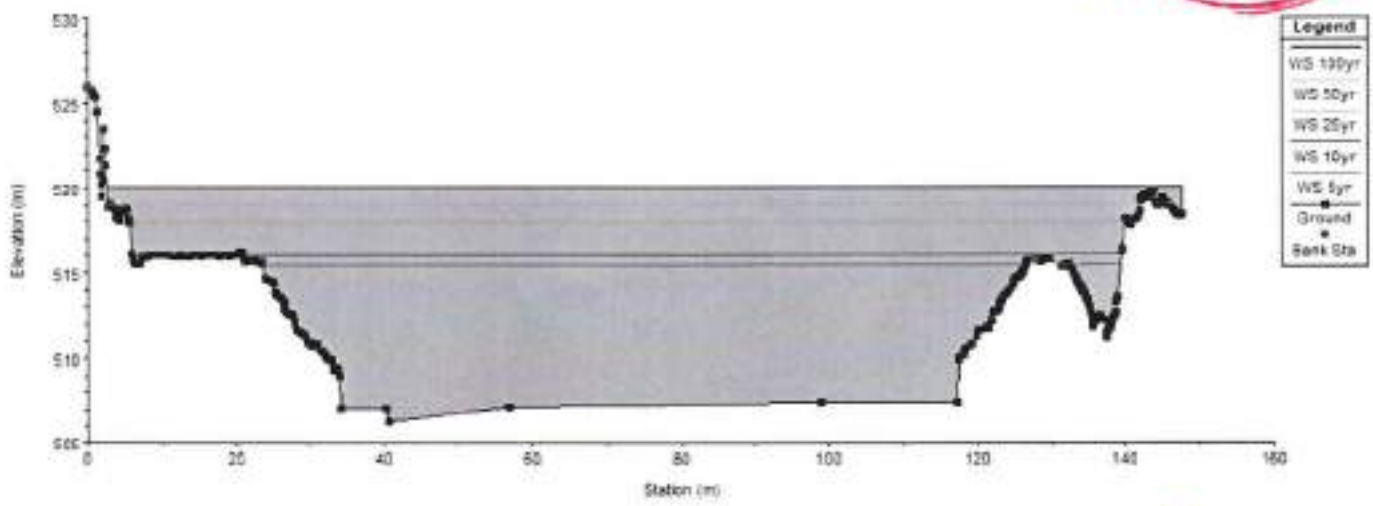
Sl. No.	Return Period	Discharge (Cumec)	High Flood Level (m)
1.	5 Years	1176	532.70
2.	10 Years	1769	534.15
3.	25 Years	2859	536.45
4.	50 Years	3656	537.82
5.	100 Years	4437	539.02



Location: Gola Barrage (Kathgodam)

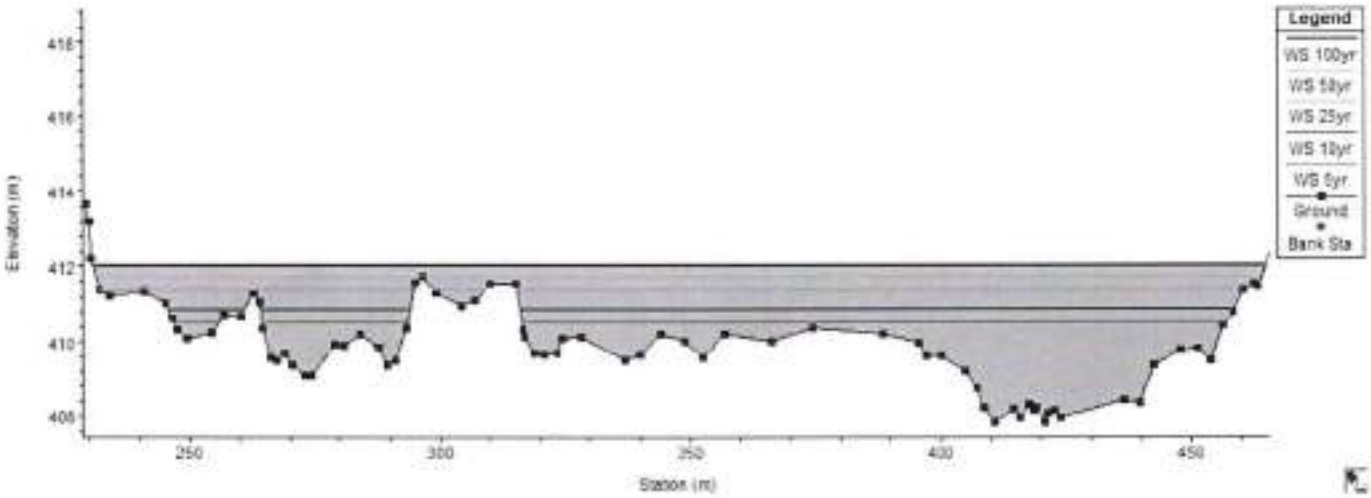
Sl. No.	Return Period	Discharge (Cumec)	High Flood Level (m)
1.	5 Years	1176	515.46
2.	10 Years	1769	516.05
3.	25 Years	2859	517.89
4.	50 Years	3656	519.06
5.	100 Years	4437	520.04

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Location: D/S to Haldwani Bye Pass Road Bridge

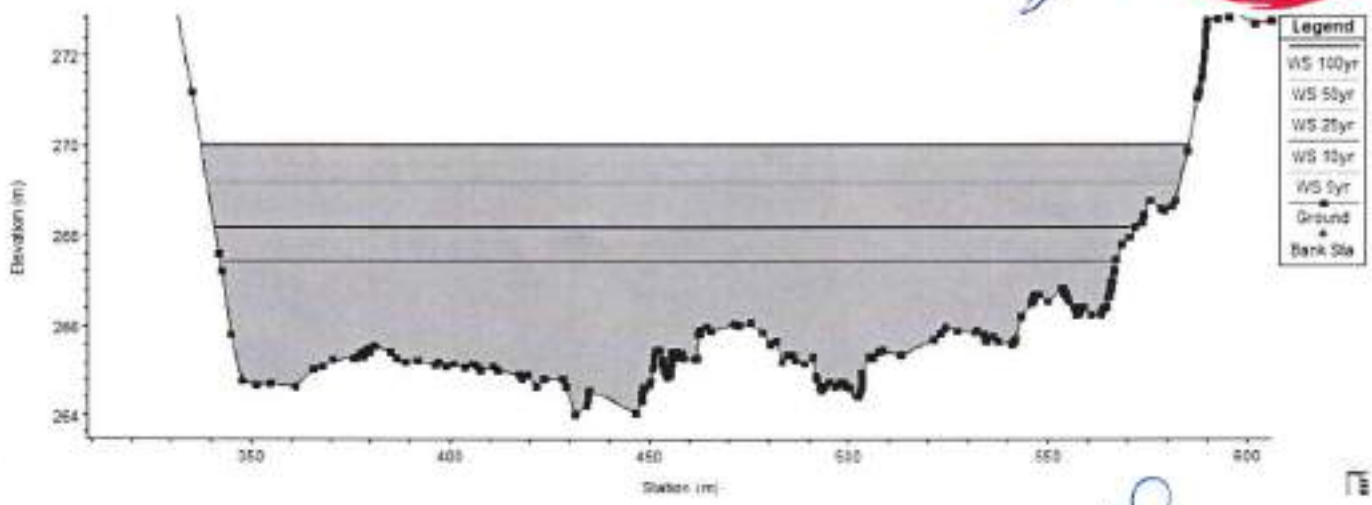
Sl. No.	Return Period	Discharge (Cumec)	High Flood Level (m)
1.	5 Years	1207	410.52
2.	10 Years	1827	410.85
3.	25 Years	2942	411.40
4.	50 Years	3765	411.72
5.	100 Years	4571	412.01



Location: Halduchaur

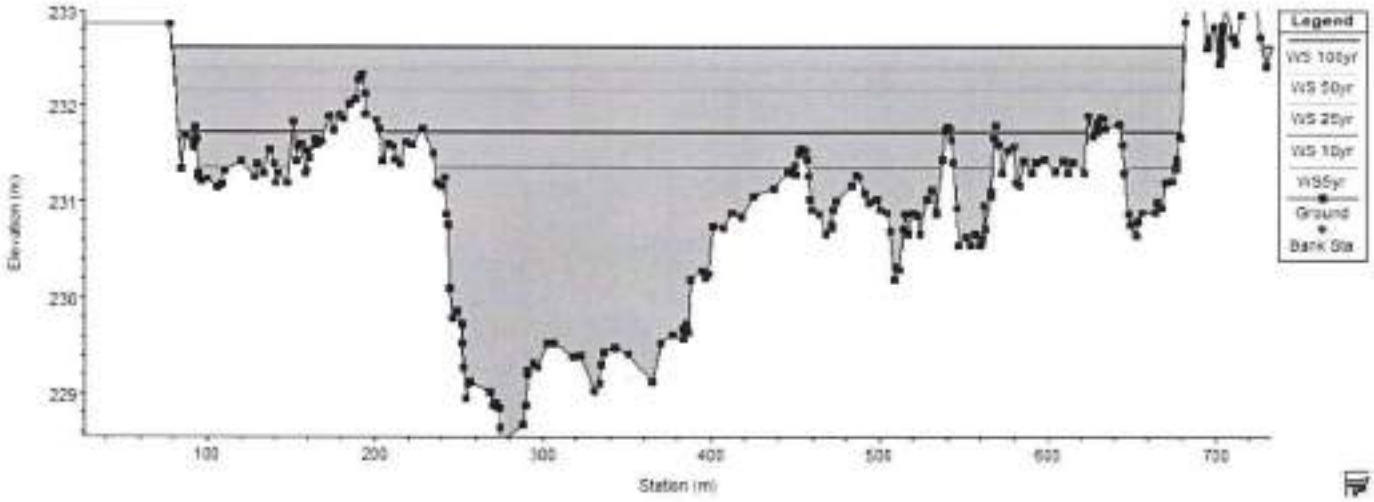
Sl. No.	Return Period	Discharge (Cumec)	High Flood Level (m)
1.	5 Years	1237	267.21
2.	10 Years	1878	267.93
3.	25 Years	3031	268.89
4.	50 Years	3852	269.26
5.	100 Years	4685	269.85

NOTARY
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Location: Bindukhatta

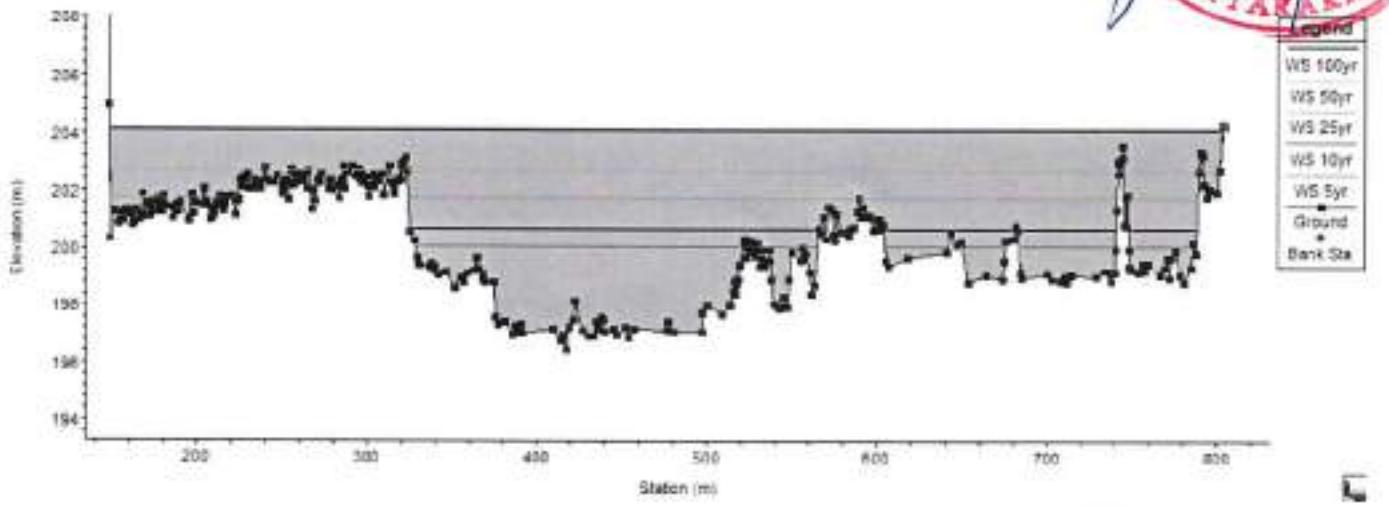
Sl. No.	Return Period	Discharge (Cumec)	High Flood Level (m)
1.	5 Years	1243	231.36
2.	10 Years	1904	231.73
3.	25 Years	3057	232.15
4.	50 Years	3882	232.39
5.	100 Years	4721	232.61



Location: D/S to Kichha Barrage

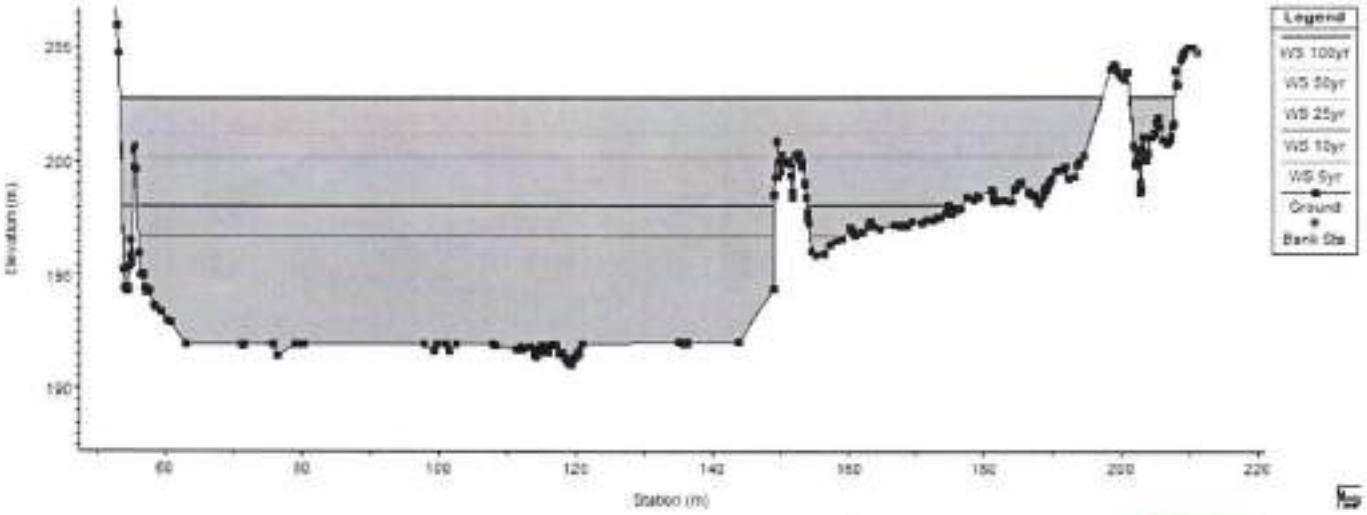
Sl. No.	Return Period	Discharge (Cumec)	High Flood Level (m)
1.	5 Years	1375	199.96
2.	10 Years	2126	200.37
3.	25 Years	3425	201.42
4.	50 Years	4303	202.63
5.	100 Years	5220	204.04

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Location: NH-9 Bridge, Pulbhatta

Sl. No.	Return Period	Discharge (Cumec)	High Flood Level (m)
1.	5 Years	1381	196.33
2.	10 Years	2147	197.01
3.	25 Years	3453	197.64
4.	50 Years	4370	197.96
5.	100 Years	5367	198.24



ATTESTED
18/12/2024
(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

NOTARY
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Advocate
HQ-NAINITAL
(Govt. of UTTARAKHAND INDIA)

17. Annexure- 7 High Flood Levels at Different Return Period

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NOTARY
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Advocate
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GOVT. OF UTTARAKHAND (INDIA)

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Gola river 25 Year HFL Points

Right Bank

Sl.No	Easting	Northing	WSE
1	369018	3241977	913.287
2	369021.4	3241927	913.256
3	369024.4	3241877	911.875
4	369026.2	3241834	910.105
5	369014.4	3241797	909.623
6	369030.5	3241758	909.429
7	369049.3	3241712	909.266
8	369058.4	3241663	907.363
9	369051.8	3241617	906.25
10	369025.5	3241575	905.202
11	369001.8	3241532	903.097
12	369001.1	3241482	902.995
13	369023.3	3241443	902.781
14	369045.2	3241407	901.155
15	369052.1	3241358	899.937
16	369069.6	3241311	898.619
17	369095.5	3241268	893.363
18	369125	3241228	891.572
19	369155	3241188	889.739
20	369157.9	3241139	889.59
21	369147.7	3241090	888.621
22	369152.4	3241042	887.827
23	369175.9	3240998	886.786
24	369195.9	3240952	884.712
25	369211.6	3240906	882.177
26	369223.6	3240858	882.161
27	369249.6	3240815	878.112
28	369280.9	3240776	877.384
29	369313.6	3240738	876.531
30	369347.1	3240701	876.363
31	369382.7	3240666	874.773
32	369421.1	3240634	872.5
33	369463	3240607	871.71
34	369511.6	3240600	869.524
35	369521.5	3240557	869.171
36	369505.6	3240509	868.994
37	369487.3	3240463	864.101
38	369480.2	3240416	862.487
39	369486.8	3240367	862.487
40	369510.1	3240325	861.56
41	369551.4	3240297	860.607
42	369582.7	3240260	859.805
43	369590.6	3240210	859.214
44	369596	3240161	858.077
45	369596.5	3240111	856.729
46	369609	3240063	856.508
47	369643.7	3240028	856.495
48	369683.8	3239998	854.751
49	369722.9	3239967	854.568
50	369766.2	3239942	854.412
51	369813	3239926	851.623
52	369862.7	3239924	848.334
53	369907.6	3239938	848.314
54	369917.1	3239987	847.635
55	369939.2	3240031	847.445
56	369983.5	3240045	844.578
57	369999.5	3239998	844.463
58	370013.9	3239951	843.87
59	370025.1	3239903	841.713
60	370037.8	3239857	831.979
61	370071.7	3239820	831.979
62	370109.3	3239787	931.979
63	370143.4	3239751	829.69
64	370189.9	3239740	829.684
65	370236	3239738	829.741
66	370284.4	3239741	829.724
67	370331.6	3239730	829.546
68	370379.7	3239737	829.546
69	370422.8	3239716	827.832
70	370450.6	3239675	826.172
71	370474.9	3239631	824.301
72	370485.5	3239583	816.172
73	370489.9	3239533	810.542
74	370522.6	3239497	809.558
75	370561.8	3239467	809.385
76	370591.3	3239426	809.224
77	370626	3239391	809.043
78	370669.1	3239366	807.907
79	370715.8	3239350	807.713
80	370741.6	3239311	807.703
81	370705.6	3239278	807.497
82	370668	3239245	807.38
83	370631.6	3239214	806.901
84	370593.2	3239182	805.857
85	370562	3239144	805.783
86	370547.1	3239096	805.525
87	370525.2	3239052	805.413
88	370526.2	3239002	805.131
89	370540.6	3238955	805.131
90	370573.6	3238919	805.074

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Gola river 25 Year HFL Points

Right Bank

Sl.No	Easting	Northing	WSE
91	370619.8	3238900	787.747
92	370652.3	3238865	786.758
93	370682.2	3238827	786.685
94	370728	3238807	786.421
95	370774.4	3238788	785.326
96	370817.3	3238764	785.248
97	370856.6	3238733	785.224
98	370893.6	3238699	783.867
99	370917.5	3238656	783.781
100	370919.9	3238607	780.583
101	370918.1	3238557	779.958
102	370914.2	3238507	778.892
103	370915.3	3238457	774.702
104	370923.5	3238408	772.757
105	370926.2	3238358	772.697
106	370928.5	3238308	769.429
107	370936.3	3238261	769.353
108	370977	3238241	768.043
109	371005.4	3238201	767.805
110	371033.1	3238162	766.905
111	371027.6	3238121	765.836
112	370999.4	3238092	765.479
113	370956.6	3238069	765.39
114	370913.3	3238045	764.943
115	370868.8	3238027	764.847
116	370820.7	3238014	764.847
117	370778.3	3237991	764.847
118	370754.7	3237949	764.699
119	370730.2	3237907	763.869
120	370713.9	3237860	763.794
121	370732.3	3237820	763.641
122	370745.4	3237776	757.831
123	370734	3237729	757.773
124	370693.3	3237704	757.33
125	370658.5	3237673	757.043
126	370629.1	3237634	756.521
127	370595.6	3237598	755.706
128	370561.5	3237564	755.477
129	370527.4	3237529	754.553
130	370495.6	3237493	754.463
131	370467.4	3237454	754.174
132	370437.3	3237419	753.245
133	370412.4	3237377	753.167
134	370387	3237334	749.801
135	370378.1	3237285	748.471
136	370371.5	3237236	747.96
137	370378	3237187	747.847
138	370408.8	3237149	747.554
139	370450.2	3237139	747.448
140	370495.7	3237142	747.335
141	370542.9	3237128	747.335
142	370578.4	3237108	747.335
143	370604.2	3237068	747.224
144	370594.5	3237025	747.104
145	370560.9	3236988	746.87
146	370555.1	3236940	746.77
147	370568.5	3236894	746.77
148	370546.5	3236851	746.62
149	370527.5	3236808	746.62
150	370488.8	3236779	746.62
151	370453.2	3236745	746.62
152	370418.8	3236711	743.45
153	370388.9	3236676	743.15
154	370366.4	3236632	743.987
155	370355.8	3236586	743.376
156	370371.2	3236546	743.028
157	370366.4	3236499	736.42
158	370351.1	3236454	735.707
159	370344.1	3236407	733.648
160	370349.2	3236359	732.762
161	370353.2	3236320	732.57
162	370318.7	3236290	732.455
163	370269.3	3236285	732.346
164	370222.4	3236276	731.848
165	370174.2	3236269	731.741
166	370142.5	3236233	730.493
167	370125.5	3236189	731.889
168	370107.6	3236156	727.889
169	370067	3236144	727.809
170	370037.8	3236178	726.473
171	369998	3236203	725.818
172	369967.9	3236232	724.444
173	369934	3236261	724.467
174	369903.4	3236297	723.895
175	369867.7	3236329	722.941
176	369830.5	3236354	720.714
177	369797.9	3236386	720.564
178	369753.6	3236409	719.914
179	369706.6	3236417	719.875
180	369658.1	3236419	719.794

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Gola river 25 Year HFL Points

Right Bank

Sl.No	Easting	Northing	WSE
181	369615.8	3236441	716.852
182	369587.3	3236455	716.769
183	369563.1	3236446	716.765
184	369560	3236449	716.721
185	369532.9	3236459	715.688
186	369492.6	3236454	715.624
187	369454.5	3236427	715.207
188	369410.3	3236435	714.338
189	369367.7	3236442	714.111
190	369322.1	3236442	713.775
191	369282.4	3236457	713.621
192	369242.5	3236486	713.609
193	369215.3	3236528	713.514
194	369191.2	3236571	712.973
195	369167.9	3236615	712.283
196	369141.1	3236654	711.905
197	369096.5	3236675	711.791
198	369051.9	3236695	710.668
199	369013.1	3236720	710.582
200	368975.3	3236752	709.726
201	368936.9	3236782	708.63
202	368899.8	3236815	707.891
203	368865.9	3236849	707.732
204	368828.6	3236876	707.843
205	368780.8	3236884	705.763
206	368742.6	3236911	702.45
207	368721	3236932	701.945
208	368681.8	3236939	701.864
209	368632.2	3236936	701.11
210	368582.7	3236941	699.993
211	368534	3236948	699.003
212	368527	3236970	698.829
213	368480.8	3236985	698.826
214	368431	3236988	698.794
215	368384.9	3237004	698.691
216	368339.9	3237026	698.514
217	368297	3237051	698.514
218	368254.8	3237077	697.853
219	368210.8	3237100	697.752
220	368164.8	3237119	697.643
221	368118.8	3237138	697.836
222	368070.7	3237151	697.73
223	368020.8	3237153	696.758
224	367970.9	3237151	693.654
225	367921.1	3237147	693.324
226	367871.2	3237145	692.557
227	367823.5	3237132	692.227
228	367776.8	3237138	691.221
229	367730.6	3237153	690.712
230	367684.4	3237162	689.693
231	367642.4	3237177	689.568
232	367597.5	3237195	686.349
233	367548.1	3237201	686.647
234	367498.4	3237199	686.008
235	367449.7	3237188	685.759
236	367405.2	3237166	685.428
237	367360.8	3237147	685.421
238	367336.3	3237111	685.421
239	367307.6	3237076	685.321
240	367275.5	3237056	685.321
241	367258.2	3237029	685.321
242	367211.8	3237043	685.227
243	367172.8	3237035	683.03
244	367138.7	3237061	682.647
245	367092.8	3237069	682.537
246	367046.3	3237078	681.779
247	367027.9	3237121	681.712
248	367017.3	3237169	680.952
249	367011.7	3237218	680.617
250	367012	3237265	680.754
251	367011.4	3237315	680.624
252	367033	3237358	679.844
253	367009.9	3237384	678.944
254	366972.7	3237405	678.937
255	366946.4	3237447	677.024
256	366921.2	3237490	673.96
257	366894.7	3237532	672.141
258	366864.1	3237571	671.919
259	366830.7	3237606	671.232
260	366786	3237613	670.873
261	366744.5	3237615	670.725
262	366724.1	3237581	670.458
263	366719.6	3237535	670.454
264	366704.5	3237507	670.258
265	366666.3	3237496	670.258
266	366638.4	3237479	670.258
267	366602.1	3237510	670.124
268	366573.1	3237549	669.454
269	366532.2	3237575	669.414
270	366503	3237600	668.785

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Gola river 25 Year HFL Points

Right Bank

Sl.No	Easting	Northing	WSE
271	366501.2	3237649	668.659
272	366519.9	3237694	667.53
273	366559.2	3237722	667.45
274	366518.7	3237743	667.011
275	366484.4	3237775	666.882
276	366480.6	3237823	665.302
277	366453.9	3237844	663.495
278	366428.9	3237884	662.76
279	366406.6	3237920	662.457
280	366370.6	3237955	662.323
281	366327.5	3237974	661.933
282	366278	3237978	661.832
283	366235.9	3237987	661.699
284	366210	3237961	661.553
285	366167.3	3237963	661.401
286	366124.5	3237966	661.324
287	366083.4	3237988	661.281
288	366055.1	3238019	661.178
289	366022.3	3238053	660.991
290	365997	3238093	659.188
291	365975.2	3238125	659.049
292	365943	3238159	657.948
293	365910.1	3238194	657.745
294	365874	3238227	657.632
295	365828.9	3238245	657.341
296	365791.6	3238217	653.071
297	365778.9	3238172	652.967
298	365742.6	3238158	652.816
299	365693.8	3238162	652.724
300	365660.6	3238197	652.694
301	365620.9	3238225	650.671
302	365593.6	3238266	650.356
303	365599.4	3238314	649.948
304	365586	3238361	648.692
305	365578.9	3238405	647.975
306	365589	3238448	647.738
307	365589.4	3238497	646.729
308	365580.8	3238544	645.61
309	365562.8	3238589	644.266
310	365546	3238633	643.141
311	365518.4	3238670	643.125
312	365486.6	3238697	643.125
313	365444.2	3238720	643.097
314	365399.3	3238735	642.94
315	365358.2	3238753	642.88
316	365310.8	3238763	641.051
317	365263.4	3238763	640.145
318	365218.8	3238744	639.782
319	365171	3238751	638.609
320	365124.3	3238761	638.399
321	365077	3238772	638.271
322	365028.5	3238783	636.976
323	364980.9	3238797	636.837
324	364933.8	3238811	636.392
325	364885	3238821	635.787
326	364836.2	3238830	635.71
327	364789.2	3238842	634.379
328	364745.2	3238861	633.502
329	364707.5	3238890	632.727
330	364689.8	3238932	632.394
331	364677.3	3238978	632.197
332	364675.3	3239028	631.721
333	364675.3	3239076	631.331
334	364679.3	3239125	631.156
335	364678.9	3239175	628.794
336	364670	3239222	628.086
337	364664.3	3239272	627.744
338	364657.2	3239321	626.905
339	364645.6	3239369	625.824
340	364625.3	3239411	625.756
341	364644.3	3239447	625.687
342	364649.4	3239496	625.556
343	364661.3	3239544	624.581
344	364679.2	3239590	623.864
345	364695.3	3239637	623.771
346	364714.7	3239682	623.624
347	364733.2	3239725	624.527
348	364744.3	3239773	624.321
349	364768.5	3239816	622.476
350	364775.1	3239865	622.195
351	364771.8	3239914	622.013
352	364761.2	3239963	616.875
353	364733.6	3240005	616.142
354	364700.6	3240042	616.047
355	364662.1	3240074	614.874
356	364620.6	3240101	614.62
357	364578.1	3240127	613.819
358	364531.4	3240144	613.769
359	364485.7	3240164	613.684
360	364439.9	3240184	613.649

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Gola river 25 Year HFL Points

Right Bank

Sl.No	Easting	Northing	WSE
361	364393.4	3240202	613.285
362	364359.6	3240234	612.927
363	364320.6	3240258	612.855
364	364277.3	3240274	612.661
365	364241.4	3240302	611.164
366	364202.2	3240328	610.329
367	364163	3240354	609.919
368	364118.6	3240370	609.872
369	364076	3240390	609.767
370	364034.3	3240413	609.696
371	363997	3240441	608.764
372	363956.6	3240467	607.8
373	363919.6	3240497	607.587
374	363887	3240527	606.899
375	363854.1	3240559	606.686
376	363831.3	3240600	606.16
377	363809.5	3240645	605.355
378	363792.7	3240689	604.927
379	363775.7	3240735	604.753
380	363756.4	3240780	602.454
381	363743.1	3240826	602.416
382	363730.1	3240873	602.377
383	363716.3	3240920	601.947
384	363701	3240968	600.984
385	363680.9	3241012	600.607
386	363686.3	3241060	600.328
387	363679.3	3241103	600.067
388	363676.8	3241147	599.865
389	363667.3	3241193	599.742
390	363628.9	3241219	599.643
391	363583.1	3241234	598.864
392	363541.4	3241257	598.671
393	363501.8	3241281	598.421
394	363467.9	3241317	598.324
395	363425.4	3241340	598.206
396	363382.9	3241347	598.117
397	363338.7	3241347	598.117
398	363332.3	3241378	598.117
399	363294.7	3241380	598.117
400	363260.8	3241398	598.097
401	363224.3	3241427	598.097
402	363180.1	3241449	597.57
403	363133.3	3241447	597.336
404	363093.8	3241425	597.247
405	363054.4	3241398	595.514
406	363024	3241367	595.465
407	363005.7	3241347	595.309
408	362966.2	3241325	594.309
409	362917.4	3241320	594.309
410	362868.5	3241312	594.284
411	362820.9	3241319	594.284
412	362774.3	3241312	593.977
413	362727	3241299	593.768
414	362679.6	3241289	593.667
415	362631.5	3241284	593.521
416	362585.5	3241289	593.521
417	362539.7	3241298	593.331
418	362494.9	3241301	591.228
419	362451.2	3241315	590.02
420	362410.7	3241328	588.208
421	362375.3	3241357	586.864
422	362339.4	3241381	585.043
423	362320.4	3241417	582.138
424	362323.3	3241462	581.249
425	362290.1	3241496	581.061
426	362249.4	3241512	580.311
427	362201.2	3241508	580.202
428	362157	3241489	578.524
429	362121.1	3241463	578.417
430	362076.6	3241468	577.374
431	362036.5	3241491	575.905
432	362001	3241522	574.768
433	361967.7	3241556	573.956
434	361935.1	3241592	573.633
435	361904.4	3241627	573.347
436	361872.4	3241659	572.754
437	361842.5	3241693	572.579
438	361808.3	3241722	571.872
439	361773.4	3241753	571.614
440	361738.8	3241784	571.318
441	361699.2	3241811	570.62
442	361656.7	3241836	570.551
443	361624.7	3241871	569.951
444	361584.9	3241892	569.801
445	361553.3	3241916	569.28
446	361511.5	3241932	568.616
447	361471.6	3241951	568.322
448	361428.3	3241954	567.737
449	361382.2	3241960	567.185
450	361337.3	3241949	567.163

NOTARY
Dr. B. S. Bhakuni
Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND

8/11/2024

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Gola river 25 Year HFL Points

Right Bank

Sl.No	Easting	Northing	WSE
451	361293.8	3241935	566.904
452	361253.9	3241910	566.666
453	361207.7	3241904	565.541
454	361161.9	3241907	565.541
455	361113.2	3241916	565.353
456	361063.8	3241920	566.353
457	361020.3	3241941	564.927
458	360971.3	3241942	563.84
459	360923.9	3241950	563.43
460	360874.9	3241959	561.985
461	360826.9	3241955	561.805
462	360778.9	3241955	561.002
463	360734.8	3241940	560.785
464	360687.9	3241925	560.673
465	360654.4	3241903	560.383
466	360621	3241879	559.612
467	360593.4	3241866	559.537
468	360565.7	3241831	559.217
469	360526.8	3241805	558.723
470	360492.1	3241779	558.23
471	360460.7	3241740	557.792
472	360435.5	3241703	556.688
473	360412.4	3241660	555.412
474	360392.2	3241616	554.81
475	360386.2	3241579	554.755
476	360356	3241543	554.545
477	360329.1	3241502	554.545
478	360285.7	3241479	554.523
479	360237.2	3241468	554.228
480	360189	3241457	554.025
481	360140.3	3241458	553.493
482	360091.6	3241453	552.754
483	360044.9	3241436	552.587
484	359997.9	3241435	552.234
485	359953.7	3241435	551.786
486	359909.6	3241415	551.731
487	359862.6	3241399	550.181
488	359816.3	3241386	548.475
489	359769.7	3241372	545.883
490	359728.1	3241351	544.598
491	359683.7	3241331	543.495
492	359636.6	3241315	541.283
493	359588.6	3241301	540.468
494	359542.2	3241283	540.291
495	359494	3241270	539.648
496	359448.4	3241249	538.965
497	359403.4	3241228	538.903
498	359358	3241207	538.447
499	359314.1	3241183	537.663
500	359269.6	3241160	537.597
501	359227.3	3241134	537.513
502	359183.6	3241110	536.974
503	359145.9	3241077	536.931
504	359108.3	3241044	536.752
505	359070.5	3241011	536.335
506	359033.1	3241000	536.241
507	359014.8	3240979	536.117
508	359018.8	3240932	536.104
509	359003.6	3240884	536.097
510	359034.6	3240852	535.987
511	359069.6	3240820	535.987
512	359100.5	3240782	535.987
513	359118.7	3240735	535.864
514	359134.6	3240688	535.793
515	359141.9	3240639	535.793
516	359148	3240589	535.793
517	359152.7	3240539	535.793
518	359151.4	3240489	535.567
519	359147.4	3240440	535.147
520	359132.4	3240395	534.04
521	359117.7	3240352	533.749
522	359103.1	3240309	533.534
523	359082.1	3240267	532.619
524	359053.6	3240228	530.117
525	359034.7	3240208	529.415
526	358999.9	3240183	528.332
527	358966.6	3240147	527.996
528	358931.4	3240116	527.33
529	358889.4	3240090	526.226
530	358845.6	3240066	525.86
531	358804.3	3240038	525.276
532	358765.1	3240008	523.852
533	358739.9	3239968	523.497
534	358725.5	3239920	523.392
535	358709.4	3239876	523.392
536	358691	3239830	523.314
537	358674.6	3239783	523.288
538	358676.6	3239736	523.288
539	358713.6	3239726	522.992
540	358738	3239710	522.992

NOTARY GOVT. OF UTTARAKHAND Dr. P. S. [illegible] HQ-NAINITAL

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Gola river 25 Year HFL Points
Right Bank

Sl.No	Easting	Northing	WSE
541	358762.8	3239682	522.992
542	358791.5	3239654	522.992
543	358822.2	3239624	522.992
544	358853.4	3239589	522.992
545	358858.6	3239547	522.99
546	358837.6	3239510	522.99
547	358836	3239489	522.987
548	358825.9	3239452	522.987
549	358809.1	3239410	522.834
550	358778	3239374	522.834
551	358768.4	3239331	522.721
552	358751.1	3239288	522.721
553	358756.8	3239252	522.611
554	358753.2	3239206	522.611
555	358760.4	3239159	522.587
556	358778.3	3239118	522.587
557	358776.2	3239072	522.582
558	358792.5	3239026	522.582
559	358825.1	3238995	522.308
560	358849.4	3238968	512.604
561	358873.8	3238927	512.472
562	358902.8	3238902	511.515
563	358930.1	3238861	511.487
564	358950.6	3238818	511.219
565	358972.3	3238774	510.783
566	358980	3238725	509.71
567	358982.6	3238675	508.408
568	358972.7	3238626	505.341
569	358949.1	3238583	502.842
570	358933.6	3238538	502.508

Sl.No	Easting	Northing	WSE
571	358910.7	3238494	501.73
572	358913.7	3238449	501.176
573	358897	3238406	500.999
574	358890.9	3238362	500.403
575	358877.6	3238319	500.399
576	358860.9	3238274	499.841
577	358843.7	3238227	499.077
578	358823.8	3238181	497.435
579	358803.5	3238136	497.299
580	358781.2	3238092	497.293
581	358747.6	3238056	497.288
582	358713.5	3238019	496.36
583	358675.3	3237987	496.08
584	358640.1	3237952	495.747
585	358608.6	3237913	495.747
586	358572.3	3237879	495.393
587	358555.9	3237834	495.213
588	358547.7	3237784	495.213
589	358537.4	3237736	495.211
590	358538.9	3237686	495.194
591	358538.1	3237636	495.184
592	358523.8	3237588	495.177
593	358510.4	3237540	490.91
594	358499	3237492	490.91
595	358490.3	3237442	490.175
596	358481.5	3237393	489.748
597	358472.4	3237344	488.193
598	358462.1	3237295	487.506
599	358453.7	3237246	486.855
600	358450.6	3237196	484.338

Sl.No	Easting	Northing	WSE
601	358456.2	3237146	483.553
602	358453.9	3237097	483.447
603	358443.5	3237048	483.398
604	358436.1	3236998	483.317
605	358429.5	3236949	483.224
606	358437.5	3236900	483.203
607	358453.3	3236853	477.938
608	358467.2	3236805	476.206
609	358479.2	3236756	474.951
610	358495	3236709	474.852
611	358510.7	3236661	474.852
612	358529	3236615	474.852
613	358552.4	3236571	474.751
614	358574.6	3236526	474.632
615	358596.7	3236481	474.582
616	358597.7	3236432	474.478
617	358593.9	3236382	474.383
618	358598.2	3236333	470.358
619	358608.2	3236284	468.277
620	358617.1	3236235	468.916
621	358623	3236185	467.882
622	358645.3	3236145	467.743
623	358680.7	3236111	467.743
624	358697.3	3236064	467.743
625	358714.5	3236017	467.664
626	358736.3	3235972	467.651
627	358745.8	3235925	466.871
628	358733.6	3235877	466.245
629	358735.3	3235828	463.275
630	358743.6	3235778	463.241

NOTARY
Dr. P. S. Thakur
Advocate
HQ-NAINITAL
Govt. of Uttarakhand

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Gola river 25 Year HFL Points

Right Bank

Sl.No	Easting	Northing	WSE
631	358754.7	3235730	462.497
632	358765.3	3235681	462.497
633	358773	3235631	461.575
634	358778.4	3235582	461.538
635	358781.4	3235532	460.381
636	358780.5	3235482	460.221
637	358767.8	3235434	460.173
638	358747.1	3235389	460.173
639	358709.2	3235357	460.114
640	358673	3235323	460.11
641	358652.1	3235277	460.11
642	358632.5	3235231	459.921
643	358623.3	3235182	459.896
644	358614.1	3235133	459.707
645	358602.6	3235085	459.51
646	358583.1	3235039	456.525
647	358564.1	3234992	455.511
648	358532.4	3234954	454.755
649	358508.6	3234910	454.512
650	358496.7	3234862	454.51
651	358487.8	3234812	454.417
652	358476.2	3234764	454.327
653	358468.9	3234714	449.747
654	358456	3234666	449.729
655	358438.7	3234619	449.661
656	358416.6	3234574	449.576
657	358391.8	3234531	449.099
658	358360.4	3234492	449.086
659	358325.2	3234457	448.92
660	358296.2	3234416	448.349
661	358286.8	3234367	448.152
662	358278.2	3234318	447.217
663	358272	3234269	446.356
664	358263	3234220	446.145
665	358240.7	3234175	442.065
666	358236.7	3234126	442.025
667	358241.1	3234076	439.963
668	358248.5	3234026	439.829
669	358234.7	3233979	439.769
670	358218	3233932	439.567
671	358195.5	3233887	439.214
672	358172.4	3233843	438.669
673	358146.8	3233800	438.741
674	358117.1	3233760	437.723
675	358089.8	3233718	436.745
676	358065.5	3233675	436.635
677	358044.5	3233629	435.664
678	358023.1	3233584	435.531
679	358009.1	3233536	434.031
680	357998.6	3233487	433.174
681	357982.3	3233440	433.114
682	357955.7	3233398	431.919
683	357925.7	3233358	431.368
684	357890.9	3233322	430.278
685	357856.1	3233286	430.129
686	357825.7	3233246	430.106
687	357804	3233202	429.269
688	357787.1	3233155	429.046
689	357771.3	3233107	429.026
690	357755.6	3233060	428.771
691	357748.4	3233010	425.631
692	357742	3232961	424.486
693	357736.6	3232911	423.581
694	357734.1	3232861	422.078
695	357731.2	3232811	421.31
696	357733.9	3232761	421.296
697	357731.6	3232712	421.143
698	357723.3	3232663	421.124
699	357702.6	3232618	420.783
700	357699.3	3232568	420.331
701	357689.3	3232519	420.265
702	357689.6	3232469	418.452
703	357687.4	3232419	418.452
704	357678.7	3232370	417.277
705	357678.9	3232320	416.304
706	357683.2	3232270	415.601
707	357686.6	3232221	413.589
708	357688.1	3232171	413.287
709	357693.8	3232122	412.92
710	357713.9	3232078	412.755
711	357753.3	3232048	412.445
712	357776.3	3232005	412.428
713	357762.3	3231961	412.322
714	357744.9	3231918	412.281
715	357720.2	3231920	412.281
716	357723.1	3231871	411.485
717	357720.4	3231821	411.181
718	357726.4	3231771	410.678
719	357734.8	3231722	406.696
720	357749.4	3231675	406.375

GOLA
Dr. P. S.
HQ-NAINITAL
OF U

8/7/2024

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Gola river 25 Year HFL Points

Right Bank

Sl.No	Easting	Northing	WSE
721	357767.8	3231628	406.17
722	357788	3231582	405.428
723	357804.6	3231536	401.469
724	357827.7	3231491	401.381
725	357855.2	3231450	401.312
726	357890.8	3231415	400.677
727	357933.6	3231390	400.396
728	357979.8	3231372	400.201
729	358024.1	3231352	399.363
730	358057.9	3231316	399.321
731	358087.7	3231276	399.076
732	358091.6	3231227	399.037
733	358096.3	3231177	398.88
734	358105.6	3231129	397.294
735	358114.6	3231080	396.517
736	358127.3	3231031	396.398
737	358141.6	3230984	394.702
738	358152.3	3230935	391.525
739	358163.3	3230886	391.447
740	358173.9	3230838	389.809
741	358203.7	3230798	389.725
742	358234	3230759	389.666
743	358245.5	3230713	389.576
744	358265.5	3230671	389.522
745	358294.1	3230633	389.282
746	358290.9	3230583	389.068
747	358278.5	3230538	388.019
748	358273.2	3230496	388.019
749	358270	3230447	387.552
750	358271.3	3230397	386.435
751	358260.7	3230349	385.933
752	358250.5	3230300	385.614
753	358226.5	3230258	385.245
754	358213	3230214	385.207
755	358211.2	3230165	383.681
756	358210.1	3230115	383.496
757	358204.6	3230066	382.407
758	358193.3	3230017	382.386
759	358183.6	3229968	382.221
760	358184.3	3229918	379.966
761	358205.2	3229873	379.841
762	358214.7	3229825	378.312
763	358239.3	3229783	377.305
764	358256.4	3229737	373.334
765	358240.4	3229708	373.333
766	358257.2	3229664	373.235
767	358276.1	3229618	373.235
768	358316.2	3229589	373.233
769	358355.9	3229563	373.162
770	358396.3	3229535	372.683
771	358403.3	3229492	372.648
772	358403.2	3229446	372.566
773	358388.2	3229409	372.404
774	358381.9	3229365	371.925
775	358379.2	3229317	371.912
776	358386.6	3229268	369.948
777	358400.1	3229225	369.734
778	358397.8	3229179	369.668
779	358394.7	3229132	368.937
780	358387.1	3229099	368.59
781	358378.8	3229050	367.932
782	358374.2	3229002	367.895
783	358360.5	3228956	367.754
784	358347.7	3228909	367.291
785	358338.6	3228860	366.195
786	358338.4	3228810	365.21
787	358348	3228763	365.061
788	358342.5	3228714	364.864
789	358351.7	3228666	362.905
790	358363.5	3228624	362.677
791	358373.6	3228579	360.589
792	358386.4	3228532	360.273
793	358405.2	3228487	360.455
794	358418.6	3228439	360.383
795	358413.5	3228391	360.249
796	358392.9	3228356	360.125
797	358410.2	3228316	359.393
798	358422.3	3228268	358.281
799	358419.1	3228219	358.153
800	358415.9	3228169	358.117
801	358414.8	3228119	357.648
802	358422.4	3228092	357.118
803	358412.6	3228044	357.109
804	358391.2	3228004	356.557
805	358387	3227965	356.385
806	358371.8	3227918	355.171
807	358342.6	3227882	355.088
808	358335.3	3227841	354.877
809	358340.1	3227798	353.94
810	358316.3	3227767	353.702

NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL Regd. No. 10 (2010) GOVT. OF UTTARAKHAND (INDIA)

Gola river 25 Year HFL Points
Right Bank

Sl.No	Easting	Northing	WSE
811	358310.9	3227719	353.687
812	358295.2	3227672	352.548
813	358280	3227626	351.459
814	358263.8	3227579	350.951
815	358249.3	3227532	350.715
816	358230.3	3227487	350.622
817	358223	3227437	349.781
818	358223.9	3227387	348.896
819	358226.7	3227338	348.797
820	358236	3227288	347.526
821	358245.3	3227239	347.472
822	358247.7	3227190	347.065
823	358248.1	3227140	345.964
824	358269	3227095	344.861
825	358286.7	3227048	344.249
826	358310	3227004	343.477
827	358337.1	3226962	341.667
828	358371.2	3226926	341.502
829	358400.1	3226887	341.469
830	358434.9	3226858	340.238
831	358456.5	3226816	340.186
832	358474.7	3226771	340.104
833	358515.5	3226752	337.965
834	358514.3	3226706	337.955
835	358534	3226666	337.566
836	358581.6	3226651	337.49
837	358620.7	3226623	337.377
838	358660.1	3226600	337.222
839	358648.6	3226552	337.116
840	358645.5	3226520	337.045
841	358626.5	3226485	335.434
842	358632.2	3226460	335.222
843	358654.2	3226444	335.205
844	358673.2	3226403	335.143
845	358677.8	3226359	335.117
846	358656.2	3226319	335.104
847	358647.2	3226273	335.077
848	358617.1	3226234	334.738
849	358587.8	3226196	334.643
850	358568.2	3226150	334.447
851	358554.2	3226103	333.867
852	358544.1	3226055	332.031
853	358529.5	3226008	331.96
854	358512.2	3225961	331.757
855	358466.9	3225946	331.652
856	358454.4	3225898	331.085
857	358446.7	3225849	330.191
858	358438.3	3225800	330.177
859	358422.9	3225753	329.359
860	358415.8	3225704	329.278
861	358421	3225654	330.189
862	358414.4	3225605	328.511
863	358393.1	3225562	328.075
864	358390.2	3225513	328.075
865	358387.5	3225463	327.144
866	358385.9	3225413	324.172
867	358394.2	3225363	323.257
868	358408.4	3225316	323.195
869	358433.9	3225273	323.147
870	358465.1	3225234	323.037
871	358500.8	3225199	323.019
872	358533.1	3225161	323.011
873	358542.8	3225112	322.412
874	358558.6	3225066	321.925
875	358579.8	3225022	321.833
876	358615.7	3224988	321.646
877	358649.2	3224954	321.366
878	358687.1	3224929	321.278
879	358684.5	3224899	321.123
880	358669.4	3224852	320.234
881	358653.1	3224805	320.175
882	358652.4	3224756	319.323
883	358668.9	3224711	318.96
884	358674	3224665	318.267
885	358657.3	3224618	317.205
886	358649.2	3224569	317.062
887	358653.5	3224521	315.678
888	358642	3224474	315.614
889	358628.6	3224427	315.213
890	358614.1	3224380	315.132
891	358631.1	3224336	313.092
892	358629.1	3224295	312.727
893	358625.3	3224248	312.289
894	358613.5	3224203	312.289
895	358607	3224154	310.524
896	358611.7	3224105	310.431
897	358607.6	3224056	310.387
898	358581.5	3224013	310.174
899	358558.7	3223969	309.973
900	358537.6	3223924	309.737

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NOTARY GOVT. OF UTTARAKHAND (INDIA) Dr. P. S. Bhakuni Advocate HQ-NAINITAL

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Gola river 25 Year HFL Points
Right Bank

Sl.No	Easting	Northing	WSE
901	358525.1	3223876	308.804
902	358511.4	3223828	308.746
903	358500.2	3223780	307.645
904	358492.5	3223732	306.243
905	358485.4	3223683	305.322
906	358485.9	3223633	305.101
907	358496.3	3223585	304.076
908	358509.1	3223537	304.058
909	358521	3223488	304.022
910	358525.2	3223439	303.756
911	358534.5	3223390	303.279
912	358537.9	3223340	302.457
913	358539.3	3223291	302.059
914	358555.3	3223244	301.851
915	358573.4	3223198	300.042
916	358592.3	3223152	300.021
917	358607	3223104	299.435
918	358628.4	3223059	298.314
919	358649.8	3223014	298.232
920	358674.5	3222971	298.227
921	358698	3222927	297.844
922	358719.5	3222882	297.782
923	358728.8	3222833	297.621
924	358732.1	3222783	297.414
925	358736.3	3222734	295.945
926	358749.3	3222686	294.893
927	358767.2	3222640	294.576
928	358784.3	3222594	294.494
929	358790.4	3222544	293.969
930	358794.8	3222499	293.781
931	358793.2	3222450	293.441
932	358783.1	3222401	292.107
933	358761.2	3222356	291.731
934	358761.8	3222306	291.252
935	358762.2	3222257	289.712
936	358747.5	3222210	289.402
937	358730.1	3222163	289.378
938	358719.2	3222115	289.039
939	358716.2	3222065	287.454
940	358710.7	3222015	287.312
941	358697.9	3221967	287.211
942	358682.7	3221919	287.193
943	358667.4	3221872	287.076
944	358652.2	3221824	286.71
945	358637	3221776	285.493
946	358621.8	3221729	285.15
947	358606.6	3221681	284.203
948	358591.4	3221634	284.125
949	358589.9	3221584	284.052
950	358591.9	3221534	283.488
951	358593.9	3221484	281.83
952	358602.2	3221435	281.653
953	358612.6	3221386	281.564
954	358616.1	3221337	281.239
955	358625.7	3221288	279.945
956	358636.5	3221239	279.805
957	358642.3	3221190	278.85
958	358662.8	3221144	278.801
959	358688.8	3221103	278.717
960	358716.6	3221062	278.654
961	358727.5	3221013	278.567
962	358724.3	3220963	278.094
963	358719.4	3220913	277.88
964	358715.8	3220864	276.691
965	358725.6	3220819	276.201
966	358750.9	3220779	275.495
967	358758.8	3220730	275.118
968	358768.1	3220681	275.089
969	358753.3	3220633	275.048
970	358745.3	3220584	275.002
971	358740.6	3220535	274.892
972	358746.7	3220485	272.145
973	358756	3220437	272.073
974	358773.9	3220390	271.26
975	358785.2	3220342	271.136
976	358801	3220296	271.136
977	358818.6	3220252	270.776
978	358827.8	3220204	270.632
979	358831.6	3220154	269.899
980	358828.6	3220105	269.532
981	358833.3	3220056	269.463
982	358847.1	3220008	269.254
983	358874.8	3219970	269.182
984	358896.3	3219927	269.182
985	358899.8	3219879	269.182
986	358922.4	3219836	269.182
987	358934.9	3219792	269.123
988	358932.7	3219742	269.123
989	358936	3219692	269.092
990	358939.9	3219642	269.091

Dr. P. S. Bhandari
HQ-NAINITAL
GOVT. OF UTTARAKHAND

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Gola river 25 Year HFL Points
Right Bank

Sl.No	Easting	Northing	WSE
991	358947.7	3219593	268.876
992	358954.3	3219543	268.762
993	358960.3	3219494	268.664
994	358948.7	3219447	267.584
995	358920.2	3219406	267.507
996	358904.9	3219359	267.452
997	358884.3	3219314	267.353
998	358858.9	3219271	267.237
999	358846	3219224	267.158
1000	358844.4	3219175	266.784
1001	358848.5	3219125	266.663
1002	358857.4	3219077	266.453
1003	358862.6	3219027	266.388
1004	358870.3	3218980	265.826
1005	358873.6	3218930	265.36
1006	358877.6	3218880	265.063
1007	358887.4	3218831	265.021
1008	358886.8	3218782	264.696
1009	358874.7	3218734	264.542
1010	358862.7	3218685	264.425
1011	358835.8	3218643	264.242
1012	358809.3	3218601	263.67
1013	358785.3	3218557	263.615
1014	358771.8	3218509	263.145
1015	358751.9	3218463	263.113
1016	358733.4	3218418	263.098
1017	358742.7	3218370	262.684
1018	358745.9	3218322	260.278
1019	358749.1	3218272	260.214
1020	358757.1	3218223	260.122
1021	358769.9	3218178	260.083
1022	358795.6	3218136	260.064
1023	358812.2	3218088	260.048
1024	358824.3	3218040	259.766
1025	358834.3	3217991	259.484
1026	358835	3217941	258.464
1027	358850.6	3217894	257.721
1028	358875.9	3217851	257.523
1029	358896.4	3217806	257.439
1030	358918.8	3217762	257.304
1031	358940.4	3217717	257.255
1032	358937.5	3217669	257.04
1033	358942.8	3217619	255.418
1034	358950.8	3217570	255.382
1035	358960.5	3217521	255.242
1036	358976.1	3217474	255.171
1037	358983.7	3217425	254.351
1038	358981	3217376	254.274
1039	358979.1	3217326	254.087
1040	358997.4	3217282	252.711
1041	359014.3	3217236	251.488
1042	359026.3	3217188	251.322
1043	359044.9	3217143	251.297
1044	359068.1	3217099	250.949
1045	359088.4	3217058	250.513
1046	359100.6	3217019	250.466
1047	359102.3	3216970	249.238
1048	359116.8	3216922	249.178
1049	359123.8	3216873	249.161
1050	359117.4	3216824	248.93
1051	359132.2	3216777	248.744
1052	359130.1	3216727	246.934
1053	359131.4	3216678	245.444
1054	359149.8	3216631	245.313
1055	359175.7	3216589	245.249
1056	359198.7	3216546	246.103
1057	359227.9	3216506	245.095
1058	359236.4	3216458	245.095
1059	359245.3	3216409	245.028
1060	359263.4	3216363	244.936
1061	359273.8	3216314	244.711
1062	359282.6	3216265	244.339
1063	359297.7	3216218	244.281
1064	359305.7	3216168	244.068
1065	359319.7	3216122	243.602
1066	359329.4	3216074	243.421
1067	359350	3216030	243.411
1068	359343.2	3215981	243.237
1069	359346.5	3215931	243.208
1070	359352.3	3215882	242.169
1071	359349.5	3215832	241.943
1072	359353.9	3215782	241.842
1073	359373.8	3215737	241.731
1074	359395.4	3215692	241.52
1075	359403.6	3215644	241.466
1076	359411.7	3215594	241.381
1077	359411.3	3215545	241.317
1078	359422	3215496	241.163
1079	359432.2	3215447	241.027
1080	359450.6	3215401	240.888

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Gola river 25 Year HFL Points

Right Bank

Sl.No	Easting	Northing	WSE
1081	359466	3215354	240.881
1082	359477.2	3215305	240.794
1083	359481.8	3215255	240.703
1084	359486	3215206	240.414
1085	359495.5	3215157	239.721
1086	359485.2	3215115	239.446
1087	359462.9	3215071	239.362
1088	359482.8	3215025	239.196
1089	359505.3	3214980	238.637
1090	359539.9	3214946	238.534
1091	359567.4	3214907	238.534
1092	359585.5	3214861	238.258
1093	359604.9	3214814	238.258
1094	359624.4	3214768	238.197
1095	359634.8	3214720	238.093
1096	359642	3214670	237.088
1097	359653	3214621	237.088
1098	359674.1	3214576	237.033
1099	359702	3214538	236.821
1100	359718.3	3214492	236.501
1101	359734.3	3214444	236.464
1102	359766.2	3214407	236.438
1103	359806.6	3214381	236.435
1104	359854.8	3214368	236.227
1105	359884.5	3214339	235.771
1106	359913	3214299	235.689
1107	359953.3	3214271	235.442
1108	359995.5	3214245	235.352
1109	360030.1	3214210	235.347
1110	360058.6	3214169	235.299
1111	360050.6	3214121	235.295
1112	360050.1	3214071	235.224
1113	360063	3214023	234.152
1114	360088.1	3213980	234.886
1115	360113.3	3213937	234.828
1116	360134.2	3213891	234.713
1117	360150.4	3213845	234.634
1118	360154.3	3213795	234.338
1119	360158.2	3213745	234.244
1120	360162.1	3213695	233.621
1121	360165.6	3213645	232.677
1122	360164.9	3213595	232.49
1123	360173.2	3213546	232.315
1124	360196.3	3213502	232.194
1125	360217	3213459	232.047
1126	360234.5	3213413	231.855
1127	360251.1	3213366	231.664
1128	360266.5	3213319	231.631
1129	360265.3	3213269	231.509
1130	360263.6	3213219	231.276
1131	360259.9	3213169	231.097
1132	360267.9	3213120	231.088
1133	360264.4	3213073	231.013
1134	360255.5	3213025	231.06
1135	360246.1	3212976	229.775
1136	360229.5	3212929	229.637
1137	360232.3	3212881	229.632
1138	360256.8	3212838	229.426
1139	360282.4	3212795	229.363
1140	360319	3212765	229.363
1141	360352.5	3212728	229.257
1142	360348	3212681	229.041
1143	360340	3212632	228.995
1144	360325.8	3212585	228.811
1145	360289.4	3212555	228.753
1146	360253.4	3212520	228.568
1147	360236.1	3212474	228.556
1148	360218.9	3212427	228.275
1149	360218.8	3212377	226.837
1150	360226.3	3212328	226.832
1151	360249.6	3212286	226.779
1152	360285.1	3212251	226.575
1153	360320.9	3212219	226.393
1154	360319.4	3212169	226.207
1155	360322.2	3212119	225.507
1156	360327.4	3212069	225.475
1157	360344.8	3212026	225.248
1158	360363.1	3211986	225.179
1159	360362	3211943	225.162
1160	360360.1	3211893	225.026
1161	360359.5	3211843	224.712
1162	360359.3	3211793	224.701
1163	360359.2	3211743	224.585
1164	360374.2	3211699	223.724
1165	360385.4	3211651	223.401
1166	360406.9	3211606	223.261
1167	360424.3	3211560	223.177
1168	360431.4	3211512	222.668
1169	360418.7	3211464	222.181
1170	360417	3211415	222.067

NOTARY GOVT. OF UTTARAKHAND INDIA
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL

Gola river 25 Year HFL Points

Right Bank

Sl.No	Easting	Northing	WSE
1171	360419	3211368	221.855
1172	360414.2	3211318	221.803
1173	360418	3211269	221.645
1174	360430.1	3211221	220.511
1175	360429.3	3211171	220.703
1176	360434.7	3211122	220.703
1177	360448.6	3211074	220.651
1178	360443.6	3211026	220.542
1179	360423.6	3210981	220.385
1180	360404.7	3210937	220.345
1181	360395.1	3210888	219.963
1182	360380.4	3210841	219.901
1183	360353.7	3210798	219.853
1184	360330.8	3210757	219.711
1185	360319.1	3210709	219.656
1186	360301	3210663	219.647
1187	360270.9	3210626	219.567
1188	360236.9	3210590	219.379
1189	360200.3	3210556	219.354
1190	360163	3210523	219.354
1191	360123.2	3210493	219.346
1192	360080.9	3210466	219.315
1193	360035.3	3210446	219.271
1194	360002.9	3210411	219.235
1195	359975.1	3210374	219.224
1196	359941	3210345	219.182
1197	359926.1	3210303	219.077
1198	359903.2	3210262	219.077
1199	359872.9	3210224	218.851
1200	359837.5	3210189	218.578

Sl.No	Easting	Northing	WSE
1201	359798.3	3210158	218.484
1202	359751.4	3210146	218.475
1203	359713.4	3210116	217.742
1204	359683.1	3210077	217.742
1205	359689.6	3210028	217.738
1206	359724	3209995	217.727
1207	359736.4	3209948	217.714
1208	359718.3	3209903	217.704
1209	359693.8	3209860	217.679
1210	359674.4	3209814	217.626
1211	359673.5	3209764	217.656
1212	359658.4	3209717	217.589
1213	359640.5	3209670	217.531
1214	359619.6	3209625	217.447
1215	359598.7	3209580	217.373
1216	359580.1	3209533	217.349
1217	359571.1	3209484	217.279
1218	359555	3209438	217.161
1219	359532.8	3209393	217.147
1220	359514.6	3209347	217.126
1221	359498.3	3209300	217.12
1222	359478.8	3209254	217.094
1223	359457.8	3209208	217.071
1224	359432.3	3209165	216.904
1225	359406.8	3209122	216.848
1226	359386.3	3209077	216.766
1227	359371.4	3209030	216.751
1228	359358.4	3208982	216.691
1229	359333.6	3208940	216.684
1230	359297.3	3208906	216.581

Sl.No	Easting	Northing	WSE
1231	359267.8	3208868	216.443
1232	359250.1	3208823	216.412
1233	359228.4	3208779	216.324
1234	359207.5	3208735	216.297
1235	359193.8	3208691	216.171
1236	359151	3208665	215.826
1237	359109.3	3208641	215.773
1238	359089.2	3208600	215.635
1239	359062.2	3208559	215.557
1240	359040.5	3208514	215.406
1241	359012.2	3208475	215.387
1242	358999.6	3208432	215.291
1243	358986.6	3208385	215.886
1244	358972.4	3208339	215.746
1245	358953.2	3208294	215.718
1246	358925.9	3208254	215.642
1247	358889.7	3208220	215.344
1248	358851.6	3208188	215.297
1249	358819.5	3208150	215.297
1250	358785.2	3208114	215.297
1251	358750	3208078	215.297
1252	358719.7	3208039	215.297
1253	358690.3	3207999	215.297
1254	358653.4	3207966	215.171
1255	358620.1	3207929	215.171
1256	358591.3	3207889	215.171
1257	358575.7	3207842	215.143
1258	358558.2	3207796	215.109
1259	358532.4	3207753	215.107
1260	358506.5	3207710	215.1

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Gola river 25 Year HFL Points
Right Bank

Sl.No	Easting	Northing	WSE
1261	358481.1	3207667	215.1
1262	358443.8	3207634	215.1
1263	358406.7	3207601	215.092
1264	358369.6	3207567	215.092
1265	358331.9	3207535	215.092
1266	358293.5	3207503	215.063
1267	358268	3207460	215.052
1268	358254	3207412	215.052
1269	358255	3207363	215.039
1270	358268.8	3207315	215.031
1271	358295.3	3207273	215.01
1272	358311.3	3207227	214.841
1273	358289.1	3207184	215.777
1274	358289.3	3207134	215.517
1275	358308	3207088	215.439
1276	358314.9	3207039	215.439
1277	358336.2	3206994	215.429
1278	358357	3206949	215.429
1279	358375	3206902	215.396
1280	358393.7	3206856	215.283
1281	358429	3206821	215.153
1282	358471.8	3206796	214.186
1283	358519	3206780	214.238
1284	358568.1	3206772	213.998
1285	358617.6	3206765	213.872
1286	358667.1	3206758	213.806
1287	358717	3206756	213.793
1288	358763.1	3206742	213.723
1289	358805	3206715	213.712
1290	358835.8	3206675	213.709
1291	358865	3206635	213.705
1292	358892.5	3206593	213.705
1293	358931.9	3206563	213.701
1294	358958.9	3206523	213.701
1295	358967.6	3206477	213.653
1296	358933.5	3206440	213.633
1297	358900.8	3206402	213.624
1298	358870	3206363	213.617
1299	358839.3	3206323	213.613
1300	358807.7	3206285	213.563
1301	358758.8	3206275	213.537
1302	358710	3206264	213.515
1303	358661.7	3206251	213.467
1304	358614.4	3206235	213.351
1305	358566.3	3206222	213.349
1306	358519.7	3206203	213.327
1307	358476.5	3206179	213.326
1308	358434.1	3206152	213.323
1309	358391.7	3206126	213.314
1310	358348.1	3206101	213.306
1311	358303.7	3206078	213.262
1312	358260.9	3206053	213.207
1313	358225.4	3206018	213.205
1314	358189.8	3205983	213.184
1315	358161.8	3205942	213.183
1316	358137.6	3205898	213.171
1317	358116.9	3205853	213.164
1318	358107	3205804	213.159
1319	358115.9	3205759	213.151
1320	358149.4	3205721	213.151
1321	358178.6	3205682	213.144
1322	358198	3205636	212.705
1323	358211.2	3205589	212.501
1324	358197.3	3205541	212.364
1325	358172.6	3205498	212.344
1326	358156	3205451	212.311
1327	358117.5	3205430	212.307
1328	358080.1	3205401	212.3
1329	358044	3205367	212.299
1330	358067.6	3205331	212.294
1331	358080.1	3205291	212.294
1332	358076.6	3205243	212.159
1333	358068.3	3205196	212.106
1334	358100.7	3205164	211.695
1335	358133.7	3205133	211.484
1336	358126.2	3205088	211.467
1337	358107.3	3205042	210.838
1338	358082.6	3204999	210.608
1339	358062.9	3204953	210.524
1340	358044.6	3204907	210.358
1341	358022.3	3204864	210.329
1342	358010.2	3204817	210.316
1343	358002	3204768	210.302
1344	357992.3	3204719	210.302
1345	357982.6	3204670	210.285
1346	357989.1	3204621	209.963
1347	357995.8	3204572	209.951
1348	357999.9	3204522	209.991
1349	358005.6	3204472	209.692
1350	358011.4	3204423	209.618

NOTARY Dr. P. S. Thakur Advocate HQ-NAINITAL Regd. No. 30 (Uttarakhand) GOVT. OF UTTARAKHAND

18/9/2024

Gola river 25 Year HFL Points
Right Bank

Sl.No	Easting	Northing	WSE
1351	358016.9	3204373	209.428
1352	358020.6	3204323	209.424
1353	358024.3	3204273	209.405
1354	358036.9	3204225	209.365
1355	358052.7	3204178	209.317
1356	358055.9	3204130	209.152
1357	358040.8	3204082	209.128
1358	358041.1	3204033	209.05
1359	358053.3	3203993	208.859
1360	358103.3	3203993	208.849
1361	358153.3	3203994	208.834
1362	358173.3	3203953	208.748
1363	358222.1	3203943	208.513
1364	358237.4	3203896	208.342
1365	358253.7	3203849	208.305
1366	358275.7	3203804	208.274
1367	358262.9	3203771	208.27
1368	358213	3203768	208.269
1369	358163	3203766	208.269
1370	358113.7	3203760	208.269
1371	358067	3203742	208.26
1372	358019.9	3203725	208.26
1373	357983.5	3203708	208.215
1374	358024.1	3203679	208.211
1375	358073.6	3203682	208.211
1376	358115.3	3203676	208.204
1377	358136.6	3203640	208.201
1378	358182	3203624	208.152
1379	358214.1	3203586	208.093
1380	358246.3	3203548	207.667

Sl.No	Easting	Northing	WSE
1381	358278.5	3203509	207.654
1382	358298.9	3203468	207.615
1383	358288.6	3203419	207.592
1384	358267.2	3203375	207.534
1385	358240.9	3203332	207.507
1386	358213.2	3203291	207.413
1387	358179.8	3203253	207.356
1388	358146.5	3203216	207.334
1389	358113.1	3203179	207.328
1390	358085.6	3203137	207.319
1391	358059.4	3203095	207.301
1392	358033.2	3203052	207.243
1393	358002.1	3203013	207.225
1394	357968	3202977	207.214
1395	357933.8	3202940	207.129
1396	357891.6	3202914	207.049
1397	357848.5	3202888	206.888
1398	357803.2	3202876	206.879
1399	357754.1	3202886	206.792
1400	357705	3202895	206.732
1401	357655.9	3202904	206.732
1402	357606.8	3202914	206.73
1403	357557.7	3202923	206.697
1404	357512.6	3202940	206.697
1405	357479	3202977	206.691
1406	357445.3	3203014	206.691
1407	357411.7	3203051	206.684
1408	357377	3203086	206.684
1409	357327.4	3203093	206.684
1410	357277.9	3203099	206.684

Sl.No	Easting	Northing	WSE
1411	357228.6	3203097	206.657
1412	357179.6	3203088	206.651
1413	357130.5	3203078	206.627
1414	357089.1	3203051	206.614
1415	357058.1	3203016	206.602
1416	357048.6	3202969	206.563
1417	357005.1	3202960	206.541
1418	356955.2	3202964	206.533
1419	356905.6	3202962	206.529
1420	356856.1	3202955	206.517
1421	356816.4	3202925	206.509
1422	356778.3	3202893	206.502
1423	356750.7	3202851	206.476
1424	356727.7	3202808	206.465
1425	356721.8	3202758	206.452
1426	356708.6	3202710	206.444
1427	356700.4	3202661	206.438
1428	356703.1	3202612	206.438
1429	356708	3202563	206.424
1430	356702.3	3202513	206.418
1431	356694.9	3202464	206.411
1432	356686.4	3202414	206.41
1433	356690.5	3202364	206.406
1434	356720.3	3202325	206.401
1435	356756.6	3202291	206.374
1436	356784.6	3202249	206.359
1437	356818.2	3202213	206.363
1438	356852	3202178	206.36
1439	356898.7	3202160	206.359
1440	356947.2	3202160	206.359

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Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND

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Gola river 25 Year HFL Points
Right Bank

Sl.No	Easting	Northing	WSE
1441	356996.5	3202168	206.341
1442	357045.8	3202176	206.307
1443	357094.8	3202186	206.307
1444	357139.4	3202177	206.304
1445	357139.3	3202128	206.289
1446	357137	3202078	206.256
1447	357144.4	3202029	206.248
1448	357154	3201980	206.228
1449	357182.8	3201940	206.221
1450	357206.5	3201898	206.219
1451	357213.2	3201848	206.212
1452	357201.9	3201799	206.187
1453	357190.7	3201751	206.099
1454	357168.1	3201707	206.071
1455	357139	3201666	205.938
1456	357109.9	3201626	205.725
1457	357083.6	3201584	205.569
1458	357074	3201535	205.391
1459	357055.9	3201488	205.249
1460	357035.7	3201443	205.222
1461	357015.6	3201397	205.123
1462	356984.1	3201359	205.114
1463	356952.8	3201320	205.107
1464	356928.6	3201276	205.008
1465	356907.3	3201231	205.008
1466	356893.7	3201183	204.962
1467	356885.6	3201134	204.911
1468	356885.5	3201084	204.909
1469	356885.3	3201034	204.856
1470	356885.1	3200984	204.874
1471	356885	3200934	204.867
1472	356887.7	3200884	204.844
1473	356892.5	3200834	204.829
1474	356897.2	3200784	204.829
1475	356902	3200735	204.712
1476	356906.2	3200685	204.693
1477	356909.5	3200635	204.68
1478	356912.8	3200585	204.552
1479	356933	3200540	204.523
1480	356970.7	3200508	204.521
1481	357013.7	3200483	204.515
1482	357063.5	3200479	204.468
1483	357113.3	3200476	204.475
1484	357161.4	3200490	204.461
1485	357206.7	3200511	204.441
1486	357240.1	3200546	204.429
1487	357268.7	3200587	204.424
1488	357297.4	3200628	204.414
1489	357326.1	3200669	204.403
1490	357354.8	3200710	204.374
1491	357384	3200750	204.367
1492	357432.8	3200761	204.361
1493	357481.6	3200772	204.354
1494	357530.1	3200766	204.354
1495	357578.5	3200753	204.339
1496	357623.7	3200736	204.334
1497	357650.1	3200694	204.334
1498	357682.1	3200655	204.253
1499	357717.2	3200620	204.247
1500	357763.1	3200601	204.241
1501	357812.7	3200595	204.227
1502	357862.3	3200589	204.224
1503	357911.7	3200582	204.217
1504	357955.4	3200557	204.211
1505	357989.9	3200522	204.207
1506	358006	3200476	204.202
1507	358015.1	3200427	204.202
1508	358024.2	3200378	204.199
1509	358021.2	3200329	204.187
1510	358010.5	3200280	204.182
1511	357999.8	3200231	204.179
1512	357989.2	3200183	204.168
1513	357978.5	3200134	204.153
1514	357967.8	3200085	204.157
1515	357950.1	3200039	204.149
1516	357925.8	3199995	204.142
1517	357901.6	3199951	204.142
1518	357877.4	3199907	204.137
1519	357853.1	3199864	204.132
1520	357828.9	3199820	204.13
1521	357796.6	3199791	204.088
1522	357746.7	3199794	203.978
1523	357696.7	3199795	203.968
1524	357646.7	3199795	203.851
1525	357597.6	3199787	203.794
1526	357548.8	3199776	203.727
1527	357499.4	3199769	203.719
1528	357449.6	3199765	203.528
1529	357399.7	3199762	203.517
1530	357349.8	3199758	203.476

NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL GOVT. OF UTTARAKHAND

8/7/2024

Gola river 25 Year HFL Points
Right Bank

Sl.No	Easting	Northing	WSE
1531	357300.2	3199764	203.442
1532	357250.7	3199771	203.415
1533	357201.3	3199779	203.396
1534	357152	3199787	202.967
1535	357114.4	3199762	202.932
1536	357067.1	3199769	202.921
1537	357021	3199788	202.919
1538	356972.9	3199801	202.905
1539	356924.1	3199795	202.876
1540	356875.1	3199785	202.874
1541	356826.2	3199774	202.871
1542	356792.9	3199740	202.744
1543	356763.5	3199700	202.739
1544	356734.1	3199659	202.728
1545	356704.7	3199619	202.725
1546	356675	3199578	202.724
1547	356644.7	3199539	202.714
1548	356602.9	3199519	202.703
1549	356553.4	3199512	202.682
1550	356503.8	3199505	202.674
1551	356454.3	3199498	202.668
1552	356404.5	3199495	202.658
1553	356354.5	3199494	202.646
1554	356304.5	3199493	202.644
1555	356257.3	3199479	202.644
1556	356211.1	3199460	202.644
1557	356164.8	3199441	202.644
1558	356124.8	3199411	202.638
1559	356085.3	3199381	202.637
1560	356058.8	3199339	202.634
1561	356034.6	3199295	202.631
1562	356010.4	3199251	202.627
1563	355986.1	3199208	202.627
1564	355961.9	3199164	202.623
1565	355937.7	3199120	202.617
1566	355926	3199072	202.614
1567	355907.2	3199028	202.611
1568	355903	3198978	202.611
1569	355914.5	3198931	202.611
1570	355948.3	3198895	202.611
1571	355984.1	3198860	202.607
1572	356012.9	3198820	202.604
1573	356040.9	3198782	202.601
1574	356066.2	3198739	202.591
1575	356058.9	3198693	202.584
1576	356035.5	3198649	202.584
1577	356024.5	3198601	202.584
1578	356021.2	3198551	202.581
1579	356020	3198501	202.573
1580	356018.8	3198451	202.571
1581	356017.6	3198401	202.567
1582	356016.4	3198351	202.562
1583	356012.3	3198301	202.562
1584	356005.7	3198252	202.557
1585	355999	3198202	202.552
1586	355992.5	3198153	202.543
1587	355989.7	3198103	202.541
1588	355986.8	3198053	202.541
1589	355984	3198003	202.537
1590	355981.1	3197953	202.532
1591	355977.5	3197903	202.524
1592	355973.1	3197853	202.518
1593	355968.7	3197803	202.503
1594	355964.4	3197754	202.5
1595	355959.2	3197704	202.488
1596	355954	3197654	202.481
1597	355948.8	3197604	202.476
1598	355943.7	3197555	202.471
1599	355938.5	3197505	202.366
1600	355914.9	3197466	202.361
1601	355873.7	3197438	202.352
1602	355832.5	3197409	202.348
1603	355786.4	3197390	202.346
1604	355740.3	3197371	202.337
1605	355693.6	3197353	202.336
1606	355646.4	3197336	202.33
1607	355599.3	3197320	202.324
1608	355551.4	3197305	202.321
1609	355541.8	3197257	202.321
1610	355539.2	3197207	202.321
1611	355536.2	3197157	202.321
1612	355532.8	3197107	202.317
1613	355529.4	3197057	202.311
1614	355526.1	3197007	202.275
1615	355522.7	3196958	202.265
1616	355519.4	3196908	202.261
1617	355516	3196858	202.257
1618	355510.9	3196808	202.251
1619	355502.9	3196759	202.247
1620	355495	3196709	202.241

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NOTARY ... Dr. P. S. Bhakuni ... Adv. ... HQ-NAINITAL ... GOVT. OF UTTARAKHAND

27/12/2024

Gola river 25 Year HFL Points

Right Bank

Sl.No	Easting	Northing	WSE
1621	355490.5	3196660	202.237
1622	355486.8	3196610	202.231
1623	355483	3196560	202.224
1624	355479.3	3196510	202.221
1625	355475.6	3196460	202.218
1626	355460.8	3196420	202.212
1627	355411.8	3196411	202.21
1628	355362.1	3196405	202.043
1629	355312.4	3196400	201.983
1630	355262.8	3196394	201.843
1631	355213.9	3196386	201.724
1632	355170.1	3196362	201.669
1633	355128.2	3196335	200.703
1634	355096	3196297	200.699
1635	355093.2	3196247	200.613
1636	355106.3	3196199	200.552
1637	355128.9	3196155	200.542
1638	355152.2	3196111	200.447
1639	355186.2	3196074	200.443
1640	355220.3	3196037	200.443
1641	355235.7	3196000	200.443
1642	355196.5	3195969	200.317
1643	355161.5	3195934	200.226
1644	355124	3195901	199.954
1645	355086.2	3195868	198.859
1646	355049.2	3195834	198.779
1647	355011	3195802	197.995
1648	354974.1	3195769	197.927
1649	354949.3	3195726	197.854
1650	354925.6	3195683	197.846

Sl.No	Easting	Northing	WSE
1651	354893.5	3195645	197.837
1652	354858.2	3195609	197.751
1653	354819.4	3195578	197.744
1654	354779.3	3195548	197.731
1655	354733.3	3195529	197.725
1656	354684.1	3195521	197.445
1657	354634.9	3195512	197.219
1658	354586.5	3195500	197.181
1659	354539.7	3195483	196.154
1660	354497.1	3195457	196.124
1661	354452.7	3195434	197.113
1662	354405.6	3195418	197.109
1663	354365.5	3195388	197.102
1664	354324.5	3195360	197.1
1665	354283.2	3195332	197.094
1666	354241.1	3195305	197.067
1667	354197.2	3195281	197.021
1668	354152.8	3195258	196.844
1669	354114.1	3195226	196.819
1670	354079.1	3195191	196.741
1671	354045.4	3195155	196.723
1672	354004.9	3195126	196.714
1673	353972.3	3195089	196.707
1674	353929.2	3195064	196.564
1675	353885.5	3195040	196.163
1676	353841.5	3195016	196.067
1677	353799.3	3194989	195.715
1678	353762.1	3194957	195.696
1679	353721.4	3194928	195.505
1680	353676.4	3194906	195.309

Sl.No	Easting	Northing	WSE
1681	353634.1	3194880	195.261
1682	353596.4	3194847	195.193
1683	353563.4	3194810	195.161
1684	353535.3	3194769	195.117
1685	353521.5	3194721	195.061

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NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
Govt. of Uttarakhand (India)

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Gola river 25 Year HFL Points

Left Bank

Sl.No	Easting	Northing	WSE
1	369169.3	3242049	914.321
2	369210	3242020	913.867
3	369250.2	3241993	913.567
4	369257.8	3241949	913.247
5	369227.3	3241910	912.675
6	369210.1	3241864	911.439
7	369198.5	3241816	910.15
8	369189.8	3241767	909.245
9	369203.3	3241719	909.087
10	369222.8	3241673	907.54
11	369242	3241627	906.05
12	369255.6	3241579	905.27
13	369280.5	3241536	905.27
14	369303	3241491	898.146
15	369330.8	3241450	898.146
16	369353.2	3241406	892.447
17	369375.1	3241362	891.022
18	369388.5	3241314	891.022
19	369410.2	3241269	891.022
20	369422.7	3241222	891.022
21	369412.8	3241173	889.597
22	369394.9	3241127	889.597
23	369375.5	3241082	888.323
24	369389.5	3241038	885.898
25	369408.3	3240992	883.473
26	369442.8	3240958	882.473
27	369464.4	3240918	881.199
28	369478.4	3240870	879.774
29	369494.7	3240823	875.35
30	369522.2	3240782	873.5
31	369553.4	3240742	872.6
32	369586	3240705	871.6
33	369614.3	3240663	870.6
34	369636.8	3240619	870.6
35	369670.2	3240582	869.21
36	369696.6	3240542	869.21
37	369698.7	3240492	867.21
38	369688.2	3240443	865.844
39	369678.2	3240394	863.016
40	369690.9	3240346	861.65
41	369712.4	3240302	859.65
42	369742.3	3240262	858.65
43	369766.5	3240218	857.33
44	369808.3	3240194	854.933
45	369857.4	3240198	851.933
46	369907	3240205	847.9
47	369956.6	3240210	845.9
48	370003.3	3240201	844.9
49	370043.8	3240173	844.9
50	370090.1	3240157	844.9
51	370139.9	3240157	843.9
52	370189.8	3240159	843.9
53	370232.6	3240148	843.9
54	370246	3240100	843.51
55	370255.6	3240051	843.51
56	370252.7	3240002	841.55
57	370255.9	3239954	831.91
58	370302.1	3239938	831.91
59	370351.8	3239933	829.5
60	370400.8	3239924	829.5
61	370447	3239905	829.5
62	370491.5	3239884	827.93
63	370537.5	3239865	827.93
64	370586.8	3239858	827.93
65	370634.6	3239844	827.93
66	370680	3239824	826.095
67	370726.2	3239806	826.095
68	370762.5	3239772	824.26
69	370790.4	3239733	824.26
70	370795.5	3239683	816.92
71	370817.7	3239638	809.58
72	370822.4	3239591	809.58
73	370810.5	3239544	809.58
74	370827.2	3239498	809.58
75	370844.9	3239452	809.58
76	370841.2	3239404	807.99
77	370847.8	3239356	807.99
78	370849.9	3239306	807.99
79	370840.5	3239259	807.99
80	370804.1	3239230	807.99
81	370759.1	3239215	806.53
82	370738.3	3239172	805.09
83	370748.2	3239124	805.09
84	370777.4	3239083	805.09
85	370813.4	3239049	805.09
86	370850.5	3239016	786.85
87	370889.7	3238985	786.85
88	370933.1	3238960	785.318
89	370980.7	3238948	785.318
90	371030.7	3238946	783.786

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HQ-NAINITAL

8/2/2024

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Gola river 25 Year HFL Points

Left Bank

Sl.No	Easting	Northing	WSE
91	371071	3238972	783.786
92	371097.7	3239012	783.786
93	371125.9	3239049	783.786
94	371170.8	3239061	783.786
95	371215.3	3239043	782.254
96	371231.9	3238998	782.254
97	371235.9	3238948	782.254
98	371239.9	3238898	782.254
99	371243.9	3238848	780.722
100	371243.2	3238799	780.722
101	371258.2	3238752	780.722
102	371273.3	3238705	780.722
103	371273	3238655	780.722
104	371272.5	3238605	779.19
105	371296.2	3238562	777.658
106	371288.9	3238513	777.658
107	371272.7	3238470	773.062
108	371224.1	3238459	773.062
109	371179	3238439	773.062
110	371140.1	3238408	773.062
111	371109.4	3238371	771.53
112	371117	3238321	768.38
113	371134.5	3238275	767.74
114	371140.6	3238227	767.1
115	371137.6	3238179	767.1
116	371144.6	3238131	767.1
117	371162.3	3238092	766.272
118	371182.7	3238049	766.272
119	371153.7	3238029	766.272
120	371111.7	3238017	766.272
121	371066.9	3238003	765.445
122	371042.2	3237963	764.618
123	371034.2	3237915	764.618
124	371031.3	3237865	763.79
125	371025.8	3237815	763.79
126	371017	3237766	758.203
127	371000.5	3237720	758.203
128	370971.1	3237681	757.617
129	370940.6	3237644	757.617
130	370897.8	3237629	757.617
131	370875.9	3237590	757.617
132	370851.1	3237548	757.617
133	370825.2	3237512	755.857
134	370808.7	3237470	755.857
135	370778	3237433	755.27
136	370737.8	3237404	754.592
137	370705.7	3237373	753.915
138	370660.8	3237355	753.238
139	370631.5	3237320	748.222
140	370669.8	3237292	747.88
141	370705.8	3237301	747.88
142	370743.9	3237273	747.88
143	370779	3237241	747.88
144	370797.9	3237196	747.34
145	370809.9	3237153	747.34
146	370824.7	3237110	747.34
147	370838	3237066	747.34
148	370848.1	3237018	747.34
149	370862.6	3236970	746.47
150	370871.8	3236921	746.47
151	370885.7	3236874	744.45
152	370907.6	3236829	744.45
153	370924.9	3236782	744.45
154	370940.8	3236735	744.45
155	370940	3236688	744.45
156	370906.9	3236651	742.927
157	370875.6	3236615	742.927
158	370839.5	3236583	742.927
159	370796.1	3236565	742.927
160	370767.6	3236531	742.927
161	370737.7	3236492	736.94
162	370718.6	3236446	735.74
163	370693.3	3236404	735.74
164	370668.5	3236363	732.113
165	370639.7	3236326	732.113
166	370598.9	3236306	732.113
167	370593.8	3236257	732.113
168	370579.5	3236209	732.113
169	370559.5	3236167	732.113
170	370535.5	3236129	732.113
171	370504	3236095	731.5
172	370509.3	3236047	731.5
173	370517.9	3235998	731.5
174	370506.2	3235949	731.5
175	370487.4	3235905	731.5
176	370441.5	3235885	731.5
177	370393.4	3235872	727.808
178	370344.3	3235863	727.808
179	370295.2	3235853	727.808
180	370245.3	3235852	727.808

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND

2/4/2024

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Gola river 25 Year HFL Points

Left Bank

Sl.No	Easting	Northing	WSE
181	370196.9	3235859	727.808
182	370154.5	3235885	727.27
183	370108.5	3235903	727.27
184	370071.6	3235936	727.27
185	370025	3235947	727.27
186	369979.1	3235966	727.27
187	369956.9	3235996	727.27
188	369934.5	3236022	727.27
189	369888	3236023	725.76
190	369841.2	3236033	725.76
191	369794.1	3236038	724.969
192	369748.2	3236041	724.178
193	369714.6	3236068	724.178
194	369680.8	3236096	721.804
195	369636.7	3236115	719.038
196	369589.8	3236119	719.038
197	369548.6	3236134	719.038
198	369502.1	3236149	716.44
199	369462	3236165	716.44
200	369449	3236166	716.44
201	369419.1	3236200	716.44
202	369384.1	3236221	715.58
203	369340	3236243	713.57
204	369298.4	3236267	713.57
205	369253.6	3236281	713.57
206	369207	3236299	713.22
207	369160.4	3236299	713.22
208	369137.5	3236271	713.22
209	369092	3236291	712.592
210	369062.5	3236322	712.592
211	369029.5	3236351	712.592
212	368985.8	3236371	711.965
213	368942.9	3236391	711.965
214	368917.4	3236365	711.965
215	368921	3236347	711.965
216	368893.6	3236376	711.965
217	368897	3236408	709.159
218	368855.6	3236431	709.159
219	368807.4	3236434	708.642
220	368768.5	3236457	708.642
221	368722.7	3236467	708.125
222	368676.6	3236472	707.608
223	368627.2	3236475	707.091
224	368577.6	3236480	705.54
225	368530.3	3236496	702.34
226	368483	3236512	701.59
227	368438.5	3236535	701.59
228	368398.3	3236565	701.59
229	368359.7	3236596	701.59
230	368336.5	3236640	699.88
231	368315.8	3236686	699.88
232	368305.2	3236733	699.09
233	368267.5	3236754	699.09
234	368218	3236760	698.81
235	368171.4	3236773	698.81
236	368127.8	3236760	698.067
237	368081.9	3236748	697.323
238	368034.5	3236738	695.95
239	367986	3236731	693.601
240	367937.3	3236731	693.143
241	367888	3236734	692.225
242	367842.3	3236754	692.225
243	367800.3	3236779	692.225
244	367758.1	3236803	692.225
245	367734.3	3236802	691.767
246	367709.9	3236840	691.767
247	367672.7	3236870	691.767
248	367625.1	3236869	690.849
249	367582	3236873	690.849
250	367534.8	3236883	686.97
251	367487.8	3236891	686.97
252	367442.4	3236899	686.97
253	367397.5	3236909	685.87
254	367357.7	3236921	685.87
255	367312	3236921	685.87
256	367264.3	3236913	685.87
257	367214.3	3236913	685.87
258	367164.6	3236918	683.99
259	367115.5	3236927	683.99
260	367068.5	3236943	682.73
261	367030.6	3236946	682.03
262	367023.9	3236967	682.03
263	366982	3236987	682.03
264	366939	3237011	682.03
265	366900.6	3237041	682.03
266	366867.8	3237077	681.47
267	366875	3237118	680.823
268	366883.7	3237141	680.823
269	366888.8	3237176	680.823
270	366881.1	3237210	680.177

NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhakuni Adv. HQ-NAINITAL

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Gola river 25 Year HFL Points

Left Bank

Sl.No	Easting	Northing	WSE
271	366898.4	3237234	680.177
272	366898.3	3237271	679.53
273	366869.5	3237302	679.55
274	366831.1	3237333	677.84
275	366783.3	3237345	672.075
276	366733.7	3237349	672.075
277	366686.8	3237363	670.945
278	366642.6	3237354	670.945
279	366600.2	3237329	670.945
280	366565.2	3237346	670.945
281	366525.6	3237372	670.945
282	366491.5	3237376	670.38
283	366456.2	3237388	670.38
284	366417.3	3237412	669.25
285	366374.6	3237432	668.802
286	366355.9	3237477	668.802
287	366334.7	3237519	668.802
288	366346.4	3237549	668.802
289	366357.2	3237571	668.802
290	366374.1	3237601	668.802
291	366368.3	3237645	668.354
292	366353.1	3237689	668.354
293	366322.9	3237728	666.68
294	366286.4	3237762	665.35
295	366247.5	3237791	662.565
296	366204.2	3237816	662.565
297	366157.4	3237832	662.49
298	366108.7	3237839	662.49
299	366061.2	3237849	662.49
300	366028.8	3237885	662.25

Sl.No	Easting	Northing	WSE
301	366006.9	3237929	662.25
302	365980.5	3237970	661.6
303	365962	3238014	660.45
304	365936.4	3238055	659.3
305	365893.8	3238073	658.15
306	365858.1	3238105	657.421
307	365809.7	3238113	653.774
308	365782.1	3238072	653.045
309	365737.4	3238052	653.045
310	365698	3238044	652.316
311	365651.4	3238045	652.316
312	365605	3238043	652.316
313	365570.4	3238050	652.316
314	365531.7	3238070	650.857
315	365492.7	3238098	650.857
316	365477.9	3238138	650.857
317	365462.3	3238174	650.128
318	365473.3	3238208	650.128
319	365491.6	3238245	650.128
320	365492.2	3238275	650.128
321	365487.3	3238323	648.669
322	365490.3	3238372	647.94
323	365494.8	3238417	647.94
324	365510.1	3238460	647.142
325	365518.7	3238503	646.344
326	365498.9	3238545	644.748
327	365471.5	3238584	643.95
328	365442.7	3238619	643.405
329	365402.9	3238646	643.132
330	365361.1	3238669	642.86

Sl.No	Easting	Northing	WSE
331	365314.8	3238680	640.9
332	365265.5	3238678	639.71
333	365216.6	3238675	639.71
334	365167.5	3238676	639.05
335	365123.3	3238694	638.468
336	365076.1	3238708	637.886
337	365027.3	3238717	637.303
338	364983.6	3238735	636.721
339	364935.9	3238730	636.721
340	364886.8	3238734	635.557
341	364837.5	3238739	634.974
342	364790.2	3238751	634.392
343	364744.9	3238761	634.392
344	364699.7	3238780	633.81
345	364654.4	3238795	633.205
346	364605.5	3238805	633.205
347	364561.1	3238824	633.205
348	364517.8	3238838	632.601
349	364473.8	3238859	632.601
350	364443.2	3238872	632.601
351	364407.8	3238905	631.996
352	364383.9	3238947	631.996
353	364380.8	3238996	631.391
354	364371.3	3239043	631.391
355	364370.6	3239087	630.786
356	364375.9	3239136	630.182
357	364381.9	3239184	628.972
358	364386.3	3239230	628.368
359	364398.1	3239274	627.763
360	364399.4	3239303	626.553

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
No. 30/01/2024
GOVT. OF UTTARAKHAND

2024

Gola river 25 Year HFL Points

Left Bank

Sl.No	Easting	Northing	WSE
361	364424.1	3239344	626.553
362	364448.8	3239380	626.553
363	364463.3	3239416	626.553
364	364482	3239460	626.553
365	364482.1	3239510	625.344
366	364482.3	3239558	625.344
367	364466.2	3239604	624.739
368	364446.8	3239649	624.739
369	364431	3239697	624.134
370	364412.4	3239742	623.53
371	364396.5	3239789	623.53
372	364373.3	3239833	615.668
373	364346.8	3239875	615.064
374	364317.6	3239914	614.459
375	364290.1	3239956	613.854
376	364255.4	3239990	613.854
377	364218.1	3240023	613.854
378	364181.7	3240057	612.04
379	364136.9	3240079	612.04
380	364089	3240093	611.493
381	364049.3	3240122	610.947
382	364020.6	3240163	610.13
383	363989.1	3240202	609.575
384	363953.2	3240236	609.019
385	363917.5	3240271	609.019
386	363883	3240307	608.464
387	363844.7	3240339	607.908
388	363814.4	3240378	607.353
389	363786.7	3240420	606.797
390	363758.4	3240460	606.242
391	363726.9	3240499	606.242
392	363695.5	3240538	605.686
393	363663.9	3240576	605.131
394	363627	3240610	604.575
395	363598.3	3240649	604.02
396	363581.2	3240693	603.605
397	363565.6	3240733	603.605
398	363553.2	3240781	603.191
399	363569.4	3240819	602.776
400	363552.6	3240861	602.361
401	363540.1	3240909	601.947
402	363536.2	3240958	601.532
403	363539.2	3241008	601.532
404	363521.9	3241053	601.532
405	363482.5	3241075	599.044
406	363477.6	3241037	601.532
407	363451.6	3241068	598.629
408	363455.1	3241105	598.629
409	363458.1	3241143	598.629
410	363446.9	3241187	598.215
411	363420.9	3241226	598.215
412	363378	3241242	598.215
413	363330.4	3241253	598.215
414	363283.7	3241256	598.215
415	363259.1	3241293	598.194
416	363278.8	3241317	598.194
417	363233.1	3241330	598.194
418	363188.3	3241323	598.185
419	363147.8	3241297	597.38
420	363110.9	3241265	595.587
421	363067.8	3241244	595.587
422	363022.6	3241229	594.869
423	362994.2	3241261	594.869
424	362947.3	3241269	594.818
425	362908.5	3241251	594.818
426	362865.1	3241241	594.645
427	362823.1	3241233	593.772
428	362778.2	3241228	593.2
429	362738	3241221	593.178
430	362692.4	3241213	593.155
431	362648.5	3241210	593.132
432	362599	3241212	592.11
433	362550.7	3241215	592.11
434	362505	3241220	591.513
435	362460.6	3241225	591.513
436	362416.5	3241238	589.714
437	362387.2	3241271	587.916
438	362376.3	3241301	587.916
439	362345.6	3241321	586.117
440	362314.5	3241343	584.319
441	362278.5	3241375	582.52
442	362267.3	3241421	582.52
443	362222.6	3241439	579.62
444	362174.6	3241433	578.728
445	362131.4	3241412	577.837
446	362086.6	3241400	576.945
447	362040.7	3241399	576.945
448	361998.5	3241418	576.053
449	361965.5	3241444	576.053
450	361939.9	3241482	575.162

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HQ-NAINITAL

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Gola river 25 Year HFL Points

Left Bank

Sl.No	Easting	Northing	WSE
451	361915.7	3241518	574.27
452	361885.4	3241554	573.76
453	361850.6	3241587	573.338
454	361817.9	3241622	572.915
455	361781.9	3241655	572.492
456	361749	3241690	572.07
457	361709.3	3241715	571.648
458	361668.8	3241738	570.802
459	361653.1	3241774	570.802
460	361611.6	3241799	570.38
461	361568.9	3241824	569.535
462	361525.8	3241844	569.535
463	361477.8	3241854	568.69
464	361429.1	3241855	567.94
465	361380.1	3241853	567.42
466	361345.9	3241840	567.16
467	361302.7	3241823	566.9
468	361263.4	3241806	566.9
469	361220.4	3241815	566.04
470	361172.1	3241824	565.481
471	361124	3241820	565.481
472	361076.8	3241829	564.363
473	361027.6	3241837	564.363
474	360986.2	3241860	563.246
475	360938.4	3241871	563.246
476	360889.1	3241878	562.687
477	360840.7	3241886	561.569
478	360793.9	3241872	561.01
479	360745.6	3241859	560.72
480	360696.9	3241848	560.45
481	360657.9	3241821	560.065
482	360617.3	3241792	559.295
483	360578.1	3241761	558.91
484	360543.6	3241725	558.084
485	360518.2	3241685	557.258
486	360481.3	3241660	556.432
487	360455.4	3241617	555.606
488	360433.7	3241572	554.82
489	360411.4	3241528	554.82
490	360394.3	3241481	554.695
491	360360.3	3241451	554.695
492	360314.2	3241442	554.695
493	360275.5	3241423	554.746
494	360226.3	3241414	554.746
495	360178.3	3241401	554.471
496	360131.5	3241388	554.197
497	360085.4	3241375	553.649
498	360037.9	3241362	553.649
499	359990.7	3241355	553.374
500	359942.8	3241345	551.421
501	359906.4	3241349	551.421
502	359861.3	3241352	549.743
503	359814.7	3241337	548.064
504	359768	3241321	544.707
505	359727.3	3241306	544.707
506	359681	3241288	543.029
507	359635.6	3241268	541.35
508	359589.5	3241249	541
509	359543.1	3241231	540.65
510	359497.8	3241209	539.935
511	359452	3241190	539.22
512	359408	3241166	538.5
513	359364.9	3241141	537.49
514	359323.6	3241113	537.49
515	359283.1	3241084	537.44
516	359241.1	3241057	537.44
517	359195.9	3241035	536.84
518	359152.3	3241011	536.75
519	359117.1	3240976	536.75
520	359096.9	3240932	536.674
521	359105	3240883	536.674
522	359135.1	3240844	536.561
523	359159.9	3240801	536.417
524	359173.8	3240753	536.554
525	359191.1	3240707	536.416
526	359193.7	3240657	536.416
527	359192.7	3240607	536.34
528	359199.4	3240558	536.34
529	359202.2	3240508	536.06
530	359202.6	3240458	535.11
531	359194.7	3240409	535.11
532	359182.7	3240366	534.24
533	359173.6	3240322	533.37
534	359155.7	3240279	532.263
535	359142.9	3240239	531.157
536	359114.4	3240203	530.05
537	359089.3	3240165	529.74
538	359061	3240124	528.79
539	359030.5	3240087	527.88
540	358997.1	3240051	526.97

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Dt. P. S. Bhakuni
Advocate
HQ-N UNITAB
Enrl. No. 20 (UA)(N) 2011
GOVT. OF UTTARAKHAND INDIA

8/4/2024

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Gola river 25 Year HFL Points

Left Bank

Sl.No	Easting	Northing	WSE
541	358959.6	3240018	526.06
542	358924.8	3239985	526.06
543	358888.9	3239952	524.833
544	358851.7	3239924	523.96
545	358815.5	3239890	523.7
546	358778.7	3239859	523.44
547	358752.4	3239820	523.18
548	358763.6	3239777	522.946
549	358797.7	3239755	522.937
550	358819.6	3239726	522.924
551	358838.2	3239703	522.924
552	358862.9	3239674	522.871
553	358892.1	3239664	522.871
554	358901.7	3239627	522.85
555	358922.4	3239597	522.85
556	358929.6	3239553	522.555
557	358952.1	3239517	522.555
558	358929.7	3239475	522.303
559	358935.5	3239452	522.303
560	358907.2	3239415	522.241
561	358887.4	3239375	522.241
562	358858	3239338	522.215
563	358849.2	3239292	522.215
564	358856.7	3239244	522.205
565	358873.4	3239199	522.205
566	358867.8	3239158	522.195
567	358889	3239113	522.195
568	358905.3	3239066	522.162
569	358931.1	3239023	522.161
570	358959	3238983	512.74
571	358972.7	3238944	512.74
572	359005.1	3238914	511.902
573	359036.2	3238880	511.064
574	359057.6	3238834	510.226
575	359077.5	3238788	510.226
576	359095.1	3238742	509.388
577	359106	3238693	508.55
578	359099.1	3238646	508.55
579	359077.8	3238601	506.62
580	359043.9	3238565	506.62
581	359019.6	3238522	504.795
582	359002.6	3238477	504.795
583	358998.6	3238427	502.97
584	358998.7	3238377	502.058
585	358992.8	3238328	501.145
586	358990.5	3238279	500.232
587	358992.1	3238229	499.32
588	358991.1	3238179	498.69
589	358985.7	3238141	498.69
590	358998.3	3238099	498.03
591	359003.4	3238050	497.41
592	359003.3	3238001	496.79
593	359004.1	3237951	496.79
594	359023.8	3237907	496.79
595	359057.1	3237869	496.79
596	359075.6	3237824	496.79
597	359098.7	3237782	496.79
598	359124.7	3237739	496.24
599	359143.4	3237694	496.24
600	359152.5	3237646	496.24
601	359156.7	3237596	495.88
602	359163.7	3237550	490.283
603	359167.6	3237502	490.283
604	359171.9	3237454	490.283
605	359165.7	3237405	489.626
606	359153.7	3237358	488.312
607	359146.2	3237311	487.655
608	359128.6	3237268	486.998
609	359135.3	3237228	486.34
610	359157.4	3237184	483.712
611	359185.4	3237143	483.712
612	359219.8	3237106	483.712
613	359255.5	3237072	483.055
614	359284.6	3237031	483.055
615	359314.1	3236991	477.798
616	359343.7	3236950	475.827
617	359371	3236909	475.169
618	359395.3	3236865	474.512
619	359418.9	3236821	474.512
620	359442.5	3236777	474.512
621	359449.8	3236728	474.512
622	359443.9	3236678	474.512
623	359433.2	3236629	474.512
624	359417.3	3236583	474.512
625	359418.5	3236533	474.512
626	359431	3236487	474.512
627	359457.9	3236445	469.255
628	359482.4	3236401	469.255
629	359519	3236367	468.598
630	359553.2	3236331	467.284

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NOTARY GOVT. OF UTTARAKHAND (INDIA) Dr. P. S. Bhakuni HQ-NAINITAL

8/8/2024

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Gola river 25 Year HFL Points

Left Bank

Sl.No	Easting	Northing	WSE
631	359578.4	3236288	467.284
632	359600.4	3236243	467.284
633	359621.6	3236198	467.284
634	359642.6	3236152	467.284
635	359669.5	3236121	466.627
636	359716.2	3236138	466.627
637	359764.8	3236149	466.627
638	359808.9	3236173	466.627
639	359855.2	3236190	466.627
640	359872	3236165	466.627
641	359869.9	3236119	466.627
642	359845.1	3236076	466.627
643	359821	3236032	466.627
644	359795.1	3235990	466.627
645	359761.8	3235952	466.627
646	359732.5	3235912	466.627
647	359694.4	3235881	466.627
648	359668	3235840	463.341
649	359661.1	3235791	462.684
650	359633.8	3235750	462.684
651	359595.9	3235718	462.684
652	359559.6	3235683	462.027
653	359542.6	3235638	462.027
654	359537	3235589	461.37
655	359533.9	3235539	461.37
656	359530.5	3235489	460.713
657	359509.7	3235444	460.713
658	359489.8	3235398	460.713
659	359469.1	3235352	460.713
660	359449.3	3235306	460.713
661	359429.1	3235261	460.056
662	359406.5	3235216	460.056
663	359376.3	3235176	460.056
664	359346.6	3235136	459.399
665	359320	3235094	459.399
666	359298.2	3235049	459.399
667	359277.5	3235003	459.399
668	359268.1	3234954	455.456
669	359260.3	3234905	454.799
670	359249.8	3234856	454.799
671	359232.4	3234810	454.799
672	359210.8	3234765	454.142
673	359188.9	3234720	453.485
674	359165.3	3234676	453.485
675	359141.4	3234633	449.542
676	359138.3	3234587	449.542
677	359144.2	3234541	449.542
678	359135.8	3234492	448.885
679	359127.3	3234443	448.885
680	359116.1	3234394	448.228
681	359101.5	3234346	448.228
682	359087	3234299	448.228
683	359070.7	3234252	447.571
684	359031.5	3234222	447.571
685	358989.4	3234196	446.914
686	358960.7	3234155	446.914
687	358927.5	3234118	442.314
688	358898.9	3234077	442.314
689	358871.7	3234035	439.685
690	358838.2	3234000	439.685
691	358788.9	3233992	439.685
692	358739.6	3233983	439.685
693	358692.7	3233966	439.685
694	358650.2	3233940	439.685
695	358622.7	3233900	439.685
696	358604.4	3233854	439.028
697	358591.1	3233806	438.371
698	358579.7	3233757	438.371
699	358565.5	3233709	437.714
700	358549.2	3233662	437.057
701	358520.4	3233621	437.057
702	358486.3	3233585	436.4
703	358451.8	3233548	436.4
704	358419	3233511	435.086
705	358400.5	3233465	433.771
706	358372.9	3233424	431.8
707	358351.6	3233380	431.8
708	358330.1	3233335	431.053
709	358303.7	3233293	431.053
710	358273.7	3233253	431.053
711	358241.6	3233214	430.307
712	358216.9	3233172	430.307
713	358206.3	3233124	429.56
714	358207.5	3233074	429.56
715	358203.6	3233024	428.942
716	358189.9	3232976	425.849
717	358174.2	3232929	423.994
718	358160.6	3232881	423.375
719	358157.4	3232841	422.757
720	358149.1	3232797	421.52

NOTARY Dr. P. S. Bhakuni Adv. HQ-NAINITAL GOVT. OF UTTARAKHAND

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Gola river 25 Year HFL Points

Left Bank

Sl.No	Easting	Northing	WSE
721	358141.3	3232756	421.52
722	358126.5	3232710	421.02
723	358114.9	3232661	421.02
724	358110.2	3232612	420.52
725	358095	3232566	420.52
726	358087	3232521	420.52
727	358070.4	3232475	418.57
728	358053.9	3232428	417.95
729	358041.4	3232379	417.95
730	358024.8	3232333	416.463
731	358010.7	3232285	415.72
732	357993.7	3232238	413.775
733	357994.8	3232189	413.775
734	357996	3232140	412.61
735	357992.6	3232091	412.61
736	357985.5	3232043	412.61
737	357972.8	3231997	412.61
738	357976.8	3231948	412.61
739	357986.9	3231900	411.5
740	357992.6	3231852	411.5
741	358013.2	3231812	410.824
742	358029.4	3231767	406.772
743	358051	3231726	406.096
744	358093.6	3231712	405.42
745	358140.3	3231696	401.368
746	358180.6	3231674	400.692
747	358223.7	3231650	400.692
748	358267.7	3231628	400.692
749	358294.2	3231593	400.692
750	358310.4	3231549	400.016
751	358329.9	3231508	400.016
752	358337.2	3231461	399.341
753	358347.7	3231413	399.341
754	358366.7	3231368	399.341
755	358380.3	3231320	399.341
756	358402.3	3231278	399.341
757	358425.3	3231234	398.266
758	358450.8	3231196	397.314
759	358477.9	3231157	396.639
760	358508.8	3231119	395.964
761	358531.4	3231076	395.288
762	358553.7	3231033	394.612
763	358574.9	3230991	391.91
764	358592	3230945	391.91
765	358602.4	3230897	391.91
766	358597.4	3230847	389.884
767	358592.2	3230798	389.884
768	358586.5	3230750	389.884
769	358567.8	3230704	389.884
770	358546.9	3230659	389.884
771	358527.7	3230614	389.884
772	358525.2	3230564	389.208
773	358527.8	3230516	389.208
774	358537.4	3230467	387.858
775	358538.5	3230419	386.506
776	358522.6	3230372	386.506
777	358517.1	3230324	386.506
778	358510.4	3230277	385.881
779	358491.2	3230231	385.156
780	358472.5	3230185	385.156
781	358453.6	3230142	383.266
782	358435.7	3230096	382.659
783	358448.4	3230049	382.052
784	358456.7	3230000	382.052
785	358477.3	3229959	379.624
786	358500.4	3229921	378.41
787	358548.2	3229910	378.41
788	358596.2	3229898	378.41
789	358638.1	3229872	377.647
790	358669.1	3229834	373.387
791	358700.1	3229797	373.387
792	358714.5	3229749	373.387
793	358720.5	3229699	373.387
794	358725.2	3229650	373.387
795	358729.2	3229600	373.387
796	358721.8	3229551	372.943
797	358714.8	3229501	372.943
798	358711.1	3229451	372.5
799	358697.4	3229404	372.5
800	358682	3229359	372.5
801	358675.2	3229312	369.833
802	358673.4	3229263	369.833
803	358660.9	3229216	369.833
804	358658.3	3229169	369.274
805	358624.4	3229133	368.714
806	358600.5	3229091	368.714
807	358587.4	3229043	368.155
808	358588.2	3228994	367.036
809	358595.7	3228945	367.036
810	358605.1	3228896	366.477

NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL No. 30 (UK) GOVT. OF UTTARAKHAND (INDIA)

2024

Gola river 25 Year HFL Points

Left Bank

Sl.No	Easting	Northing	WSE
811	358622.9	3228850	365.918
812	358630.1	3228800	364.24
813	358635.3	3228751	364.24
814	358639.1	3228701	362.805
815	358637.5	3228651	362.398
816	358642.2	3228602	360.98
817	358646.9	3228553	360.98
818	358670.4	3228512	360.27
819	358693.9	3228469	360.27
820	358717.4	3228428	360.27
821	358727.1	3228380	359.65
822	358719.8	3228331	358.592
823	358702.7	3228286	358.592
824	358691.8	3228239	358.592
825	358685	3228190	358.284
826	358685.2	3228140	357.36
827	358683	3228090	357.36
828	358687.8	3228042	357.36
829	358689	3227992	356.736
830	358691.1	3227942	356.736
831	358676.8	3227896	355.488
832	358670.2	3227853	355.488
833	358656.6	3227806	354.864
834	358631.9	3227763	353.48
835	358606.8	3227722	353.48
836	358581.3	3227680	353.48
837	358558.5	3227637	352.549
838	358524.3	3227601	351.999
839	358493.9	3227563	351.448
840	358466.1	3227522	350.898
841	358441.2	3227483	350.347
842	358448.9	3227459	350.347
843	358439.7	3227415	348.696
844	358441.7	3227380	348.696
845	358449.5	3227350	347.594
846	358438.6	3227307	347.594
847	358444.4	3227261	347.044
848	358475.6	3227272	347.044
849	358505.3	3227270	347.044
850	358526.8	3227236	347.044
851	358525.1	3227200	345.392
852	358515.8	3227158	344.842
853	358541.8	3227133	344.291
854	358542.2	3227106	343.19
855	358578.6	3227079	343.19
856	358611.3	3227042	341.987
857	358638.2	3227001	341.987
858	358665.2	3226959	341.987
859	358689.1	3226921	340.182
860	358714.5	3226881	340.182
861	358746	3226843	340.182
862	358778.4	3226807	337.925
863	358804.8	3226766	337.925
864	358825.3	3226721	337.925
865	358842.9	3226675	337.925
866	358853.1	3226628	337.925
867	358854.1	3226578	337.925
868	358855.8	3226528	337.925
869	358849.3	3226479	335.513
870	358836.9	3226431	335.513
871	358827	3226383	335.119
872	358814.2	3226339	335.119
873	358813.6	3226290	335.119
874	358806.6	3226241	334.332
875	358800.3	3226192	334.332
876	358792.1	3226146	334.332
877	358785.2	3226097	333.938
878	358777.2	3226049	332.757
879	358757.9	3226005	332.364
880	358720.2	3225974	331.97
881	358697.9	3225930	331.97
882	358676.8	3225892	331.42
883	358639.7	3225864	331.42
884	358607.7	3225826	330.272
885	358623.2	3225783	329.922
886	358645.7	3225743	329.922
887	358673.5	3225705	329.922
888	358688.6	3225658	328.816
889	358700.4	3225610	328.816
890	358722.1	3225565	328.343
891	358740.2	3225519	328.343
892	358738.1	3225470	327.396
893	358740.5	3225425	324.081
894	358765	3225383	323.607
895	358784.7	3225350	323.607
896	358795.2	3225317	323.607
897	358794.9	3225277	323.607
898	358822.8	3225238	323.607
899	358843.1	3225193	322.742
900	358861	3225147	321.405

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NOTARY Dr. P. S. Bisht Adv. HQ-NAINITAL GOVT. OF UTTARAKHAND (INDIA)

28/3/2024

Gola river 25 Year HFL Points
Left Bank

Sl.No	Easting	Northing	WSE
901	358886.4	3225104	321.405
902	358902.1	3225056	321.405
903	358913.1	3225008	321.405
904	358924.2	3224959	321.405
905	358944	3224914	321.405
906	358962	3224868	320.737
907	358977.3	3224821	320.737
908	358987.2	3224773	318.158
909	358996.6	3224724	318.158
910	359010.3	3224676	317.505
911	359020.8	3224628	317.505
912	359024.7	3224578	317.505
913	359021.5	3224528	315.707
914	359010.4	3224479	315.707
915	359002.8	3224430	315.707
916	358992.7	3224381	315.213
917	358972.9	3224335	313.733
918	358949.7	3224291	313.24
919	358928.2	3224246	312.5
920	358897.9	3224209	312.5
921	358877.8	3224163	312.5
922	358851.6	3224122	310.946
923	358824.8	3224082	310.946
924	358824.9	3224032	310.392
925	358815	3223984	310.392
926	358797.7	3223937	310.392
927	358798.1	3223888	309.838
928	358794.3	3223841	309.284
929	358782.8	3223793	308.176
930	358766.6	3223746	307.622

Sl.No	Easting	Northing	WSE
931	358774.2	3223700	306.514
932	358768.8	3223652	305.004
933	358752.1	3223606	304.527
934	358736.1	3223559	304.049
935	358736.4	3223510	304.049
936	358731.2	3223461	303.571
937	358738.3	3223412	303.093
938	358755.9	3223365	302.616
939	358771.8	3223319	301.66
940	358795.3	3223277	301.173
941	358828.5	3223240	300.687
942	358857.6	3223200	300.2
943	358886.7	3223161	299.713
944	358906.4	3223116	298.74
945	358927.4	3223071	298.253
946	358962.1	3223036	298.253
947	358985.1	3222994	297.767
948	359006.3	3222949	297.767
949	359031.1	3222906	297.28
950	359045.2	3222859	297.28
951	359069.8	3222820	296.793
952	359086.8	3222774	295.164
953	359098.9	3222726	294.507
954	359114.7	3222679	294.507
955	359125	3222631	294.507
956	359134.1	3222582	293.851
957	359135.2	3222535	293.195
958	359134	3222485	293.195
959	359132.8	3222437	292.538
960	359131.9	3222388	292.538

Sl.No	Easting	Northing	WSE
961	359128.6	3222338	291.882
962	359118.1	3222289	291.882
963	359107.4	3222240	289.913
964	359097.4	3222191	289.913
965	359087.4	3222142	289.913
966	359072.7	3222094	289.256
967	359057.5	3222047	287.89
968	359043.6	3221999	287.452
969	359022	3221954	287.452
970	359006.7	3221908	287.015
971	358999.7	3221860	287.015
972	358985	3221813	286.577
973	358966.4	3221768	286.14
974	358948.6	3221724	285.702
975	358937.6	3221677	285.265
976	358921	3221630	284.827
977	358911.9	3221585	284.39
978	358915.5	3221539	283.077
979	358912.3	3221493	282.202
980	358931.1	3221448	281.764
981	358949.4	3221402	281.764
982	358951.6	3221353	280.889
983	358975.4	3221312	280.451
984	359001.2	3221270	278.701
985	359023.1	3221227	278.701
986	359029.2	3221180	278.701
987	359041	3221134	278.701
988	359043.6	3221086	278.264
989	359055.8	3221038	278.264
990	359064.1	3220990	278.264

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NOTARY Dr. P. S. Bhakuni Adv. cate HQ-NAINITAL

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Gola river 25 Year HFL Points

Left Bank

Sl.No	Easting	Northing	WSE
991	359067.2	3220942	277.826
992	359064.5	3220893	276.076
993	359067.8	3220843	276.076
994	359082	3220795	275.638
995	359098.2	3220748	275.201
996	359109.2	3220699	275.201
997	359112.6	3220649	275.201
998	359108.8	3220599	275.201
999	359101.4	3220550	274.326
1000	359096.4	3220501	272.575
1001	359083.8	3220453	272.575
1002	359064.5	3220407	271.7
1003	359070.4	3220359	271.263
1004	359087.5	3220312	271.263
1005	359101.2	3220264	270.825
1006	359105.2	3220215	270.825
1007	359106.2	3220165	270.388
1008	359110	3220116	269.77
1009	359120.4	3220068	269.77
1010	359124.1	3220018	269.71
1011	359129.4	3219969	269.71
1012	359135.1	3219919	269.59
1013	359139.8	3219874	269.59
1014	359166.5	3219835	269.53
1015	359174.4	3219786	269.53
1016	359174.2	3219737	269.487
1017	359166.2	3219687	269.443
1018	359172.2	3219639	269.03
1019	359170.7	3219589	268.66
1020	359155.6	3219542	268.04
1021	359162.6	3219497	268.04
1022	359163.2	3219452	268.04
1023	359154.3	3219404	267.98
1024	359153.1	3219354	267.98
1025	359144.8	3219305	267.98
1026	359128.6	3219258	267.89
1027	359114.2	3219211	267.89
1028	359098.8	3219163	266.496
1029	359097.3	3219114	266.147
1030	359098.1	3219064	265.799
1031	359103.5	3219014	265.75
1032	359106.6	3218965	265.75
1033	359107.9	3218915	265.66
1034	359107.2	3218865	265.31
1035	359108.7	3218815	265.31
1036	359114.8	3218765	264.92
1037	359122.2	3218716	264.92
1038	359129.1	3218667	264.25
1039	359132.2	3218617	263.67
1040	359141.5	3218568	263.67
1041	359150	3218520	263.67
1042	359158.1	3218470	263.67
1043	359165.6	3218421	263.46
1044	359170.1	3218371	262.64
1045	359175.2	3218322	260.324
1046	359173.4	3218272	260.324
1047	359169.4	3218222	260.008
1048	359173.5	3218173	260.008
1049	359184.1	3218125	259.693
1050	359198.1	3218078	259.377
1051	359215.6	3218032	259.377
1052	359218.9	3217982	258.431
1053	359229.1	3217933	257.8
1054	359246.1	3217887	257.343
1055	359271.8	3217844	257.343
1056	359283.6	3217796	257.343
1057	359288	3217746	257.343
1058	359293.6	3217696	257.343
1059	359286.8	3217647	255.973
1060	359294.9	3217599	255.06
1061	359331.5	3217568	255.06
1062	359366.5	3217533	255.06
1063	359384.3	3217488	254.565
1064	359400.3	3217443	254.565
1065	359418.2	3217399	254.565
1066	359437.1	3217354	252.765
1067	359466.2	3217315	251.7
1068	359481.1	3217270	251.3
1069	359465.6	3217225	251.3
1070	359484.6	3217187	251.3
1071	359495.9	3217140	250.88
1072	359484.9	3217093	250.88
1073	359494.1	3217049	250.88
1074	359515.5	3217005	249.988
1075	359517	3216958	249.988
1076	359535.1	3216913	249.541
1077	359566.7	3216876	249.541
1078	359600.3	3216852	248.649
1079	359606.2	3216802	248.649
1080	359622.4	3216755	245.75

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NOTARY GOVT. OF UTTARAKHAND INDIA
Dr. P. S. Bhakuni
Adv. cum
HQ-NAINITAL
R. No. 30 (UK)

16/2/2024

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Gola river 25 Year HFL Points

Left Bank

Sl.No	Easting	Northing	WSE
1081	359634.9	3216707	245.75
1082	359639.8	3216657	245.75
1083	359643.8	3216607	245.75
1084	359663.1	3216562	245.75
1085	359670.8	3216514	245.11
1086	359658.7	3216465	245.11
1087	359639.1	3216420	245.11
1088	359617.6	3216376	244.86
1089	359613.4	3216326	244.34
1090	359606.8	3216276	244.34
1091	359599.7	3216227	244.01
1092	359591.8	3216179	244.01
1093	359590	3216130	243.89
1094	359586.2	3216080	243.89
1095	359585.6	3216030	243.89
1096	359603.6	3215985	243.89
1097	359629.6	3215942	243.4
1098	359655.9	3215900	242.93
1099	359673.8	3215854	241.835
1100	359683.1	3215805	241.835
1101	359694.1	3215756	241.835
1102	359694.2	3215706	241.835
1103	359696.8	3215657	241.835
1104	359709.7	3215609	241.835
1105	359701.8	3215560	241.69
1106	359694.3	3215511	241.29
1107	359699.1	3215462	241.29
1108	359714.7	3215414	240.91
1109	359727.4	3215366	240.62
1110	359739.7	3215318	240.62
1111	359758.5	3215271	240.44
1112	359777.7	3215225	239.83
1113	359799.2	3215180	239.83
1114	359817	3215133	239.83
1115	359834.4	3215086	238.86
1116	359851.7	3215040	238.86
1117	359870.3	3214993	238.75
1118	359894.8	3214950	238.64
1119	359920.1	3214906	238.27
1120	359946.7	3214864	238.27
1121	359975.1	3214824	238.27
1122	360018.7	3214807	237.9
1123	360065.6	3214794	237.9
1124	360108.1	3214767	237.144
1125	360156.4	3214757	236.71
1126	360193.5	3214725	236.71
1127	360232.4	3214695	236.58
1128	360263.1	3214657	236.14
1129	360280.3	3214610	236.14
1130	360302	3214573	236.14
1131	360306.9	3214524	236.14
1132	360337.5	3214485	235.98
1133	360354.5	3214441	235.98
1134	360369.2	3214393	235.834
1135	360384.6	3214347	235.834
1136	360388.4	3214297	235.834
1137	360394.2	3214252	235.834
1138	360410	3214213	235.834
1139	360426.2	3214172	235.834
1140	360453.4	3214133	235.12
1141	360486.2	3214097	235.12
1142	360510.6	3214069	234.865
1143	360539.2	3214041	234.865
1144	360567.7	3214010	234.61
1145	360593.2	3213972	234.61
1146	360595.6	3213931	234.61
1147	360614.2	3213889	234.61
1148	360630.2	3213850	234.355
1149	360643.4	3213802	234.1
1150	360655.2	3213756	233.845
1151	360633.3	3213715	233.845
1152	360622.6	3213671	232.57
1153	360633	3213624	232.57
1154	360664.6	3213585	232.315
1155	360690.6	3213543	232.06
1156	360719.5	3213503	232.06
1157	360740.8	3213459	231.805
1158	360743.1	3213410	231.805
1159	360741.4	3213361	231.805
1160	360731.7	3213316	231.805
1161	360698.2	3213280	231.55
1162	360676.7	3213236	231.55
1163	360648.7	3213194	231.367
1164	360621.2	3213158	231
1165	360607	3213116	231
1166	360606.8	3213074	231
1167	360620.2	3213030	230.425
1168	360637.8	3212984	229.07
1169	360672.2	3212952	229.07
1170	360701.6	3212913	229.07

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NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL Regd. No. 30 (UK) 2011 GOVT. OF UTTARAKHAND

Gola river 25 Year HFL Points

Left Bank

Sl.No	Easting	Northing	WSE
1171	360713.2	3212865	229.07
1172	360713.5	3212815	229.07
1173	360695.4	3212769	229.07
1174	360663.3	3212731	229.07
1175	360651.9	3212688	229.07
1176	360642.8	3212659	228.82
1177	360675.5	3212623	228.82
1178	360700.2	3212580	228.29
1179	360699.4	3212530	228.29
1180	360696.4	3212482	228.02
1181	360698.1	3212432	228.02
1182	360703.3	3212382	226.564
1183	360711.2	3212333	226.564
1184	360713.9	3212283	226.564
1185	360713.8	3212233	226.564
1186	360711.1	3212183	226.564
1187	360704.8	3212133	225.44
1188	360690.6	3212086	225.44
1189	360667.3	3212042	225.44
1190	360665.3	3211998	225.44
1191	360687.3	3211954	225.04
1192	360699.5	3211906	225.04
1193	360700.9	3211856	224.72
1194	360698.1	3211806	224.527
1195	360687.3	3211758	224.14
1196	360679.6	3211708	223.753
1197	360681.2	3211658	223.56
1198	360685.5	3211609	223.56
1199	360693.8	3211559	222.97
1200	360700.2	3211510	222.97

Sl.No	Easting	Northing	WSE
1201	360711.9	3211462	222.97
1202	360723.5	3211417	222.22
1203	360730.9	3211379	221.853
1204	360751.2	3211336	221.853
1205	360758.5	3211289	220.914
1206	360760.7	3211239	220.914
1207	360762.3	3211190	220.708
1208	360760.3	3211140	220.296
1209	360752.4	3211091	220.296
1210	360738.4	3211043	220.296
1211	360717.5	3210999	220.09
1212	360697.3	3210956	220.09
1213	360666.3	3210918	220.09
1214	360660.7	3210869	219.758
1215	360653.7	3210820	219.758
1216	360639.4	3210772	219.758
1217	360622.3	3210725	219.758
1218	360600.8	3210680	219.758
1219	360576.1	3210637	219.51
1220	360544.5	3210599	219.51
1221	360515	3210568	219.28
1222	360482.6	3210530	219.28
1223	360452.3	3210491	219.13
1224	360415.4	3210459	219.13
1225	360380.5	3210424	219.13
1226	360346	3210388	219.12
1227	360307.7	3210356	219.11
1228	360272	3210322	219.1
1229	360238.1	3210285	219.1
1230	360206	3210247	219.1

Sl.No	Easting	Northing	WSE
1231	360172.1	3210210	219.1
1232	360133.1	3210179	219.09
1233	360092.1	3210150	218.875
1234	360065	3210110	218.875
1235	360036.8	3210068	218.66
1236	360008.3	3210027	218.68
1237	359977.8	3209988	218.68
1238	359941.4	3209954	217.38
1239	359905.4	3209919	217.38
1240	359870.6	3209883	217.38
1241	359862.7	3209837	217.36
1242	359883.3	3209791	217.36
1243	359898.2	3209744	217.36
1244	359895	3209695	217.36
1245	359882.6	3209648	217.36
1246	359852.9	3209609	217.3
1247	359853.8	3209564	217.3
1248	359871.4	3209517	217.24
1249	359891.2	3209471	217.24
1250	359901.4	3209424	217.18
1251	359875.4	3209392	217.18
1252	359872.9	3209350	217.04
1253	359885	3209304	217.04
1254	359910.9	3209265	217.04
1255	359935.7	3209222	217.04
1256	359974.4	3209193	216.892
1257	360016.9	3209171	216.892
1258	360023.8	3209127	216.817
1259	359983.5	3209098	216.817
1260	359951.6	3209060	216.741

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NOTARY GOVT. OF UTTARAKHAND (INDIA) Dr. P. S. Bhakuni Advocate HQ-NAINITAL Regd. No. 30 (Uk)/2011

Gola river 25 Year HFL Points

Left Bank

Sl.No	Easting	Northing	WSE
1261	359924.7	3209018	216.666
1262	359897.8	3208976	216.666
1263	359870.9	3208934	216.591
1264	359837.2	3208903	216.591
1265	359788.5	3208893	216.42
1266	359751.4	3208867	216.4
1267	359702.8	3208859	216.4
1268	359657.2	3208844	216.4
1269	359617.1	3208816	216.4
1270	359586.7	3208780	216.37
1271	359559.2	3208739	216.37
1272	359527.2	3208701	216.08
1273	359490.8	3208670	216.02
1274	359475.4	3208623	215.96
1275	359449.2	3208582	215.96
1276	359406.5	3208557	215.96
1277	359365.8	3208530	215.96
1278	359330	3208495	215.96
1279	359306.5	3208455	215.96
1280	359279.5	3208416	215.905
1281	359279.3	3208366	215.905
1282	359272.5	3208317	215.77
1283	359262.4	3208268	215.705
1284	359251.7	3208219	215.705
1285	359237.5	3208171	215.64
1286	359218.7	3208125	215.64
1287	359204.1	3208077	215.59
1288	359196.9	3208028	215.59
1289	359199.3	3207978	215.59
1290	359206	3207930	215.59
1291	359246.3	3207906	215.59
1292	359270	3207862	215.59
1293	359240.6	3207826	215.54
1294	359205.1	3207790	215.49
1295	359169.6	3207755	215.49
1296	359134.1	3207720	215.49
1297	359114.1	3207675	215.49
1298	359097.8	3207627	215.49
1299	359063.2	3207594	215.435
1300	359014.8	3207587	215.435
1301	358980.3	3207555	215.435
1302	358958.4	3207510	215.435
1303	358932	3207469	215.341
1304	358890.2	3207441	215.341
1305	358863.3	3207402	215.341
1306	358846.4	3207355	215.341
1307	358827.6	3207309	215.341
1308	358814.1	3207261	215.303
1309	358796	3207217	214.21
1310	358780.4	3207170	214.21
1311	358758.1	3207125	214.21
1312	358743.2	3207077	214.21
1313	358742.4	3207031	214.21
1314	358777.7	3206997	214.21
1315	358815.5	3206964	214.072
1316	358850.3	3206928	214.072
1317	358882.6	3206891	214.072
1318	358922.3	3206860	213.936
1319	358964	3206833	213.935
1320	359010.3	3206815	213.798
1321	359057.8	3206800	213.66
1322	359104.5	3206782	213.513
1323	359152.7	3206770	213.513
1324	359198.4	3206757	213.513
1325	359224	3206718	213.454
1326	359236.2	3206670	213.454
1327	359261.1	3206627	213.454
1328	359287.1	3206584	213.454
1329	359315.6	3206543	213.347
1330	359332.4	3206496	213.347
1331	359349.2	3206449	213.347
1332	359361.5	3206400	213.347
1333	359371.9	3206351	213.347
1334	359382.4	3206302	213.274
1335	359369.1	3206260	213.257
1336	359332.2	3206227	213.257
1337	359285.1	3206222	213.257
1338	359238.8	3206237	213.257
1339	359216.8	3206202	213.156
1340	359204.8	3206153	213.156
1341	359188.7	3206106	213.154
1342	359169.3	3206060	213.154
1343	359143.3	3206017	213.154
1344	359111.8	3205979	213.154
1345	359077.2	3205944	213.154
1346	359049.2	3205902	213.15
1347	359009.5	3205873	213.15
1348	358960.4	3205864	213.15
1349	358911.2	3205867	213.15
1350	358862.8	3205879	213.15

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NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL GOVT. OF UTTARAKHAND

Gola river 25 Year HFL Points

Left Bank

Sl.No	Easting	Northing	WSE
1351	358815.2	3205894	213.15
1352	358767.1	3205901	213.11
1353	358717.9	3205893	213.11
1354	358668.6	3205884	213.11
1355	358619.4	3205875	213.11
1356	358572.7	3205862	213.084
1357	358539.9	3205824	213.054
1358	358509.3	3205785	213.02
1359	358474.5	3205750	213.02
1360	358471.1	3205705	213.02
1361	358476.4	3205655	212.94
1362	358505.7	3205620	212.94
1363	358531.5	3205577	212.94
1364	358562.2	3205538	212.94
1365	358568.9	3205489	212.94
1366	358554.4	3205447	212.76
1367	358504.5	3205449	212.76
1368	358454.8	3205454	212.76
1369	358405.3	3205461	212.76
1370	358359.5	3205467	212.76
1371	358317.2	3205444	212.64
1372	358305.2	3205404	212.47
1373	358310.6	3205355	212.47
1374	358315.3	3205305	212.47
1375	358319.9	3205255	212.02
1376	358322.9	3205205	212.02
1377	358325	3205155	212.02
1378	358341.9	3205109	212.02
1379	358364.1	3205064	210.82
1380	358386.4	3205019	210.82
1381	358408.6	3204975	210.82
1382	358411.9	3204929	210.78
1383	358405.9	3204881	210.78
1384	358404.8	3204834	210.78
1385	358423.4	3204787	210.78
1386	358442	3204741	210.64
1387	358466.6	3204697	210.412
1388	358472.9	3204649	210.19
1389	358472.9	3204599	210.19
1390	358472.9	3204549	209.87
1391	358476.5	3204499	209.58
1392	358484.4	3204450	209.53
1393	358502.9	3204404	209.53
1394	358515.4	3204355	209.33
1395	358527.8	3204307	209.07
1396	358543.1	3204259	209.07
1397	358556.3	3204211	209.07
1398	358568.1	3204163	209.07
1399	358578	3204114	209.07
1400	358585.3	3204064	209.07
1401	358602.5	3204017	208.68
1402	358620.7	3203971	208.62
1403	358640.1	3203925	208.62
1404	358657.5	3203878	208.62
1405	358674.2	3203831	208.62
1406	358689.7	3203783	208.62
1407	358704.3	3203735	208.62
1408	358713.8	3203686	208.62
1409	358723.4	3203637	207.76
1410	358732.4	3203589	207.76
1411	358734.5	3203539	207.76
1412	358731	3203489	207.76
1413	358719.7	3203441	207.76
1414	358718.1	3203391	207.76
1415	358716.6	3203341	207.42
1416	358715	3203291	207.42
1417	358713.5	3203241	207.42
1418	358711.9	3203191	207.42
1419	358710.4	3203141	207.32
1420	358703.7	3203092	207.32
1421	358692.4	3203044	207.32
1422	358678.1	3202997	207.24
1423	358662.4	3202950	207.24
1424	358654	3202901	207.24
1425	358638	3202854	207.17
1426	358615.5	3202810	207.17
1427	358586.4	3202773	207.17
1428	358547.1	3202748	207.17
1429	358514	3202715	207.17
1430	358477.8	3202693	207.14
1431	358439.8	3202681	207.14
1432	358401	3202704	207.14
1433	358358.3	3202726	207.14
1434	358311.8	3202744	206.95
1435	358270.6	3202772	206.9
1436	358224.4	3202784	206.81
1437	358185.3	3202758	206.81
1438	358163	3202717	206.774
1439	358120.5	3202690	206.774
1440	358077.2	3202665	206.774

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NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL Regd. No. 30 (Govt. of Uttarakhand)

7/11/2024

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Gola river 25 Year HFL Points
Left Bank

Sl.No	Easting	Northing	WSE
1441	358032.1	3202656	206.621
1442	357986.8	3202636	206.621
1443	357941.3	3202616	206.621
1444	357895.8	3202595	206.621
1445	357852	3202572	206.621
1446	357804.3	3202573	206.475
1447	357755.8	3202578	206.475
1448	357705.8	3202577	206.475
1449	357655.9	3202575	206.475
1450	357605.9	3202576	206.475
1451	357559.1	3202562	206.242
1452	357521.5	3202530	206.242
1453	357481.6	3202500	206.242
1454	357445.6	3202466	206.242
1455	357424.5	3202420	206.242
1456	357403.4	3202375	206.242
1457	357392.9	3202330	206.242
1458	357419.1	3202291	206.242
1459	357417.6	3202242	206.242
1460	357406.8	3202193	206.242
1461	357425	3202152	206.24
1462	357463.8	3202120	206.24
1463	357500.8	3202087	206.24
1464	357531.9	3202049	206.21
1465	357554	3202004	206.21
1466	357584.1	3201964	206.21
1467	357606.5	3201921	206.17
1468	357608.8	3201871	206.17
1469	357584.9	3201830	206.17
1470	357552.7	3201792	206.17
1471	357518.9	3201755	206.17
1472	357480	3201724	206.06
1473	357459.3	3201678	205.93
1474	357439.8	3201632	205.93
1475	357420.3	3201586	205.8
1476	357398.4	3201541	205.8
1477	357376.1	3201497	205.67
1478	357353.7	3201452	205.28
1479	357341	3201404	205.28
1480	357329.7	3201355	205.15
1481	357318.3	3201306	205.02
1482	357312.6	3201257	204.89
1483	357327.2	3201213	204.89
1484	357363.5	3201179	204.89
1485	357404.3	3201150	204.72
1486	357445.2	3201121	204.72
1487	357486	3201092	204.72
1488	357528.5	3201090	204.72
1489	357563.3	3201126	204.72
1490	357598.1	3201162	204.72
1491	357634	3201197	204.72
1492	357671.9	3201229	204.72
1493	357709.8	3201262	204.72
1494	357747.7	3201295	204.72
1495	357785.6	3201327	204.72
1496	357823.5	3201360	204.72
1497	357861.4	3201392	204.72
1498	357891.4	3201432	204.72
1499	357915.8	3201475	204.72
1500	357940.1	3201519	204.72
1501	357979.8	3201548	204.72
1502	358021.5	3201576	204.72
1503	358063.1	3201604	204.71
1504	358104.7	3201632	204.71
1505	358150.9	3201624	204.71
1506	358198.3	3201609	204.71
1507	358247.4	3201600	204.71
1508	358297	3201594	204.69
1509	358344.3	3201578	204.69
1510	358383.4	3201549	204.69
1511	358424.3	3201521	204.69
1512	358465.2	3201492	204.67
1513	358505.7	3201462	204.67
1514	358545.6	3201432	204.67
1515	358585.5	3201402	204.67
1516	358625.4	3201372	204.67
1517	358665.3	3201342	204.67
1518	358703	3201319	204.67
1519	358730.2	3201280	204.65
1520	358756.6	3201237	204.65
1521	358805.5	3201227	204.65
1522	358814.8	3201180	204.65
1523	358818.8	3201131	204.65
1524	358809.2	3201082	204.65
1525	358803.5	3201032	204.65
1526	358795.9	3200983	204.65
1527	358785.1	3200934	204.65
1528	358774.4	3200885	204.65
1529	358763.7	3200836	204.65
1530	358735.6	3200808	204.65

NOTARY Dr. P. S. Bisht Advocate HQ-NAINITAL GOVT. OF UTTARAKHAND INDIA

18/12/24

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Gola river 25 Year HFL Points

Left Bank

Sl.No	Easting	Northing	WSE
1531	358727.9	3200758	204.65
1532	358708.7	3200713	204.63
1533	358683.5	3200675	204.63
1534	358635.9	3200659	204.63
1535	358588.4	3200644	204.63
1536	358585.7	3200607	204.63
1537	358611.3	3200564	204.63
1538	358633.5	3200519	204.61
1539	358642.7	3200477	204.61
1540	358621.4	3200432	204.61
1541	358592.7	3200391	204.61
1542	358564.1	3200350	204.61
1543	358547.7	3200304	204.63
1544	358569.4	3200267	204.63
1545	358598.9	3200226	204.63
1546	358628.5	3200186	204.63
1547	358658	3200146	204.61
1548	358670.5	3200112	204.61
1549	358675	3200062	204.6
1550	358642.4	3200026	204.59
1551	358614.3	3199985	204.58
1552	358603.6	3199944	204.58
1553	358626.4	3199899	204.58
1554	358630	3199855	204.58
1555	358598.9	3199816	204.58
1556	358567.7	3199777	204.58
1557	358537.8	3199737	204.58
1558	358511.7	3199694	204.58
1559	358485.7	3199652	204.58
1560	358450	3199617	204.55
1561	358411.4	3199585	204.55
1562	358368.5	3199560	204.53
1563	358324.6	3199536	204.52
1564	358277.1	3199523	204.52
1565	358228.4	3199534	204.52
1566	358182.2	3199554	204.52
1567	358139.3	3199578	204.52
1568	358101	3199610	204.52
1569	358062.7	3199641	204.52
1570	358023.7	3199610	204.52
1571	357984.6	3199579	204.503
1572	357939.8	3199559	204.503
1573	357911.5	3199539	204.503
1574	357942.3	3199500	204.503
1575	357926.3	3199453	204.503
1576	357904.4	3199408	204.503
1577	357879.6	3199365	204.503
1578	357840.3	3199340	204.503
1579	357825.8	3199309	204.503
1580	357800.2	3199352	204.503
1581	357786.7	3199399	204.503
1582	357778.4	3199449	204.503
1583	357767.2	3199492	204.503
1584	357717.5	3199497	204.487
1585	357667.8	3199497	202.77
1586	357639.2	3199465	202.64
1587	357620	3199419	202.64
1588	357590.2	3199381	202.64
1589	357550.5	3199355	202.62
1590	357502.4	3199346	202.62
1591	357460.7	3199321	202.62
1592	357420.1	3199293	202.62
1593	357371.9	3199280	202.62
1594	357330.3	3199256	202.62
1595	357283.3	3199246	202.62
1596	357234.4	3199241	202.62
1597	357194.1	3199214	202.62
1598	357149.7	3199200	202.62
1599	357106.8	3199174	202.62
1600	357059	3199162	202.61
1601	357009.6	3199154	202.61
1602	356969.5	3199129	202.61
1603	356938.7	3199096	202.61
1604	356891	3199081	202.61
1605	356841.5	3199078	202.61
1606	356792.3	3199071	202.61
1607	356743.5	3199062	202.61
1608	356696.3	3199049	202.61
1609	356668.6	3199009	202.61
1610	356643.7	3198969	202.61
1611	356625	3198922	202.53
1612	356614.2	3198875	202.53
1613	356625.4	3198826	202.53
1614	356630.2	3198776	202.53
1615	356634.4	3198727	202.53
1616	356643.3	3198682	202.53
1617	356658	3198634	202.53
1618	356672.8	3198586	202.53
1619	356687.9	3198539	202.53
1620	356703.9	3198491	202.53

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NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL No. 38 (Uttar Pradesh) GOVT. OF UTTARAKHAND

2024

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Gola river 25 Year HFL Points
Left Bank

Sl.No	Easting	Northing	WSE
1621	356719.9	3198444	202.53
1622	356731.5	3198395	202.53
1623	356739.9	3198346	202.53
1624	356746.5	3198303	202.53
1625	356752.6	3198253	202.52
1626	356755.1	3198203	202.52
1627	356755.2	3198155	202.52
1628	356757.2	3198105	202.515
1629	356751.1	3198057	202.51
1630	356725.6	3198015	202.51
1631	356697.7	3197974	202.51
1632	356669.7	3197933	202.51
1633	356658.5	3197884	202.51
1634	356647.2	3197835	202.51
1635	356636.6	3197786	202.51
1636	356626.2	3197737	202.51
1637	356615.4	3197689	202.51
1638	356604.6	3197640	202.51
1639	356599.6	3197590	202.51
1640	356595.7	3197541	202.51
1641	356593.4	3197497	202.51
1642	356593.7	3197447	202.51
1643	356594	3197397	202.51
1644	356593.1	3197347	202.51
1645	356590.1	3197297	202.51
1646	356584.5	3197247	202.51
1647	356598.4	3197199	202.51
1648	356598.2	3197151	202.51
1649	356572.3	3197110	202.51
1650	356549.8	3197066	202.51
1651	356535.6	3197018	202.51
1652	356519.1	3196971	202.51
1653	356524.3	3196924	202.51
1654	356539.4	3196876	202.51
1655	356558.3	3196830	202.51
1656	356578.7	3196784	202.51
1657	356599.3	3196739	202.51
1658	356619.8	3196693	202.51
1659	356613.1	3196649	202.51
1660	356589.2	3196609	202.51
1661	356593.8	3196561	202.5
1662	356566.4	3196522	202.5
1663	356526.1	3196494	202.5
1664	356480.3	3196474	202.5
1665	356436.5	3196450	202.49
1666	356393.1	3196425	202.49
1667	356356.1	3196393	202.49
1668	356325.6	3196353	202.49
1669	356301.4	3196310	202.49
1670	356285.2	3196263	202.49
1671	356270.2	3196216	202.49
1672	356268.4	3196166	202.49
1673	356246.7	3196122	202.48
1674	356214.8	3196083	202.48
1675	356186.8	3196042	202.48
1676	356161.9	3195999	202.48
1677	356139.6	3195958	202.48
1678	356104.7	3195922	202.48
1679	356071.5	3195885	202.48
1680	356040.4	3195846	202.48
1681	356004.8	3195812	200.985
1682	355963.2	3195784	200.985
1683	355917.4	3195764	200.985
1684	355868.8	3195753	200.985
1685	355819.2	3195747	200.985
1686	355769.5	3195742	200.985
1687	355719.5	3195741	200.985
1688	355669.6	3195742	200.985
1689	355619.9	3195747	200.985
1690	355576.7	3195729	200.985
1691	355542.5	3195696	200.985
1692	355518.6	3195652	200.985
1693	355487.3	3195615	199.955
1694	355440.1	3195604	199.955
1695	355390.3	3195606	199.44
1696	355340.7	3195612	198.925
1697	355295.6	3195600	198.925
1698	355260.3	3195565	198.41
1699	355231.1	3195524	197.69
1700	355207.9	3195480	197.69
1701	355169.1	3195470	197.69
1702	355123	3195456	197.59
1703	355077	3195437	197.59
1704	355037.2	3195408	197.42
1705	355030.1	3195361	197.42
1706	355016.5	3195313	197.25
1707	354994	3195269	197.22
1708	354960.7	3195232	197.22
1709	354935.8	3195190	197.22
1710	354918.2	3195143	197.22

ZONAL OFFICE ... GOVT. OF UTTARAKHAND
Dr. P. S. Bhakuni
HQ-NAINITAL

Sl.No	Easting	Northing	WSE
1711	354905.9	3195095	197.07
1712	354883.9	3195050	197.07
1713	354848.9	3195016	197.07
1714	354818.3	3194976	197.07
1715	354787.7	3194937	197.04
1716	354756.9	3194897	196.71
1717	354723.3	3194860	196.75
1718	354697.1	3194818	196.75
1719	354670.3	3194776	196.71
1720	354643	3194734	196.71
1721	354610.3	3194696	196.61
1722	354563.6	3194690	196.61
1723	354518.6	3194672	196.442
1724	354473	3194656	196.442
1725	354433.4	3194647	196.248
1726	354384.3	3194645	196.248
1727	354336.9	3194652	196.248
1728	354301.2	3194624	196.248
1729	354280.1	3194578	196.248
1730	354314.1	3194549	196.248
1731	354312.5	3194511	196.248
1732	354314.9	3194476	196.248
1733	354316.6	3194448	196.15
1734	354275.6	3194420	196.15
1735	354227.2	3194414	195.975
1736	354179.3	3194407	195.975
1737	354135.3	3194383	195.975
1738	354093.5	3194358	195.27
1739	354086.2	3194308	195.27
1740	354074.1	3194260	195.27

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Gola river 25 Year HFL Points

Left Bank

Sl.No	Easting	Northing	WSE
1741	354061.9	3194211	195.27

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
No. 30 (UA189)/2011
GOVT. OF UTTARAKHAND (INDIA)

ATTESTED
8/2/2024
(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

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Gola river 50 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1	369017	3241983	913.68
2	369009	3241934	913.58
3	369008	3241884	912.45
4	369007	3241834	910.45
5	369007	3241784	910.03
6	369017	3241735	909.86
7	369031	3241687	909.66
8	369034	3241637	906.79
9	369017	3241591	905.57
10	368996	3241546	903.63
11	368997	3241497	903.51
12	369010	3241448	903.14
13	369043	3241424	901.48
14	369049	3241374	900.25
15	369062	3241326	899.19
16	369084	3241282	893.95
17	369114	3241241	891.93
18	369143	3241201	890.14
19	369157	3241156	890.07
20	369152	3241107	889.04
21	369148	3241059	888.24
22	369168	3241013	887.18
23	369189	3240968	885.11
24	369208	3240922	882.64
25	369217	3240873	882.50
26	369239	3240829	878.46
27	369269	3240789	877.76
28	369302	3240751	876.94
29	369335	3240713	876.69
30	369369	3240677	875.28
31	369406	3240644	872.91
32	369446	3240614	872.30
33	369493	3240602	870.05
34	369525	3240575	869.63
35	369505	3240530	869.51
36	369483	3240486	864.51
37	369468	3240438	863.04
38	369462	3240388	862.84
39	369465	3240339	863.05
40	369476	3240290	862.11
41	369508	3240256	861.03
42	369557	3240244	860.17
43	369586	3240209	859.62
44	369595	3240160	858.47
45	369596	3240110	857.24
46	369609	3240063	857.05
47	369644	3240027	856.83
48	369683	3239997	855.13
49	369717	3239960	854.94
50	369761	3239936	854.84
51	369810	3239926	851.98
52	369859	3239921	848.91
53	369907	3239933	848.79
54	369917	3239981	847.94
55	369934	3240026	847.92
56	369978	3240045	845.07
57	369995	3240003	844.95
58	370004	3239955	844.46
59	370023	3239909	842.14
60	370030	3239861	832.58
61	370063	3239823	832.46
62	370101	3239791	932.57
63	370136	3239756	830.05
64	370179	3239736	830.20
65	370225	3239741	830.29
66	370272	3239739	830.32
67	370319	3239729	830.10
68	370368	3239737	830.14
69	370415	3239724	828.39
70	370444	3239684	826.65
71	370469	3239640	824.74
72	370482	3239593	816.61
73	370489	3239543	810.97
74	370513	3239503	809.90
75	370553	3239474	809.98
76	370584	3239434	809.67
77	370616	3239396	809.48
78	370658	3239370	808.36
79	370706	3239353	808.05
80	370741	3239321	808.09
81	370713	3239283	808.06
82	370674	3239253	807.72
83	370640	3239225	807.22
84	370601	3239196	806.35
85	370569	3239159	806.15
86	370547	3239115	805.90
87	370531	3239069	805.84
88	370522	3239022	805.64
89	370528	3238973	805.70
90	370553	3238930	805.48

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NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL GOVT. OF UTTARAKHAND

Gola river 50 Year HFL Points

Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
91	370596	3238906	788.20
92	370640	3238885	787.34
93	370663	3238841	787.22
94	370704	3238814	786.92
95	370750	3238795	785.82
96	370797	3238778	785.57
97	370836	3238747	785.53
98	370874	3238714	784.44
99	370907	3238677	784.24
100	370919	3238629	780.90
101	370919	3238579	780.27
102	370916	3238529	779.35
103	370912	3238480	775.02
104	370916	3238430	773.21
105	370921	3238380	773.03
106	370923	3238330	769.75
107	370921	3238282	769.83
108	370948	3238249	769.70
109	370986	3238222	768.48
110	371018	3238184	768.29
111	371036	3238142	767.39
112	371015	3238108	766.20
113	370983	3238084	765.82
114	370941	3238061	765.86
115	370897	3238039	765.51
116	370851	3238022	765.37
117	370803	3238009	765.15
118	370769	3237977	765.30
119	370745	3237934	765.18
120	370721	3237890	764.33
121	370714	3237842	764.16
122	370742	3237806	764.23
123	370742	3237757	758.16
124	370718	3237718	758.17
125	370682	3237687	757.70
126	370643	3237658	757.53
127	370614	3237619	757.03
128	370579	3237584	756.29
129	370545	3237548	755.85
130	370511	3237511	754.81
131	370479	3237475	754.65
132	370449	3237435	753.56
133	370420	3237395	753.47
134	370396	3237353	750.24
135	370379	3237306	749.07
136	370374	3237256	748.33
137	370369	3237207	748.25
138	370390	3237164	747.99
139	370430	3237134	747.81
140	370476	3237137	747.75
141	370522	3237136	747.85
142	370564	3237113	747.79
143	370590	3237083	747.69
144	370604	3237040	747.70
145	370574	3237001	747.43
146	370555	3236958	747.15
147	370564	3236911	747.23
148	370556	3236865	746.96
149	370535	3236820	747.14
150	370501	3236786	747.17
151	370461	3236757	747.03
152	370427	3236722	743.83
153	370398	3236687	743.66
154	370372	3236645	744.54
155	370359	3236601	743.83
156	370370	3236561	743.33
157	370366	3236512	736.75
158	370355	3236464	736.25
159	370341	3236418	734.01
160	370347	3236368	733.19
161	370355	3236322	732.93
162	370319	3236291	732.98
163	370270	3236286	732.71
164	370222	3236276	732.23
165	370173	3236268	732.16
166	370141	3236232	730.90
167	370125	3236186	732.33
168	370103	3236156	728.47
169	370065	3236151	728.16
170	370032	3236185	726.97
171	369993	3236212	726.41
172	369957	3236244	724.78
173	369926	3236277	724.82
174	369891	3236312	724.28
175	369851	3236341	723.27
176	369814	3236373	720.96
177	369773	3236400	720.26
178	369729	3236421	720.25
179	369684	3236422	720.37
180	369635	3236427	717.39

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NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhakuni Advocate HQ-NAINITAL Regd. No. 30 (UK)/2017

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Gola river 50 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
181	369595	3236454	717.35
182	369546	3236463	716.06
183	369497	3236455	716.00
184	369457	3236429	715.58
185	369412	3236434	714.74
186	369367	3236443	714.48
187	369319	3236444	714.10
188	369276	3236464	714.15
189	369237	3236493	714.03
190	369211	3236536	714.03
191	369188	3236580	713.40
192	369166	3236624	712.84
193	369134	3236660	712.48
194	369089	3236680	712.35
195	369044	3236698	711.00
196	369007	3236728	711.18
197	368968	3236758	710.25
198	368929	3236789	709.13
199	368893	3236823	708.30
200	368860	3236859	708.19
201	368816	3236877	708.20
202	368770	3236890	706.22
203	368737	3236923	702.90
204	368717	3236930	702.34
205	368668	3236939	702.19
206	368621	3236943	701.70
207	368573	3236951	700.35
208	368529	3236970	699.25
209	368486	3236988	699.29
210	368439	3236996	699.34
211	368391	3237004	699.12
212	368346	3237027	699.06
213	368304	3237053	698.83
214	368260	3237077	698.16
215	368217	3237099	698.30
216	368171	3237118	698.16
217	368125	3237137	698.30
218	368078	3237151	698.28
219	368029	3237155	697.34
220	367979	3237156	694.03
221	367929	3237149	693.78
222	367880	3237147	693.05
223	367832	3237134	692.83
224	367786	3237137	691.77
225	367739	3237151	691.25
226	367694	3237163	690.22
227	367650	3237171	690.01
228	367609	3237196	686.77
229	367560	3237201	687.11
230	367511	3237203	686.46
231	367462	3237195	686.09
232	367415	3237176	685.85
233	367371	3237153	685.98
234	367341	3237127	685.88
235	367314	3237095	685.67
236	367294	3237060	685.83
237	367263	3237051	685.91
238	367246	3237035	685.67
239	367199	3237045	685.57
240	367169	3237046	683.56
241	367126	3237060	683.22
242	367080	3237072	682.97
243	367038	3237087	682.27
244	367026	3237135	682.19
245	367017	3237183	681.30
246	367017	3237230	680.99
247	367025	3237278	681.32
248	367039	3237325	681.20
249	367035	3237374	680.21
250	367035	3237422	679.54
251	367006	3237458	677.61
252	367010	3237496	677.48
253	366974	3237527	674.48
254	366936	3237552	672.54
255	366895	3237581	672.40
256	366852	3237587	672.41
257	366814	3237608	671.54
258	366770	3237623	671.36
259	366731	3237609	671.12
260	366727	3237566	670.85
261	366712	3237526	670.81
262	366693	3237505	670.67
263	366669	3237484	670.62
264	366624	3237484	670.78
265	366594	3237524	670.48
266	366561	3237560	670.04
267	366518	3237572	669.79
268	366502	3237616	669.22
269	366505	3237665	669.03
270	366532	3237705	667.92

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NOTARY * GOVT. OF UTTARAKHAND * Dr. P. S. Bankoti Advocate HQ-NAINITAL

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Gola river 50 Year HFL Points

Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
271	366548	3237728	667.96
272	366505	3237749	667.51
273	366485	3237791	667.41
274	366471	3237828	665.87
275	366444	3237865	663.99
276	366417	3237906	662.94
277	366384	3237944	662.90
278	366343	3237970	662.32
279	366295	3237980	662.32
280	366254	3237980	662.03
281	366218	3237986	662.15
282	366196	3237963	662.04
283	366156	3237958	661.72
284	366114	3237976	661.64
285	366080	3238000	661.62
286	366045	3238033	661.75
287	366012	3238070	661.56
288	365989	3238110	659.78
289	365966	3238133	659.59
290	365935	3238172	658.34
291	365903	3238207	658.13
292	365862	3238234	658.18
293	365814	3238243	657.94
294	365788	3238205	653.62
295	365766	3238172	653.34
296	365733	3238161	653.35
297	365687	3238170	653.23
298	365652	3238202	653.14
299	365614	3238232	651.05
300	365594	3238276	650.84
301	365598	3238324	650.47
302	365586	3238371	649.22
303	365577	3238414	648.51
304	365593	3238459	648.26
305	365592	3238501	647.11
306	365582	3238541	646.12
307	365566	3238588	644.83
308	365549	3238630	643.73
309	365520	3238668	643.64
310	365491	3238698	643.70
311	365447	3238719	643.40
312	365402	3238736	643.51
313	365358	3238755	643.42
314	365311	3238763	641.46
315	365263	3238764	640.72
316	365219	3238744	640.31
317	365170	3238754	638.94
318	365121	3238764	638.98
319	365075	3238779	638.83
320	365029	3238792	637.37
321	364983	3238798	637.29
322	364935	3238812	636.75
323	364887	3238826	636.23
324	364838	3238831	636.19
325	364791	3238842	634.69
326	364747	3238861	633.87
327	364709	3238893	633.31
328	364689	3238933	632.86
329	364678	3238980	632.73
330	364676	3239030	632.20
331	364676	3239078	631.78
332	364680	3239127	631.46
333	364679	3239177	629.13
334	364670	3239225	628.58
335	364665	3239274	628.27
336	364657	3239324	627.27
337	364646	3239371	626.35
338	364642	3239416	626.18
339	364651	3239465	626.01
340	364660	3239514	625.99
341	364673	3239562	625.15
342	364689	3239610	624.31
343	364711	3239655	624.14
344	364730	3239701	625.01
345	364751	3239746	624.69
346	364771	3239792	622.83
347	364779	3239841	622.63
348	364779	3239891	622.34
349	364769	3239939	622.51
350	364750	3239985	617.39
351	364723	3240027	616.47
352	364699	3240070	616.39
353	364655	3240093	615.26
354	364612	3240119	614.98
355	364568	3240140	614.42
356	364520	3240153	614.14
357	364474	3240172	614.02
358	364428	3240190	613.98
359	364382	3240210	613.71
360	364349	3240245	613.36

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NOTARY Dr. P. S. Bisht HQ-NAINITAL GOVT. OF UTTARAKHAND

8/12/2024

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Gola river 50 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
361	364305	3240266	613.37
362	364263	3240289	612.96
363	364224	3240316	611.46
364	364182	3240340	610.47
365	364140	3240364	610.35
366	364094	3240377	610.26
367	364053	3240404	610.26
368	364011	3240429	609.10
369	363973	3240455	608.16
370	363933	3240484	607.96
371	363898	3240518	607.28
372	363864	3240552	607.01
373	363842	3240595	606.73
374	363824	3240642	605.75
375	363807	3240689	605.36
376	363787	3240735	605.26
377	363762	3240778	603.02
378	363746	3240825	602.81
379	363732	3240872	602.78
380	363717	3240920	602.48
381	363703	3240968	601.48
382	363681	3241011	601.10
383	363689	3241058	600.80
384	363682	3241102	600.54
385	363678	3241146	600.20
386	363668	3241192	600.20
387	363630	3241219	599.98
388	363584	3241234	599.17
389	363541	3241257	599.01
390	363501	3241283	598.97
391	363467	3241319	598.79
392	363424	3241343	598.76
393	363383	3241347	598.60
394	363351	3241346	598.71
395	363329	3241375	598.64
396	363327	3241394	598.57
397	363283	3241411	598.56
398	363248	3241409	598.57
399	363210	3241436	598.48
400	363171	3241454	598.09
401	363125	3241443	597.73
402	363087	3241424	597.69
403	363051	3241395	595.99
404	363018	3241365	595.96
405	363017	3241356	595.88
406	362977	3241328	594.81
407	362928	3241322	594.89
408	362880	3241313	594.80
409	362832	3241319	594.69
410	362784	3241319	594.32
411	362737	3241301	594.29
412	362690	3241290	594.01
413	362641	3241287	593.95
414	362595	3241289	594.10
415	362550	3241299	593.72
416	362504	3241300	591.59
417	362462	3241310	590.44
418	362426	3241331	588.78
419	362384	3241350	587.45
420	362353	3241385	585.39
421	362329	3241403	582.70
422	362321	3241439	582.49
423	362311	3241470	581.82
424	362280	3241504	581.51
425	362233	3241513	580.90
426	362184	3241505	580.72
427	362143	3241481	578.89
428	362102	3241461	578.99
429	362057	3241477	577.88
430	362018	3241508	575.29
431	361983	3241541	574.35
432	361951	3241577	574.00
433	361919	3241611	573.92
434	361886	3241644	573.15
435	361857	3241679	573.07
436	361822	3241712	572.21
437	361786	3241742	572.16
438	361751	3241776	571.78
439	361712	3241804	571.15
440	361669	3241830	570.94
441	361636	3241864	570.30
442	361594	3241887	570.16
443	361559	3241915	569.61
444	361514	3241931	569.15
445	361474	3241951	568.68
446	361430	3241954	568.06
447	361383	3241961	567.52
448	361338	3241950	567.47
449	361292	3241934	567.39
450	361252	3241911	567.11

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NOTARY GOVT. OF UTTARAKHAND INDIA Dr. P. S. Bhakuni Advocate HQ-NAINITAL

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Gola river 50 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
451	361205	3241914	566.14
452	361156	3241926	566.10
453	361107	3241936	565.94
454	361058	3241942	566.87
455	361012	3241942	565.52
456	360964	3241949	564.18
457	360918	3241963	563.85
458	360870	3241970	562.37
459	360828	3241956	562.23
460	360780	3241956	561.57
461	360736	3241943	561.38
462	360692	3241928	561.27
463	360652	3241904	560.84
464	360616	3241882	560.18
465	360592	3241865	560.00
466	360561	3241831	559.58
467	360523	3241804	559.22
468	360488	3241776	558.77
469	360458	3241737	558.33
470	360433	3241699	557.14
471	360410	3241655	555.83
472	360388	3241611	555.22
473	360381	3241575	555.18
474	360352	3241540	554.94
475	360328	3241506	554.99
476	360294	3241485	554.96
477	360250	3241472	554.76
478	360203	3241460	554.42
479	360154	3241457	554.07
480	360104	3241460	553.07
481	360057	3241448	553.00
482	360014	3241437	552.68
483	359969	3241444	552.09
484	359924	3241444	552.28
485	359885	3241434	552.21
486	359852	3241409	550.69
487	359812	3241384	548.97
488	359766	3241375	546.29
489	359728	3241352	545.09
490	359684	3241331	544.06
491	359637	3241315	541.72
492	359589	3241304	540.99
493	359542	3241288	540.65
494	359495	3241271	539.95
495	359449	3241252	539.32
496	359403	3241231	539.45
497	359358	3241209	538.85
498	359314	3241186	538.13
499	359271	3241161	538.11
500	359228	3241136	538.07
501	359184	3241112	537.32
502	359147	3241079	537.44
503	359109	3241046	537.27
504	359071	3241013	536.73
505	359031	3241003	536.70
506	359014	3240979	536.47
507	359019	3240932	536.42
508	359003	3240885	536.55
509	359029	3240853	536.53
510	359068	3240824	536.55
511	359097	3240786	536.31
512	359116	3240740	536.28
513	359130	3240692	536.20
514	359139	3240643	536.28
515	359146	3240594	536.18
516	359152	3240544	536.35
517	359151	3240494	536.01
518	359147	3240444	535.68
519	359132	3240406	534.56
520	359123	3240364	534.09
521	359110	3240321	534.01
522	359089	3240279	533.20
523	359070	3240253	532.96
524	359035	3240219	529.72
525	359010	3240205	528.73
526	358978	3240167	528.34
527	358955	3240129	528.42
528	358913	3240104	527.68
529	358869	3240080	526.71
530	358827	3240054	526.18
531	358786	3240025	525.80
532	358751	3239993	524.32
533	358734	3239947	523.93
534	358713	3239903	523.79
535	358699	3239857	523.94
536	358680	3239814	523.86
537	358667	3239769	523.73
538	358679	3239725	523.78
539	358723	3239729	523.48
540	358733	3239701	523.44

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NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL No. 30 GOVT. OF UTTARAKHAND (INDIA)

8/7/2024

Gola river 50 Year HFL Points

Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
541	358766	3239670	523.35
542	358794	3239641	523.34
543	358829	3239616	523.56
544	358859	3239580	523.47
545	358855	3239536	523.49
546	358822	3239510	523.32
547	358840	3239476	523.49
548	358822	3239437	523.48
549	358802	3239396	523.37
550	358777	3239359	523.22
551	358765	3239314	523.28
552	358762	3239275	523.05
553	358747	3239234	522.99
554	358754	3239187	523.05
555	358769	3239145	523.13
556	358780	3239101	523.13
557	358777	3239053	523.14
558	358804	3239013	522.92
559	358821	3238968	522.85
560	358844	3238928	512.84
561	358861	3238882	511.87
562	358873	3238834	512.03
563	358880	3238785	511.77
564	358893	3238738	511.19
565	358923	3238703	510.06
566	358952	3238678	508.85
567	358959	3238629	505.90
568	358944	3238582	503.42
569	358928	3238535	502.83
570	358908	3238490	502.20
571	358912	3238446	501.57
572	358897	3238401	501.46
573	358888	3238354	500.85
574	358875	3238308	500.85
575	358857	3238263	500.24
576	358837	3238217	499.42
577	358817	3238171	497.85
578	358790	3238129	497.81
579	358767	3238086	497.67
580	358735	3238048	497.79
581	358702	3238011	496.66
582	358664	3237979	496.40
583	358630	3237943	496.12
584	358598	3237904	496.32
585	358559	3237875	495.91
586	358547	3237826	495.62
587	358536	3237777	495.76
588	358529	3237728	495.69
589	358520	3237679	495.53
590	358510	3237630	495.65
591	358500	3237581	495.76
592	358492	3237531	491.34
593	358483	3237482	491.28
594	358475	3237433	490.65
595	358467	3237383	490.23
596	358459	3237334	488.71
597	358454	3237284	488.03
598	358450	3237234	487.29
599	358449	3237184	484.85
600	358450	3237135	484.01
601	358443	3237085	483.81
602	358436	3237036	483.80
603	358430	3236986	483.70
604	358424	3236936	483.76
605	358438	3236889	483.54
606	358454	3236841	478.43
607	358452	3236792	476.65
608	358446	3236743	475.53
609	358451	3236693	475.24
610	358465	3236645	475.27
611	358488	3236601	475.29
612	358511	3236557	475.13
613	358529	3236511	475.14
614	358535	3236461	475.09
615	358539	3236411	474.80
616	358547	3236362	474.92
617	358554	3236312	470.75
618	358557	3236262	468.72
619	358569	3236214	469.27
620	358586	3236167	468.37
621	358607	3236122	468.17
622	358629	3236077	468.32
623	358640	3236028	468.14
624	358643	3235978	467.97
625	358650	3235929	467.20
626	358669	3235884	466.83
627	358687	3235839	463.67
628	358675	3235791	463.54
629	358668	3235741	463.69
630	358667	3235691	463.06

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NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL GOVT. OF UTTARAKHAND

8/12/24

297

Gola river 50 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
631	358660	3235642	462.99
632	358651	3235593	462.08
633	358641	3235544	460.98
634	358630	3235495	460.65
635	358620	3235446	460.68
636	358609	3235397	460.58
637	358599	3235348	460.46
638	358585	3235300	460.69
639	358552	3235283	460.47
640	358503	3235292	460.36
641	358457	3235296	460.51
642	358441	3235248	460.44
643	358425	3235201	460.42
644	358409	3235154	459.92
645	358394	3235106	456.93
646	358378	3235059	455.25
647	358362	3235011	454.91
648	358346	3234964	454.97
649	358331	3234916	455.06
650	358316	3234869	455.01
651	358300	3234821	454.68
652	358285	3234773	454.66
653	358270	3234726	450.10
654	358255	3234678	450.12
655	358241	3234630	449.69
656	358228	3234582	449.38
657	358214	3234534	449.41
658	358201	3234485	448.67
659	358188	3234437	448.75
660	358176	3234389	448.58

Sl. No	Easting (X)	Northing (Y)	WSE (m)
661	358163	3234340	447.70
662	358150	3234292	446.80
663	358137	3234244	442.40
664	358123	3234196	442.62
665	358108	3234148	442.36
666	358094	3234100	442.39
667	358084	3234051	440.31
668	358063	3234006	440.06
669	358036	3233964	439.69
670	358003	3233927	439.03
671	357970	3233889	438.05
672	357936	3233853	438.13
673	357902	3233816	437.22
674	357871	3233777	437.19
675	357840	3233737	436.06
676	357809	3233698	436.08
677	357798	3233649	436.02
678	357786	3233601	434.41
679	357767	3233555	433.56
680	357758	3233507	431.76
681	357756	3233457	430.74
682	357756	3233407	430.48
683	357757	3233357	430.52
684	357757	3233307	430.48
685	357755	3233257	430.60
686	357752	3233207	429.83
687	357748	3233157	429.44
688	357738	3233108	429.53
689	357716	3233064	429.10
690	357696	3233018	426.10

Sl. No	Easting (X)	Northing (Y)	WSE (m)
691	357680	3232970	424.99
692	357666	3232922	424.09
693	357651	3232875	422.54
694	357635	3232827	421.82
695	357620	3232780	421.61
696	357627	3232730	421.68
697	357635	3232681	421.43
698	357656	3232636	421.09
699	357670	3232588	420.74
700	357684	3232541	420.84
701	357688	3232491	418.81
702	357687	3232441	418.87
703	357682	3232392	417.74
704	357677	3232342	416.76
705	357680	3232292	416.09
706	357686	3232242	414.08
707	357687	3232193	413.63
708	357686	3232143	413.31
709	357701	3232095	413.32
710	357732	3232061	412.96
711	357763	3232022	412.79
712	357752	3231983	412.66
713	357717	3231951	412.79
714	357715	3231901	412.78
715	357718	3231852	412.01
716	357718	3231802	411.77
717	357729	3231753	411.08
718	357741	3231705	407.01
719	357755	3231657	406.94
720	357775	3231611	406.54

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NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhakuni Adv. HQ-NAINITAL

8/11/2024

Gola river 50 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
721	357791	3231564	405.91
722	357812	3231518	402.00
723	357837	3231475	401.84
724	357867	3231436	401.66
725	357904	3231403	401.01
726	357950	3231383	400.97
727	357993	3231358	400.78
728	358021	3231330	399.91
729	358030	3231282	399.90
730	358036	3231233	399.57
731	358037	3231183	399.47
732	358042	3231134	397.81
733	358050	3231085	397.11
734	358059	3231036	396.77
735	358063	3230986	395.23
736	358065	3230936	392.01
737	358080	3230888	391.84
738	358097	3230841	390.34
739	358114	3230794	390.39
740	358136	3230749	390.18
741	358139	3230701	390.09
742	358137	3230652	390.17
743	358141	3230602	390.04
744	358140	3230552	388.39
745	358139	3230502	388.40
746	358143	3230452	388.07
747	358155	3230404	386.75
748	358167	3230355	386.33
749	358181	3230307	385.74
750	358194	3230259	385.69

Sl. No	Easting (X)	Northing (Y)	WSE (m)
751	358206	3230211	385.64
752	358209	3230161	384.11
753	358207	3230112	383.95
754	358203	3230062	382.97
755	358185	3230016	382.71
756	358174	3229968	382.74
757	358161	3229919	380.35
758	358152	3229870	380.35
759	358153	3229821	378.71
760	358154	3229771	378.85
761	358161	3229721	373.65
762	358176	3229673	373.85
763	358190	3229626	373.67
764	358183	3229576	373.62
765	358179	3229527	373.67
766	358180	3229477	373.75
767	358182	3229427	372.83
768	358187	3229377	372.23
769	358196	3229328	372.46
770	358218	3229283	372.42
771	358240	3229239	370.30
772	358263	3229194	370.22
773	358284	3229149	369.35
774	358306	3229104	368.97
775	358338	3229066	368.43
776	358357	3229020	368.24
777	358368	3228973	368.31
778	358350	3228930	367.84
779	358333	3228883	366.62
780	358329	3228834	365.62

Sl. No	Easting (X)	Northing (Y)	WSE (m)
781	358329	3228784	365.66
782	358327	3228734	365.28
783	358329	3228684	363.34
784	358333	3228634	363.20
785	358341	3228585	361.09
786	358351	3228536	360.63
787	358354	3228486	360.98
788	358348	3228438	360.69
789	358328	3228392	360.59
790	358306	3228347	360.48
791	358281	3228304	360.65
792	358252	3228263	359.88
793	358217	3228228	358.46
794	358190	3228187	358.70
795	358173	3228140	358.00
796	358157	3228093	357.09
797	358147	3228044	356.94
798	358142	3227995	355.58
799	358136	3227945	355.45
800	358131	3227895	355.28
801	358132	3227846	354.09
802	358137	3227796	354.07
803	358141	3227746	353.10
804	358153	3227698	352.92
805	358172	3227652	351.86
806	358195	3227608	351.41
807	358223	3227566	351.45
808	358235	3227518	351.08
809	358221	3227470	351.10
810	358220	3227420	350.30

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NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhakuni Advocate HQ-NAINITAL

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Gola river 50 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
811	358223	3227371	349.36
812	358228	3227321	349.24
813	358237	3227272	347.90
814	358247	3227223	348.05
815	358246	3227173	347.53
816	358254	3227125	346.47
817	358273	3227079	345.32
818	358294	3227034	344.73
819	358316	3226989	344.07
820	358347	3226951	342.11
821	358382	3226915	341.85
822	358409	3226874	341.96
823	358425	3226827	340.79
824	358426	3226777	340.61
825	358427	3226727	340.41
826	358428	3226677	338.54
827	358423	3226627	338.04
828	358416	3226578	338.13
829	358408	3226528	338.08
830	358394	3226480	335.99
831	358381	3226432	335.80
832	358368	3226384	335.69
833	358356	3226335	335.06
834	358354	3226285	335.05
835	358352	3226235	334.78
836	358350	3226186	334.39
837	358349	3226136	334.46
838	358348	3226086	332.14
839	358352	3226036	332.01
840	358358	3225986	332.03
841	358361	3225936	331.49
842	358363	3225886	330.64
843	358364	3225836	330.57
844	358376	3225788	329.80
845	358385	3225739	329.68
846	358387	3225689	329.81
847	358388	3225639	330.56
848	358389	3225589	328.61
849	358390	3225539	328.67
850	358388	3225489	328.61
851	358385	3225439	327.44
852	358388	3225390	324.68
853	358397	3225340	323.78
854	358417	3225295	323.77
855	358446	3225254	323.46
856	358480	3225218	323.55
857	358515	3225182	323.54
858	358533	3225138	323.55
859	358542	3225090	322.87
860	358557	3225042	322.26
861	358589	3225004	322.40
862	358594	3224955	322.22
863	358594	3224905	321.81
864	358593	3224855	320.81
865	358597	3224805	320.73
866	358606	3224756	319.70
867	358610	3224706	319.31
868	358614	3224656	317.73
869	358609	3224607	317.70
870	358600	3224558	317.54
871	358591	3224509	316.15
872	358580	3224460	315.74
873	358569	3224411	315.58
874	358558	3224362	315.48
875	358548	3224313	313.22
876	358538	3224264	312.62
877	358531	3224215	312.78
878	358538	3224166	310.96
879	358545	3224116	311.03
880	358554	3224068	310.89
881	358540	3224021	310.55
882	358531	3223973	310.39
883	358526	3223923	310.22
884	358516	3223874	309.15
885	358502	3223826	309.20
886	358490	3223778	308.06
887	358481	3223729	306.59
888	358478	3223679	305.77
889	358480	3223629	305.42
890	358489	3223580	304.68
891	358504	3223532	304.41
892	358514	3223484	304.61
893	358523	3223435	304.11
894	358525	3223385	303.74
895	358528	3223335	302.93
896	358535	3223286	302.65
897	358550	3223238	302.22
898	358570	3223192	300.55
899	358587	3223145	300.44
900	358603	3223098	299.78

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NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhakuni Advocate HQ-NAINITAL

8/12/24

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Gola river 50 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
901	358622	3223052	298.73
902	358647	3223008	298.79
903	358671	3222965	298.65
904	358694	3222921	298.22
905	358714	3222875	298.33
906	358722	3222825	297.96
907	358730	3222776	297.92
908	358737	3222727	296.45
909	358751	3222679	295.36
910	358769	3222632	295.10
911	358761	3222588	294.93
912	358734	3222546	294.50
913	358726	3222496	294.37
914	358726	3222447	293.96
915	358717	3222399	292.30
916	358696	3222354	292.04
917	358701	3222304	291.82
918	358688	3222256	290.25
919	358676	3222208	289.97
920	358662	3222160	289.87
921	358647	3222112	289.63
922	358636	3222063	287.77
923	358628	3222014	287.82
924	358620	3221965	287.55
925	358599	3221919	287.57
926	358578	3221874	287.22
927	358558	3221828	287.23
928	358545	3221780	286.05
929	358542	3221731	285.52
930	358552	3221682	284.52
931	358555	3221633	284.60
932	358554	3221583	284.42
933	358552	3221533	284.02
934	358556	3221483	282.28
935	358564	3221434	282.02
936	358572	3221385	281.87
937	358581	3221335	281.55
938	358581	3221286	280.35
939	358579	3221236	280.39
940	358579	3221186	279.24
941	358582	3221136	279.40
942	358588	3221087	279.16
943	358606	3221040	279.17
944	358610	3220990	278.65
945	358599	3220942	278.22
946	358587	3220893	277.08
947	358576	3220844	277.06
948	358574	3220795	276.78
949	358576	3220745	276.64
950	358577	3220695	275.71
951	358578	3220645	275.58
952	358580	3220595	275.46
953	358581	3220545	275.31
954	358586	3220496	275.49
955	358614	3220455	272.47
956	358643	3220413	272.56
957	358672	3220373	271.79
958	358703	3220334	271.69
959	358734	3220295	271.59
960	358748	3220248	271.30
961	358751	3220198	270.96
962	358760	3220149	270.26
963	358772	3220101	270.01
964	358786	3220053	269.79
965	358794	3220004	269.68
966	358796	3219955	269.64
967	358809	3219906	269.74
968	358816	3219857	269.52
969	358818	3219807	269.76
970	358815	3219757	269.60
971	358813	3219707	269.60
972	358810	3219657	269.53
973	358808	3219607	269.46
974	358803	3219557	269.36
975	358789	3219509	268.02
976	358776	3219461	268.09
977	358762	3219413	268.03
978	358749	3219365	267.72
979	358737	3219316	267.76
980	358729	3219267	267.74
981	358724	3219217	267.56
982	358729	3219168	267.17
983	358745	3219121	267.01
984	358747	3219072	266.96
985	358744	3219022	266.92
986	358738	3218972	266.40
987	358733	3218922	265.94
988	358727	3218873	265.64
989	358722	3218823	265.43
990	358720	3218773	265.08

NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhakuni Adv. HQ-NAINITAL

20/12/24

Gola river 50 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
991	358718	3218723	264.71
992	358720	3218673	264.17
993	358709	3218625	264.14
994	358705	3218576	264.13
995	358698	3218527	263.48
996	358694	3218477	263.58
997	358707	3218429	263.55
998	358727	3218384	263.05
999	358736	3218335	260.73
1000	358729	3218286	260.70
1001	358731	3218237	260.67
1002	358748	3218191	260.61
1003	358779	3218152	260.44
1004	358798	3218106	260.45
1005	358812	3218058	260.33
1006	358819	3218009	259.82
1007	358822	3217960	258.94
1008	358837	3217912	258.20
1009	358862	3217870	257.89
1010	358887	3217827	257.79
1011	358904	3217780	257.75
1012	358927	3217735	257.77
1013	358938	3217687	257.48
1014	358938	3217638	255.72
1015	358946	3217589	255.96
1016	358954	3217540	255.59
1017	358972	3217494	255.62
1018	358981	3217445	254.84
1019	358982	3217395	254.78
1020	358978	3217346	254.40

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1021	358984	3217298	253.03
1022	358996	3217253	251.91
1023	359022	3217212	251.74
1024	359032	3217164	251.82
1025	359055	3217120	251.44
1026	359083	3217078	250.87
1027	359097	3217037	250.81
1028	359098	3216994	249.76
1029	359107	3216945	249.50
1030	359121	3216897	249.68
1031	359120	3216848	249.36
1032	359122	3216799	249.20
1033	359130	3216750	247.45
1034	359129	3216700	246.01
1035	359141	3216652	245.66
1036	359165	3216609	245.65
1037	359185	3216564	246.61
1038	359217	3216526	245.56
1039	359233	3216479	245.53
1040	359224	3216430	245.46
1041	359223	3216382	245.57
1042	359247	3216338	245.35
1043	359264	3216292	245.29
1044	359255	3216244	244.90
1045	359260	3216195	244.59
1046	359245	3216149	244.64
1047	359234	3216100	244.01
1048	359243	3216051	243.86
1049	359266	3216008	243.65
1050	359278	3215961	243.63

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1051	359282	3215912	243.79
1052	359289	3215862	242.76
1053	359291	3215813	242.45
1054	359293	3215763	242.19
1055	359295	3215713	242.07
1056	359307	3215664	242.08
1057	359325	3215618	241.98
1058	359338	3215571	241.81
1059	359334	3215521	241.74
1060	359330	3215471	241.70
1061	359314	3215424	241.36
1062	359310	3215375	241.51
1063	359329	3215337	241.42
1064	359361	3215307	241.40
1065	359379	3215266	241.14
1066	359379	3215217	240.97
1067	359370	3215168	240.88
1068	359389	3215124	239.77
1069	359428	3215093	239.93
1070	359463	3215062	239.75
1071	359471	3215014	239.77
1072	359501	3214975	239.14
1073	359536	3214939	239.02
1074	359567	3214904	238.89
1075	359582	3214857	238.66
1076	359594	3214809	238.56
1077	359612	3214762	238.60
1078	359625	3214714	238.40
1079	359636	3214665	237.40
1080	359645	3214616	237.65

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NOTARY Dr. P. S. Beakoti Adv. HQ-NAINITAL GOVT. OF UTTARAKHAND INDIA

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Gola river 50 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1081	359658	3214568	237.46
1082	359672	3214520	237.27
1083	359675	3214470	236.80
1084	359711	3214438	236.91
1085	359743	3214401	237.00
1086	359771	3214359	236.80
1087	359791	3214313	236.94
1088	359811	3214267	236.09
1089	359844	3214230	236.15
1090	359884	3214201	235.93
1091	359912	3214161	235.97
1092	359916	3214112	235.62
1093	359915	3214062	235.59
1094	359921	3214012	235.58
1095	359928	3213963	234.49
1096	359927	3213913	235.41
1097	359940	3213865	235.28
1098	359947	3213816	235.19
1099	359950	3213766	234.92
1100	359956	3213716	234.64
1101	359963	3213668	234.18
1102	359984	3213623	232.85
1103	360023	3213591	232.87
1104	360066	3213566	232.98
1105	360093	3213524	232.81
1106	360120	3213482	232.66
1107	360148	3213441	232.54
1108	360191	3213432	232.58
1109	360230	3213416	232.41
1110	360245	3213368	232.18
1111	360263	3213321	232.00
1112	360263	3213271	231.92
1113	360262	3213222	231.64
1114	360256	3213172	231.45
1115	360216	3213142	231.53
1116	360200	3213104	231.39
1117	360218	3213057	231.50
1118	360248	3213024	231.43
1119	360246	3212978	230.10
1120	360230	3212931	229.96
1121	360231	3212883	230.18
1122	360256	3212840	230.02
1123	360281	3212797	229.76
1124	360282	3212753	229.76
1125	360241	3212724	229.82
1126	360204	3212690	229.71
1127	360180	3212646	229.10
1128	360161	3212600	229.13
1129	360145	3212553	228.90
1130	360128	3212506	229.02
1131	360125	3212457	228.78
1132	360131	3212407	228.70
1133	360140	3212358	227.42
1134	360152	3212309	227.24
1135	360169	3212263	227.15
1136	360179	3212214	227.17
1137	360214	3212178	226.95
1138	360261	3212160	226.80
1139	360304	3212138	225.98
1140	360316	3212089	225.84
1141	360319	3212041	225.63
1142	360318	3211993	225.69
1143	360341	3211950	225.52
1144	360357	3211907	225.41
1145	360357	3211857	225.20
1146	360357	3211807	225.19
1147	360358	3211757	225.01
1148	360370	3211711	224.13
1149	360381	3211665	223.79
1150	360397	3211618	223.82
1151	360409	3211570	223.49
1152	360393	3211523	223.09
1153	360363	3211483	222.50
1154	360336	3211441	222.47
1155	360311	3211398	222.48
1156	360283	3211356	222.21
1157	360285	3211307	222.24
1158	360303	3211260	222.05
1159	360322	3211214	221.08
1160	360350	3211173	221.13
1161	360380	3211134	221.26
1162	360403	3211089	221.04
1163	360403	3211042	220.92
1164	360385	3210995	220.89
1165	360351	3210962	220.90
1166	360328	3210918	220.37
1167	360322	3210868	220.41
1168	360315	3210819	220.34
1169	360304	3210770	220.28
1170	360269	3210737	220.13

NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhakuni Adv. HQ-NAINITAL

Gola river 50 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1171	360226	3210711	220.24
1172	360192	3210676	220.03
1173	360163	3210637	219.71
1174	360127	3210603	219.81
1175	360093	3210567	219.93
1176	360048	3210547	219.85
1177	360001	3210531	219.87
1178	359955	3210512	219.66
1179	359916	3210482	219.70
1180	359882	3210445	219.60
1181	359854	3210404	219.68
1182	359838	3210356	219.44
1183	359825	3210308	219.61
1184	359813	3210260	219.45
1185	359801	3210211	218.98
1186	359770	3210175	218.87
1187	359731	3210143	219.07
1188	359697	3210107	218.19
1189	359679	3210062	218.14
1190	359691	3210015	218.17
1191	359690	3209974	218.24
1192	359679	3209927	218.20
1193	359671	3209878	218.08
1194	359668	3209829	218.03
1195	359668	3209779	217.96
1196	359647	3209734	218.02
1197	359619	3209693	217.99
1198	359588	3209654	217.95
1199	359556	3209615	217.86
1200	359524	3209577	217.73
1201	359505	3209532	217.66
1202	359486	3209486	217.56
1203	359450	3209452	217.60
1204	359416	3209417	217.69
1205	359402	3209369	217.66
1206	359390	3209321	217.59
1207	359382	3209271	217.57
1208	359371	3209223	217.47
1209	359362	3209174	217.42
1210	359353	3209124	217.37
1211	359339	3209076	217.26
1212	359321	3209030	217.34
1213	359282	3209004	217.04
1214	359274	3208955	217.08
1215	359260	3208907	217.18
1216	359245	3208860	216.90
1217	359216	3208820	216.85
1218	359189	3208778	216.89
1219	359178	3208732	216.67
1220	359168	3208691	216.70
1221	359130	3208662	216.20
1222	359090	3208637	216.18
1223	359066	3208595	215.94
1224	359046	3208551	216.14
1225	359024	3208507	215.82
1226	358997	3208466	215.75
1227	358983	3208418	215.62
1228	358965	3208373	216.38
1229	358955	3208327	216.17
1230	358936	3208289	216.27
1231	358907	3208250	216.20
1232	358870	3208224	215.80
1233	358823	3208232	215.66
1234	358798	3208204	215.64
1235	358776	3208161	215.61
1236	358739	3208130	215.61
1237	358713	3208087	215.87
1238	358684	3208048	215.86
1239	358663	3208003	215.83
1240	358630	3207966	215.68
1241	358602	3207925	215.69
1242	358570	3207886	215.62
1243	358538	3207847	215.71
1244	358514	3207804	215.47
1245	358483	3207765	215.42
1246	358456	3207723	215.60
1247	358423	3207687	215.45
1248	358383	3207658	215.55
1249	358351	3207620	215.54
1250	358333	3207574	215.61
1251	358298	3207538	215.60
1252	358263	3207502	215.51
1253	358237	3207461	215.45
1254	358221	3207413	215.64
1255	358234	3207365	215.54
1256	358244	3207316	215.62
1257	358255	3207267	215.38
1258	358265	3207218	216.21
1259	358276	3207169	216.16
1260	358284	3207120	215.85

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NOTARY (INDIA) Dr. P. S. Bhakuni Adv. (Retd.) HQ-NAINITAL GOVT. OF UTTARAKHAND

Gola river 50 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1261	358293	3207071	215.79
1262	358302	3207022	215.91
1263	358315	3206973	215.83
1264	358329	3206926	215.96
1265	358355	3206883	215.82
1266	358381	3206840	215.83
1267	358417	3206806	215.50
1268	358462	3206785	214.57
1269	358509	3206769	214.84
1270	358559	3206760	214.36
1271	358608	3206752	214.26
1272	358657	3206744	214.39
1273	358707	3206736	214.32
1274	358756	3206728	214.07
1275	358787	3206695	214.14
1276	358811	3206650	214.13
1277	358839	3206609	214.23
1278	358871	3206571	214.20
1279	358905	3206534	214.18
1280	358935	3206497	214.29
1281	358909	3206455	214.16
1282	358882	3206412	214.05
1283	358855	3206371	214.04
1284	358821	3206335	214.05
1285	358782	3206305	214.01
1286	358735	3206289	213.90
1287	358687	3206274	214.08
1288	358639	3206259	213.98
1289	358592	3206243	213.68
1290	358544	3206228	213.94
1291	358497	3206213	213.88
1292	358449	3206197	213.74
1293	358401	3206182	213.70
1294	358354	3206167	213.73
1295	358307	3206151	213.62
1296	358266	3206122	213.73
1297	358228	3206089	213.52
1298	358194	3206052	213.63
1299	358163	3206013	213.58
1300	358138	3205971	213.64
1301	358118	3205925	213.64
1302	358102	3205878	213.63
1303	358088	3205829	213.71
1304	358074	3205781	213.46
1305	358088	3205739	213.59
1306	358128	3205709	213.74
1307	358160	3205673	213.58
1308	358170	3205624	213.12
1309	358180	3205576	212.94
1310	358163	3205535	212.92
1311	358128	3205499	212.89
1312	358120	3205450	212.75
1313	358095	3205408	212.69
1314	358045	3205404	212.68
1315	358003	3205394	212.75
1316	357990	3205364	212.85
1317	358021	3205327	212.86
1318	358055	3205298	212.64
1319	358049	3205249	212.57
1320	358043	3205199	212.69
1321	358033	3205150	212.64
1322	358020	3205102	212.21
1323	358010	3205053	211.20
1324	357998	3205004	210.93
1325	357985	3204956	210.86
1326	357959	3204914	210.66
1327	357928	3204875	210.91
1328	357900	3204834	210.87
1329	357875	3204790	210.79
1330	357851	3204746	210.76
1331	357832	3204700	210.68
1332	357829	3204653	210.68
1333	357847	3204606	210.48
1334	357872	3204563	210.35
1335	357897	3204520	210.49
1336	357928	3204481	210.14
1337	357954	3204439	210.08
1338	357979	3204396	210.12
1339	357985	3204365	209.76
1340	357944	3204339	209.86
1341	357907	3204304	209.94
1342	357877	3204266	209.72
1343	357873	3204216	209.94
1344	357867	3204166	209.82
1345	357861	3204117	209.44
1346	357872	3204069	209.68
1347	357878	3204023	209.58
1348	357857	3203977	209.42
1349	357834	3203933	209.43
1350	357810	3203889	208.63

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NOTARY Dr. P. S. Bhakuni Adv. HQ-NAINITAL Govt. of Uttarakhand

Gola river 50 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1351	357785	3203846	208.54
1352	357754	3203807	208.80
1353	357720	3203770	208.72
1354	357686	3203734	208.79
1355	357653	3203696	208.81
1356	357621	3203658	208.67
1357	357589	3203620	208.52
1358	357557	3203581	208.67
1359	357526	3203541	207.22
1360	357496	3203502	207.20
1361	357453	3203478	206.99
1362	357407	3203458	207.19
1363	357361	3203438	207.17
1364	357312	3203428	207.03
1365	357263	3203421	207.15
1366	357214	3203413	207.11
1367	357164	3203407	207.02
1368	357114	3203405	207.06
1369	357064	3203403	207.12
1370	357014	3203398	206.99
1371	356965	3203396	207.16
1372	356920	3203413	207.03
1373	356873	3203430	207.01
1374	356824	3203429	207.18
1375	356783	3203403	207.05
1376	356749	3203366	206.84
1377	356737	3203318	206.95
1378	356726	3203269	206.95
1379	356740	3203225	206.89
1380	356767	3203183	206.98
1381	356803	3203149	206.85
1382	356848	3203130	207.02
1383	356898	3203121	207.04
1384	356947	3203116	207.00
1385	356980	3203083	207.18
1386	357010	3203043	207.03
1387	357040	3203012	206.96
1388	357013	3202980	206.93
1389	356963	3202972	207.05
1390	356914	3202965	206.95
1391	356865	3202958	206.88
1392	356820	3202937	206.93
1393	356783	3202903	207.07
1394	356753	3202863	206.80
1395	356725	3202822	206.97
1396	356718	3202773	206.75
1397	356706	3202729	207.01
1398	356658	3202715	206.92
1399	356642	3202670	206.90
1400	356628	3202622	206.81
1401	356602	3202580	206.77
1402	356564	3202548	206.96
1403	356531	3202511	206.82
1404	356529	3202462	206.92
1405	356537	3202412	206.92
1406	356546	3202363	206.84
1407	356561	3202315	206.97
1408	356577	3202268	206.87
1409	356594	3202221	206.91
1410	356608	3202173	206.70
1411	356628	3202128	206.71
1412	356624	3202086	206.93
1413	356604	3202043	206.78
1414	356596	3201994	206.77
1415	356589	3201944	206.71
1416	356581	3201895	206.84
1417	356567	3201847	206.93
1418	356555	3201799	206.88
1419	356546	3201751	206.71
1420	356511	3201716	206.89
1421	356486	3201675	205.46
1422	356475	3201626	205.59
1423	356439	3201595	205.68
1424	356397	3201568	205.53
1425	356359	3201536	205.58
1426	356334	3201494	205.58
1427	356316	3201447	205.56
1428	356298	3201401	205.53
1429	356275	3201356	205.43
1430	356253	3201312	205.45
1431	356242	3201263	205.38
1432	356235	3201213	205.32
1433	356229	3201164	205.50
1434	356226	3201114	205.23
1435	356218	3201064	205.29
1436	356210	3201015	205.37
1437	356200	3200966	205.28
1438	356192	3200917	205.43
1439	356184	3200867	205.22
1440	356177	3200818	205.32

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NOTARY
Lt. P. S. Bhakuni
Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND

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Gola river 50 Year HFL Points

Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1441	356170	3200768	205.31
1442	356163	3200719	205.28
1443	356174	3200677	205.08
1444	356215	3200650	205.20
1445	356257	3200622	205.26
1446	356298	3200594	205.07
1447	356337	3200563	204.98
1448	356377	3200532	204.88
1449	356416	3200501	205.10
1450	356453	3200468	205.10
1451	356487	3200431	204.88
1452	356520	3200393	205.05
1453	356547	3200355	204.83
1454	356533	3200307	204.84
1455	356524	3200258	205.08
1456	356495	3200220	204.92
1457	356452	3200196	203.18
1458	356410	3200173	203.24
1459	356401	3200125	203.16
1460	356399	3200075	203.34
1461	356386	3200027	203.14
1462	356366	3199981	203.07
1463	356353	3199933	203.10
1464	356348	3199884	203.14
1465	356347	3199834	203.02
1466	356347	3199784	203.06
1467	356341	3199734	203.22
1468	356298	3199712	203.23
1469	356253	3199691	202.97
1470	356214	3199660	203.21
1471	356174	3199630	203.10
1472	356134	3199600	203.02
1473	356098	3199566	203.05
1474	356065	3199528	203.00
1475	356045	3199482	203.02
1476	356024	3199437	203.09
1477	356009	3199389	203.01
1478	355993	3199342	203.22
1479	355973	3199296	203.14
1480	355957	3199249	203.03
1481	355943	3199201	203.14
1482	355926	3199154	203.04
1483	355919	3199104	203.01
1484	355921	3199056	202.97
1485	355902	3199011	202.95
1486	355902	3198961	203.11
1487	355921	3198916	203.04
1488	355959	3198884	203.08
1489	355992	3198846	202.94
1490	355989	3198798	203.06
1491	355991	3198748	203.14
1492	355990	3198698	203.05
1493	355980	3198649	203.00
1494	355965	3198602	203.14
1495	355947	3198556	203.16
1496	355940	3198506	203.14
1497	355935	3198457	202.98
1498	355934	3198407	203.13
1499	355932	3198357	202.93
1500	355922	3198308	202.96
1501	355909	3198259	202.90
1502	355896	3198211	203.08
1503	355886	3198162	202.96
1504	355886	3198113	203.13
1505	355892	3198063	202.99
1506	355899	3198014	202.98
1507	355908	3197964	202.99
1508	355907	3197915	202.95
1509	355907	3197865	203.08
1510	355906	3197815	202.85
1511	355911	3197765	202.81
1512	355916	3197715	203.06
1513	355920	3197665	203.07
1514	355923	3197615	202.81
1515	355905	3197571	202.81
1516	355880	3197527	202.82
1517	355854	3197485	202.77
1518	355817	3197456	202.73
1519	355769	3197441	202.75
1520	355721	3197426	202.66
1521	355673	3197413	202.73
1522	355624	3197402	202.79
1523	355580	3197381	202.75
1524	355540	3197352	202.81
1525	355513	3197315	202.65
1526	355508	3197265	202.78
1527	355504	3197215	202.71
1528	355500	3197165	202.83
1529	355497	3197115	202.73
1530	355494	3197065	202.74

NOTARY GOVT. OF UTTARAKHAND (INDIA) Dr. P. S. Bhakuni Advocate HQ-NAINITAL

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Gola river 50 Year HFL Points

Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1531	355490	3197015	202.58
1532	355483	3196966	202.74
1533	355477	3196916	202.63
1534	355471	3196867	202.62
1535	355468	3196817	202.66
1536	355465	3196767	202.63
1537	355462	3196717	202.77
1538	355459	3196667	202.64
1539	355457	3196617	202.82
1540	355455	3196567	202.79
1541	355453	3196517	202.56
1542	355451	3196467	202.80
1543	355438	3196423	202.53
1544	355390	3196415	202.61
1545	355340	3196409	202.62
1546	355290	3196403	202.41
1547	355241	3196397	202.42
1548	355193	3196383	202.31
1549	355151	3196355	202.23
1550	355114	3196323	201.09
1551	355090	3196281	201.18
1552	355083	3196232	201.09
1553	355100	3196185	201.13
1554	355099	3196141	201.00
1555	355064	3196105	200.89
1556	355036	3196065	200.82
1557	355024	3196017	200.53
1558	355021	3195968	199.25
1559	354996	3195924	199.14
1560	354966	3195885	198.40
1561	354929	3195853	198.39
1562	354883	3195832	198.43
1563	354838	3195812	198.20
1564	354792	3195791	198.41
1565	354751	3195763	198.34
1566	354708	3195737	198.12
1567	354664	3195714	197.98
1568	354627	3195682	197.72
1569	354604	3195638	197.80
1570	354586	3195591	197.67
1571	354564	3195546	197.49
1572	354537	3195505	196.71
1573	354497	3195475	196.51
1574	354455	3195448	197.53
1575	354409	3195428	197.54
1576	354368	3195400	197.46
1577	354329	3195369	197.49
1578	354288	3195340	197.53
1579	354247	3195311	197.38
1580	354203	3195288	197.50
1581	354159	3195264	197.36
1582	354119	3195234	197.25
1583	354081	3195202	197.31
1584	354051	3195163	197.07
1585	354010	3195134	197.23
1586	353976	3195098	197.22
1587	353935	3195070	196.90
1588	353892	3195044	196.75
1589	353848	3195021	196.66
1590	353804	3194998	196.25
1591	353767	3194965	196.15
1592	353727	3194935	196.06
1593	353681	3194918	195.62
1594	353639	3194893	195.67
1595	353600	3194861	195.73
1596	353566	3194825	195.63
1597	353537	3194784	195.66
1598	353523	3194737	195.41
1599	353514	3194709	195.39

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND (INDIA)

2024

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Gola river 50 Year HFL Points

Left Bank

Sl. No	Easting (x)	Northing (y)	WSE (m)
1	369170	3242050	914.89
2	369211	3242021	914.33
3	369252	3241994	914.11
4	369257	3241947	913.76
5	369227	3241908	913.00
6	369211	3241863	911.76
7	369199	3241815	910.68
8	369191	3241765	909.55
9	369206	3241718	909.62
10	369226	3241673	907.95
11	369244	3241626	906.38
12	369260	3241578	905.81
13	369285	3241536	905.59
14	369318	3241506	898.45
15	369368	3241504	898.56
16	369410	3241492	898.53
17	369419	3241443	892.91
18	369415	3241396	891.46
19	369389	3241357	891.46
20	369393	3241309	891.57
21	369415	3241264	891.49
22	369425	3241216	891.53
23	369415	3241167	890.07
24	369395	3241122	890.15
25	369377	3241076	888.92
26	369395	3241032	886.44
27	369412	3240986	883.94
28	369452	3240959	882.90
29	369467	3240915	881.51
30	369481	3240868	880.31
31	369500	3240822	875.76
32	369526	3240780	873.83
33	369559	3240742	872.95
34	369590	3240703	871.93
35	369623	3240666	870.98
36	369641	3240620	871.14
37	369675	3240583	869.53
38	369700	3240542	869.66
39	369702	3240492	867.53
40	369691	3240444	866.44
41	369680	3240395	863.50
42	369692	3240347	862.21
43	369714	3240303	860.03
44	369744	3240264	859.22
45	369768	3240220	857.74
46	369810	3240195	855.49
47	369858	3240201	852.24
48	369908	3240207	848.38
49	369958	3240212	846.21
50	370004	3240203	845.22
51	370044	3240174	845.40
52	370089	3240160	845.22
53	370139	3240158	844.39
54	370188	3240161	844.49
55	370232	3240150	844.47
56	370246	3240103	843.93
57	370256	3240054	844.09
58	370254	3240005	842.14
59	370254	3239957	832.33
60	370300	3239940	832.37
61	370350	3239935	830.06
62	370399	3239926	830.05
63	370445	3239906	829.80
64	370491	3239886	828.23
65	370536	3239868	828.38
66	370585	3239860	828.30
67	370633	3239847	828.52
68	370681	3239834	826.49
69	370725	3239815	826.53
70	370756	3239777	824.62
71	370788	3239741	824.57
72	370796	3239692	817.30
73	370815	3239646	810.09
74	370825	3239600	810.13
75	370816	3239552	810.12
76	370824	3239508	809.88
77	370843	3239462	810.16
78	370844	3239414	808.52
79	370847	3239366	808.54
80	370853	3239316	808.56
81	370847	3239267	808.44
82	370817	3239230	808.46
83	370768	3239222	806.98
84	370737	3239183	805.42
85	370745	3239135	805.63
86	370770	3239092	805.47
87	370806	3239058	805.39
88	370842	3239023	787.19
89	370882	3238993	787.15
90	370924	3238967	785.63

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND

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Gola river 50 Year HFL Points

Left Bank

Sl. No	Easting (x)	Northing (y)	WSE (m)
91	370970	3238950	785.80
92	371020	3238947	784.32
93	371063	3238966	784.21
94	371091	3239007	784.11
95	371106	3239053	784.29
96	371147	3239079	784.12
97	371195	3239068	784.28
98	371233	3239036	782.60
99	371245	3238989	782.72
100	371250	3238939	782.77
101	371254	3238890	782.70
102	371255	3238840	781.31
103	371253	3238790	781.15
104	371267	3238743	781.11
105	371276	3238694	781.07
106	371275	3238644	781.04
107	371279	3238595	779.49
108	371298	3238550	777.97
109	371286	3238502	778.26
110	371263	3238468	773.56
111	371215	3238455	773.46
112	371171	3238431	773.40
113	371133	3238399	773.40
114	371111	3238358	772.12
115	371122	3238310	768.72
116	371139	3238263	768.28
117	371143	3238216	767.47
118	371140	3238169	767.45
119	371150	3238122	767.57
120	371166	3238087	766.77
121	371185	3238044	766.77
122	371151	3238027	766.66
123	371107	3238015	766.68
124	371064	3237998	765.75
125	371042	3237956	765.04
126	371038	3237908	764.97
127	371037	3237858	764.21
128	371025	3237809	764.10
129	371015	3237761	758.70
130	370998	3237715	758.72
131	370969	3237675	758.19
132	370935	3237643	758.06
133	370894	3237625	758.08
134	370873	3237584	758.08
135	370846	3237546	758.12
136	370822	3237507	756.17
137	370803	3237468	756.40
138	370773	3237429	755.66
139	370733	3237400	755.19
140	370699	3237372	754.31
141	370655	3237351	753.67
142	370638	3237316	748.78
143	370679	3237293	748.42
144	370719	3237297	748.33
145	370755	3237264	748.46
146	370787	3237228	748.39
147	370800	3237180	747.76
148	370810	3237137	747.86
149	370833	3237096	747.72
150	370843	3237048	747.81
151	370853	3236999	747.89
152	370868	3236952	746.98
153	370876	3236903	746.86
154	370895	3236856	744.93
155	370917	3236812	744.86
156	370931	3236764	744.77
157	370949	3236718	745.03
158	370928	3236674	745.00
159	370895	3236637	743.36
160	370864	3236601	743.47
161	370823	3236577	743.28
162	370786	3236550	743.50
163	370755	3236516	743.47
164	370730	3236473	737.34
165	370711	3236427	736.25
166	370680	3236389	736.16
167	370658	3236347	732.61
168	370619	3236324	732.60
169	370598	3236284	732.67
170	370590	3236236	732.58
171	370573	3236189	732.60
172	370550	3236149	732.57
173	370521	3236112	732.71
174	370505	3236071	731.86
175	370515	3236022	731.84
176	370514	3235973	731.87
177	370500	3235925	731.98
178	370467	3235894	732.00
179	370421	3235876	732.04
180	370372	3235867	728.27



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Gola river 50 Year HFL Points
Left Bank

Sl. No	Easting (x)	Northing (y)	WSE (m)
181	370322	3235858	728.14
182	370273	3235852	728.35
183	370223	3235851	728.37
184	370178	3235869	728.11
185	370134	3235890	727.73
186	370091	3235915	727.67
187	370050	3235941	727.65
188	370005	3235954	727.62
189	369958	3235970	727.83
190	369951	3236010	727.73
191	369914	3236024	727.65
192	369865	3236022	726.23
193	369819	3236040	726.14
194	369771	3236036	725.56
195	369727	3236047	724.63
196	369696	3236082	722.32
197	369658	3236102	722.24
198	369614	3236119	719.42
199	369573	3236131	719.36
200	369524	3236136	719.62
201	369483	3236151	716.92
202	369458	3236143	716.85
203	369456	3236135	716.77
204	369444	3236180	716.95
205	369406	3236204	716.86
206	369371	3236229	715.92
207	369325	3236248	714.01
208	369276	3236250	714.08
209	369228	3236240	714.13
210	369181	3236255	713.74
211	369135	3236272	713.56
212	369090	3236292	712.93
213	369062	3236322	713.03
214	369024	3236351	713.09
215	368979	3236372	712.36
216	368936	3236393	712.29
217	368924	3236357	712.51
218	368949	3236336	712.47
219	368907	3236350	712.49
220	368904	3236384	712.51
221	368884	3236414	709.55
222	368841	3236431	709.54
223	368793	3236439	709.19
224	368752	3236458	708.98
225	368705	3236473	708.46
226	368656	3236470	708.01
227	368607	3236475	707.44
228	368558	3236484	706.05
229	368510	3236500	702.77
230	368465	3236521	701.99
231	368422	3236546	701.93
232	368382	3236576	702.13
233	368348	3236612	701.97
234	368328	3236658	700.20
235	368307	3236703	700.22
236	368295	3236747	699.55
237	368248	3236757	699.46
238	368200	3236766	699.35
239	368151	3236769	699.14
240	368110	3236754	698.51
241	368061	3236744	697.74
242	368013	3236735	696.43
243	367965	3236730	694.00
244	367915	3236730	693.54
245	367868	3236744	692.63
246	367822	3236762	692.80
247	367781	3236789	692.81
248	367745	3236787	692.32
249	367732	3236822	692.07
250	367692	3236850	692.16
251	367652	3236873	692.12
252	367608	3236876	691.24
253	367561	3236879	691.37
254	367513	3236888	687.54
255	367467	3236898	687.56
256	367422	3236909	687.34
257	367374	3236907	686.31
258	367332	3236914	686.18
259	367288	3236911	686.31
260	367238	3236904	686.35
261	367188	3236899	686.23
262	367139	3236904	684.41
263	367094	3236925	684.33
264	367055	3236948	683.33
265	367020	3236936	682.57
266	367022	3236970	682.47
267	366978	3236989	682.48
268	366934	3237013	682.33
269	366903	3237037	682.61
270	366869	3237072	681.81

G.M.D.I.A. Govt. of Odisha

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Gola river 50 Year HFL Points

Left Bank

Sl. No	Easting (x)	Northing (y)	WSE (m)
271	366869	3237118	681.27
272	366886	3237137	681.22
273	366886	3237174	681.23
274	366876	3237214	680.72
275	366902	3237228	680.50
276	366895	3237266	679.95
277	366873	3237298	680.08
278	366835	3237329	678.15
279	366788	3237344	672.40
280	366738	3237346	672.43
281	366691	3237361	671.37
282	366646	3237340	671.40
283	366600	3237322	671.32
284	366562	3237349	671.34
285	366521	3237373	671.32
286	366489	3237381	670.71
287	366450	3237389	670.68
288	366410	3237412	669.74
289	366373	3237438	669.16
290	366352	3237483	669.16
291	366336	3237526	669.11
292	366341	3237555	669.38
293	366353	3237579	669.16
294	366378	3237611	669.34
295	366363	3237657	668.67
296	366345	3237700	668.77
297	366313	3237738	667.00
298	366275	3237770	665.68
299	366245	3237792	663.04
300	366201	3237815	663.16
301	366153	3237827	663.00
302	366106	3237837	663.02
303	366071	3237841	662.92
304	366033	3237871	662.82
305	366011	3237916	662.63
306	365984	3237958	662.02
307	365968	3238004	660.80
308	365942	3238046	659.73
309	365904	3238068	658.58
310	365868	3238099	657.81
311	365821	3238112	654.28
312	365787	3238082	653.64
313	365748	3238053	653.40
314	365707	3238043	652.84
315	365660	3238042	652.68
316	365613	3238041	652.82
317	365577	3238050	652.80
318	365536	3238065	651.21
319	365495	3238091	651.22
320	365469	3238133	651.29
321	365459	3238177	650.55
322	365471	3238214	650.49
323	365497	3238243	650.59
324	365489	3238282	650.58
325	365485	3238331	649.09
326	365491	3238380	648.46
327	365498	3238426	648.39
328	365515	3238470	647.68
329	365516	3238514	646.72
330	365492	3238556	645.29
331	365463	3238596	644.32
332	365428	3238629	643.84
333	365388	3238656	643.64
334	365342	3238670	643.17
335	365294	3238682	641.42
336	365246	3238674	640.05
337	365196	3238674	640.17
338	365152	3238686	639.64
339	365103	3238698	638.91
340	365057	3238709	638.33
341	365011	3238722	637.87
342	364970	3238735	637.30
343	364922	3238727	637.15
344	364874	3238735	635.94
345	364826	3238739	635.42
346	364783	3238755	634.85
347	364736	3238763	634.85
348	364693	3238781	634.11
349	364646	3238796	633.70
350	364597	3238806	633.69
351	364553	3238826	633.53
352	364509	3238842	632.95
353	364464	3238860	633.07
354	364437	3238880	633.18
355	364402	3238914	632.38
356	364385	3238957	632.35
357	364379	3239007	631.71
358	364374	3239054	631.73
359	364371	3239100	631.12
360	364378	3239149	630.49

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Gola river 50 Year HFL Points

Left Bank

Sl. No	Easting (x)	Northing (y)	WSE (m)
361	364383	3239197	629.35
362	364393	3239243	628.85
363	364399	3239288	628.22
364	364408	3239313	626.90
365	364427	3239358	627.14
366	364457	3239388	626.88
367	364469	3239431	626.86
368	364481	3239475	626.96
369	364481	3239523	625.75
370	364481	3239573	625.93
371	364459	3239617	625.12
372	364443	3239664	625.19
373	364426	3239710	624.57
374	364408	3239756	623.89
375	364390	3239803	624.07
376	364362	3239844	615.99
377	364338	3239887	615.42
378	364308	3239927	614.77
379	364282	3239969	614.34
380	364242	3239999	614.35
381	364208	3240035	614.43
382	364168	3240065	612.43
383	364122	3240084	612.43
384	364074	3240099	611.97
385	364040	3240135	611.35
386	364011	3240176	610.65
387	363978	3240212	610.07
388	363942	3240247	609.34
389	363906	3240282	609.53
390	363871	3240318	608.94
391	363833	3240350	608.42
392	363806	3240391	607.85
393	363775	3240431	607.28
394	363749	3240472	606.59
395	363717	3240511	606.77
396	363686	3240550	606.20
397	363652	3240587	605.69
398	363615	3240620	604.98
399	363594	3240663	604.43
400	363572	3240705	604.11
401	363562	3240751	604.02
402	363551	3240799	603.50
403	363558	3240832	603.19
404	363546	3240880	602.74
405	363533	3240929	602.51
406	363520	3240977	602.10
407	363503	3241024	601.93
408	363467	3241050	602.04
409	363451	3241090	599.07
410	363429	3241135	599.21
411	363406	3241180	598.73
412	363379	3241222	598.60
413	363338	3241249	598.71
414	363290	3241256	598.81
415	363254	3241281	598.59
416	363208	3241285	598.67
417	363159	3241279	597.83
418	363113	3241263	595.93
419	363069	3241243	596.07
420	363025	3241228	595.34
421	362996	3241257	595.26
422	362950	3241267	595.20
423	362912	3241251	595.23
424	362867	3241241	595.13
425	362827	3241230	594.09
426	362783	3241223	593.53
427	362750	3241219	593.59
428	362709	3241213	593.46
429	362668	3241209	593.54
430	362622	3241209	592.50
431	362577	3241213	592.55
432	362533	3241217	592.57
433	362488	3241219	591.87
434	362444	3241227	591.96
435	362402	3241247	590.07
436	362378	3241287	588.39
437	362352	3241318	586.46
438	362327	3241331	584.76
439	362287	3241357	582.90
440	362271	3241403	583.09
441	362241	3241435	580.10
442	362196	3241430	579.28
443	362149	3241414	578.40
444	362103	3241401	577.48
445	362054	3241400	577.51
446	362009	3241413	576.56
447	361968	3241440	576.60
448	361941	3241479	575.52
449	361916	3241518	574.83
450	361885	3241553	574.20

NOTARY ★ Dt. P. S. Bhakuni Advocate HQ-NAINITAL ★ GOVT. OF UTTARAKHAND

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Gola river 50 Year HFL Points

Left Bank

Sl. No	Easting (x)	Northing (y)	WSE (m)
451	361850	3241587	573.71
452	361817	3241622	573.51
453	361782	3241655	573.07
454	361748	3241689	572.59
455	361708	3241714	572.22
456	361665	3241734	571.39
457	361627	3241767	571.32
458	361589	3241799	570.97
459	361552	3241833	569.87
460	361505	3241849	570.01
461	361456	3241852	569.01
462	361406	3241852	568.36
463	361371	3241833	567.79
464	361323	3241818	567.45
465	361275	3241804	567.29
466	361230	3241807	566.45
467	361184	3241822	565.86
468	361136	3241822	565.98
469	361087	3241822	564.82
470	361039	3241833	564.72
471	360998	3241856	563.57
472	360950	3241868	563.58
473	360900	3241874	563.07
474	360851	3241884	562.10
475	360807	3241875	561.54
476	360759	3241862	561.28
477	360711	3241851	560.88
478	360670	3241830	560.57
479	360631	3241801	559.82
480	360593	3241771	559.40
481	360557	3241740	558.67
482	360526	3241701	557.78
483	360496	3241676	556.78
484	360468	3241637	555.93
485	360445	3241593	555.36
486	360424	3241549	555.18
487	360404	3241503	555.07
488	360376	3241469	555.25
489	360340	3241441	555.27
490	360298	3241429	555.13
491	360258	3241415	555.18
492	360211	3241408	555.25
493	360165	3241393	554.96
494	360120	3241377	554.68
495	360072	3241369	554.23
496	360028	3241363	554.14
497	359998	3241350	553.72
498	359965	3241346	551.79
499	359924	3241340	552.00
500	359886	3241344	551.93
501	359847	3241348	550.30
502	359801	3241330	548.63
503	359754	3241312	545.27
504	359708	3241296	545.23
505	359662	3241279	543.39
506	359616	3241259	541.89
507	359570	3241240	541.52
508	359524	3241220	541.24
509	359479	3241199	540.44
510	359433	3241178	539.67
511	359389	3241154	538.96
512	359347	3241127	538.00
513	359306	3241098	538.02
514	359266	3241069	537.96
515	359222	3241045	537.96
516	359177	3241023	537.41
517	359136	3240995	537.07
518	359106	3240956	537.12
519	359100	3240907	537.16
520	359118	3240861	537.08
521	359151	3240824	536.90
522	359168	3240777	537.06
523	359186	3240730	537.00
524	359195	3240681	536.97
525	359194	3240631	536.92
526	359198	3240582	536.70
527	359203	3240532	536.57
528	359204	3240482	535.48
529	359199	3240433	535.47
530	359192	3240386	534.82
531	359175	3240344	533.82
532	359168	3240300	533.68
533	359149	3240262	532.62
534	359133	3240217	530.61
535	359105	3240184	530.55
536	359077	3240147	530.08
537	359050	3240106	529.37
538	359017	3240070	528.40
539	358983	3240036	527.30
540	358945	3240004	526.64

NOTARY GOVT. OF UTTARAKHAND Dt. P. S. HQ-NAINITAL

31495

Gola river 50 Year HFL Points

Left Bank

Sl. No	Easting (x)	Northing (y)	WSE (m)
541	358909	3239972	526.43
542	358875	3239939	525.33
543	358839	3239907	524.42
544	358800	3239877	524.20
545	358768	3239842	523.82
546	358757	3239800	523.60
547	358782	3239761	523.45
548	358806	3239735	523.38
549	358836	3239715	523.39
550	358864	3239685	523.18
551	358892	3239664	523.36
552	358902	3239627	523.26
553	358926	3239595	523.32
554	358931	3239548	523.06
555	358951	3239512	523.14
556	358928	3239469	522.84
557	358947	3239459	522.78
558	358917	3239423	522.69
559	358895	3239386	522.63
560	358866	3239350	522.69
561	358851	3239307	522.72
562	358855	3239260	522.69
563	358870	3239215	522.52
564	358861	3239175	522.55
565	358884	3239132	522.62
566	358909	3239088	522.61
567	358928	3239042	522.67
568	358953	3238999	513.19
569	358978	3238955	513.15
570	359011	3238919	512.46
571	359041	3238880	511.66
572	359060	3238833	510.60
573	359079	3238787	510.58
574	359096	3238740	509.72
575	359108	3238692	509.06
576	359103	3238645	509.12
577	359084	3238599	507.09
578	359048	3238566	507.20
579	359024	3238524	505.15
580	359004	3238480	505.32
581	359000	3238430	503.55
582	359001	3238381	502.52
583	359000	3238331	501.50
584	358998	3238281	500.74
585	358993	3238231	499.70
586	358992	3238181	499.19
587	358988	3238144	499.05
588	359001	3238105	498.48
589	359012	3238056	497.82
590	359027	3238008	497.12
591	359050	3237964	497.21
592	359062	3237916	497.10
593	359071	3237866	497.39
594	359080	3237817	497.39
595	359111	3237789	497.10
596	359122	3237745	496.59
597	359142	3237699	496.58
598	359152	3237650	496.64
599	359157	3237601	496.44
600	359164	3237554	490.79
601	359168	3237506	490.64
602	359173	3237457	490.84
603	359167	3237408	489.95
604	359156	3237359	488.72
605	359152	3237311	488.13
606	359141	3237263	487.51
607	359161	3237218	486.67
608	359179	3237172	484.03
609	359210	3237132	484.28
610	359240	3237093	484.30
611	359270	3237053	483.37
612	359300	3237013	483.65
613	359331	3236973	478.30
614	359361	3236934	476.32
615	359386	3236890	475.51
616	359408	3236846	474.86
617	359431	3236801	474.95
618	359448	3236755	474.90
619	359448	3236705	474.95
620	359440	3236656	475.11
621	359427	3236608	474.94
622	359419	3236560	474.87
623	359419	3236510	475.00
624	359447	3236470	474.96
625	359470	3236426	469.76
626	359500	3236386	469.56
627	359536	3236352	468.99
628	359566	3236313	467.67
629	359589	3236268	467.62
630	359611	3236223	467.82

NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL GOVT. OF UTTARAKHAND (INDIA)

31496

Gola river 50 Year HFL Points

Left Bank

Sl. No	Easting (x)	Northing (y)	WSE (m)
631	359632	3236178	467.59
632	359653	3236133	467.05
633	359691	3236130	467.19
634	359739	3236144	466.96
635	359785	3236161	467.17
636	359829	3236184	467.18
637	359877	3236191	466.97
638	359876	3236143	467.02
639	359860	3236099	467.11
640	359836	3236055	466.96
641	359811	3236012	467.15
642	359780	3235973	466.93
643	359751	3235933	467.03
644	359720	3235898	467.12
645	359683	3235866	466.99
646	359669	3235821	463.80
647	359654	3235774	463.26
648	359620	3235738	463.16
649	359582	3235705	463.20
650	359549	3235668	462.50
651	359542	3235619	462.58
652	359538	3235569	461.84
653	359534	3235519	461.73
654	359523	3235471	461.28
655	359503	3235426	461.14
656	359482	3235380	461.04
657	359462	3235334	461.20
658	359442	3235288	461.13
659	359422	3235243	460.65
660	359396	3235201	460.54
661	359365	3235161	460.50
662	359337	3235120	459.96
663	359311	3235077	459.70
664	359290	3235031	459.85
665	359274	3234985	459.94
666	359266	3234935	455.79
667	359256	3234886	455.20
668	359245	3234837	455.37
669	359224	3234792	455.14
670	359203	3234747	454.49
671	359181	3234702	453.99
672	359154	3234661	453.89
673	359136	3234615	450.12
674	359150	3234572	449.93
675	359142	3234523	449.88
676	359134	3234473	449.19
677	359125	3234424	449.33
678	359112	3234376	448.59
679	359097	3234328	448.60
680	359082	3234281	448.64
681	359057	3234239	448.01
682	359017	3234210	448.10
683	358979	3234181	447.41
684	358948	3234142	447.23
685	358917	3234103	442.77
686	358889	3234061	442.74
687	358862	3234019	440.05
688	358820	3233997	440.00
689	358771	3233988	440.00
690	358723	3233976	440.21
691	358678	3233956	440.08
692	358636	3233928	440.23
693	358617	3233882	440.11
694	358601	3233834	439.63
695	358590	3233786	438.70
696	358577	3233738	438.94
697	358562	3233690	438.27
698	358541	3233645	437.56
699	358510	3233606	437.63
700	358477	3233568	436.86
701	358439	3233536	436.83
702	358413	3233494	435.62
703	358391	3233449	434.13
704	358361	3233409	432.16
705	358345	3233363	432.18
706	358319	3233320	431.53
707	358293	3233277	431.55
708	358262	3233238	431.48
709	358231	3233199	430.90
710	358213	3233153	430.73
711	358210	3233104	429.99
712	358208	3233054	429.97
713	358200	3233005	429.34
714	358187	3232957	426.16
715	358169	3232910	424.33
716	358163	3232862	423.68
717	358160	3232818	423.28
718	358147	3232781	422.09
719	358135	3232738	422.03
720	358121	3232691	421.49

NOTARY GOVT. OF UTTARAKHAND (INDIA) Dr. P. S. Bhakuni Advocate HQ-NAINITAL

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Gola river 50 Year HFL Points

Left Bank

Sl. No	Easting (x)	Northing (y)	WSE (m)
721	358115	3232642	421.59
722	358107	3232593	420.83
723	358089	3232551	420.88
724	358081	3232503	420.98
725	358065	3232457	418.93
726	358050	3232409	418.44
727	358036	3232361	418.27
728	358021	3232314	417.04
729	358004	3232267	416.16
730	357991	3232219	414.29
731	358006	3232173	414.20
732	358030	3232129	413.06
733	358054	3232085	413.04
734	358074	3232039	413.15
735	358094	3231993	412.99
736	358113	3231947	412.07
737	358134	3231902	412.07
738	358156	3231857	411.34
739	358178	3231812	401.82
740	358212	3231778	401.77
741	358255	3231754	401.11
742	358278	3231712	401.00
743	358295	3231665	401.05
744	358313	3231618	401.25
745	358330	3231571	400.36
746	358348	3231524	400.55
747	358365	3231477	399.84
748	358382	3231430	399.67
749	358400	3231383	399.72
750	358421	3231338	399.77
751	358445	3231295	399.88
752	358470	3231251	398.70
753	358494	3231207	397.86
754	358519	3231164	397.09
755	358541	3231119	396.30
756	358562	3231074	395.62
757	358582	3231028	394.96
758	358603	3230983	392.42
759	358606	3230933	392.22
760	358605	3230883	392.41
761	358603	3230833	390.45
762	358607	3230784	390.22
763	358618	3230735	390.35
764	358618	3230685	390.41
765	358617	3230635	390.29
766	358617	3230585	390.31
767	358616	3230535	389.76
768	358615	3230485	388.39
769	358615	3230435	386.83
770	358614	3230385	386.84
771	358614	3230335	386.91
772	358612	3230285	386.32
773	358598	3230237	386.15
774	358584	3230189	385.61
775	358570	3230141	385.57
776	358557	3230093	383.61
777	358574	3230048	382.62
778	358596	3230004	378.84
779	358619	3229959	378.99
780	358642	3229915	378.03
781	358665	3229870	378.17
782	358687	3229825	373.73
783	358708	3229780	373.81
784	358719	3229732	373.89
785	358723	3229682	373.99
786	358728	3229632	373.75
787	358728	3229582	373.71
788	358721	3229533	373.49
789	358715	3229483	373.39
790	358709	3229434	372.84
791	358694	3229386	372.95
792	358701	3229337	373.06
793	358709	3229288	370.21
794	358714	3229238	370.22
795	358711	3229189	369.79
796	358708	3229139	369.82
797	358705	3229089	369.18
798	358702	3229039	369.12
799	358699	3228989	367.60
800	358700	3228939	367.03
801	358701	3228889	366.43
802	358707	3228839	366.24
803	358717	3228790	364.82
804	358725	3228741	364.55
805	358722	3228691	363.23
806	358718	3228641	362.70
807	358710	3228592	361.28
808	358713	3228542	360.81
809	358715	3228493	360.75
810	358717	3228443	360.79



Gola river 50 Year HFL Points

Left Bank

Sl. No	Easting (x)	Northing (y)	WSE (m)
811	358725	3228393	360.06
812	358724	3228344	358.93
813	358707	3228297	359.17
814	358696	3228249	359.03
815	358685	3228201	358.62
816	358685	3228151	357.75
817	358684	3228101	357.73
818	358687	3228052	357.95
819	358690	3228002	357.21
820	358692	3227953	357.17
821	358677	3227906	355.95
822	358673	3227862	356.04
823	358662	3227814	355.22
824	358636	3227771	353.87
825	358612	3227729	354.05
826	358584	3227688	353.88
827	358567	3227642	352.99
828	358552	3227596	352.38
829	358548	3227546	351.85
830	358549	3227497	351.81
831	358562	3227449	350.88
832	358576	3227401	349.00
833	358589	3227352	347.60
834	358602	3227304	347.41
835	358616	3227256	347.36
836	358629	3227208	345.87
837	358643	3227160	343.61
838	358662	3227114	342.44
839	358681	3227068	342.30
840	358701	3227022	342.42
841	358721	3226976	342.50
842	358741	3226930	340.61
843	358760	3226884	340.72
844	358780	3226838	338.47
845	358800	3226792	338.51
846	358819	3226746	338.46
847	358840	3226701	338.26
848	358855	3226653	338.41
849	358859	3226603	338.46
850	358859	3226553	338.37
851	358854	3226504	338.38
852	358846	3226455	336.08
853	358837	3226406	335.64
854	358818	3226362	335.63
855	358817	3226312	335.47
856	358813	3226262	334.81
857	358815	3226212	334.73
858	358821	3226163	334.88
859	358828	3226113	334.40
860	358828	3226064	333.35
861	358824	3226014	333.30
862	358821	3225964	332.72
863	358818	3225914	332.77
864	358814	3225864	332.45
865	358811	3225814	331.87
866	358812	3225764	330.26
867	358818	3225715	329.38
868	358823	3225665	329.35
869	358829	3225615	328.77
870	358834	3225565	328.84
871	358839	3225516	328.68
872	358845	3225466	327.88
873	358852	3225417	324.12
874	358864	3225368	324.01
875	358875	3225319	324.19
876	358887	3225271	324.18
877	358899	3225222	323.14
878	358910	3225173	321.94
879	358922	3225125	321.95
880	358933	3225076	321.76
881	358945	3225028	321.75
882	358956	3224979	321.96
883	358968	3224930	321.97
884	358979	3224882	321.25
885	358988	3224832	321.32
886	358995	3224783	318.52
887	359001	3224733	318.57
888	359012	3224685	317.94
889	359020	3224635	317.98
890	359026	3224586	318.05
891	359025	3224536	316.07
892	359013	3224487	316.27
893	359005	3224438	316.14
894	358998	3224389	315.66
895	358978	3224343	314.26
896	358955	3224298	313.78
897	358935	3224253	313.04
898	358909	3224210	312.88
899	358892	3224163	313.05
900	358874	3224117	311.51

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GOVT. OF UTTARAKHAND NOTARY Dr. P. S. Rawat Advocate HQ-NAINITAL

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Gola river 50 Year HFL Points
Left Bank

Sl. No	Easting (x)	Northing (y)	WSE (m)
901	358855	3224071	311.53
902	358839	3224023	310.94
903	358824	3223975	310.88
904	358815	3223926	310.94
905	358809	3223877	310.24
906	358806	3223827	309.80
907	358807	3223777	308.52
908	358807	3223727	306.99
909	358807	3223677	307.04
910	358809	3223627	305.31
911	358820	3223580	305.07
912	358845	3223537	304.49
913	358870	3223493	304.58
914	358895	3223450	303.63
915	358920	3223407	303.21
916	358945	3223363	301.23
917	358969	3223320	301.01
918	358994	3223277	300.55
919	359011	3223230	300.15
920	359028	3223182	299.28
921	359044	3223135	298.77
922	359060	3223088	298.76
923	359076	3223040	298.12
924	359093	3222993	298.27
925	359109	3222946	297.86
926	359125	3222899	297.60
927	359141	3222851	297.27
928	359157	3222804	295.58
929	359160	3222754	295.07
930	359162	3222704	294.81
931	359165	3222654	294.84
932	359168	3222604	294.37
933	359170	3222554	293.79
934	359173	3222504	293.63
935	359176	3222454	292.95
936	359179	3222404	292.88
937	359166	3222357	292.28
938	359151	3222309	292.45
939	359142	3222260	292.30
940	359133	3222211	290.36
941	359124	3222162	290.44
942	359115	3222113	290.34
943	359100	3222065	289.67
944	359079	3222020	288.41
945	359058	3221975	287.82
946	359049	3221926	288.01
947	359044	3221876	287.58
948	359041	3221826	287.56
949	359038	3221776	287.08
950	359036	3221726	286.68
951	359033	3221676	285.69
952	359030	3221626	285.73
953	359027	3221576	284.83
954	359023	3221527	283.52
955	359019	3221477	282.31
956	359015	3221427	282.30
957	359010	3221377	281.30
958	359016	3221328	280.90
959	359029	3221280	279.16
960	359042	3221231	279.13
961	359055	3221183	279.16
962	359067	3221135	279.05
963	359073	3221085	278.74
964	359078	3221035	278.66
965	359083	3220986	278.68
966	359088	3220936	278.40
967	359097	3220887	276.53
968	359106	3220838	276.56
969	359116	3220789	276.23
970	359126	3220740	275.63
971	359134	3220690	275.56
972	359142	3220641	275.55
973	359149	3220591	275.54
974	359157	3220542	274.71
975	359165	3220493	273.13
976	359172	3220443	273.14
977	359180	3220394	273.08
978	359187	3220344	271.60
979	359195	3220295	271.22
980	359210	3220247	271.13
981	359224	3220199	271.15
982	359239	3220151	270.70
983	359241	3220102	270.19
984	359235	3220053	270.32
985	359229	3220003	270.20
986	359223	3219953	270.00
987	359217	3219904	269.95
988	359212	3219854	269.98
989	359209	3219804	269.95
990	359205	3219754	269.86

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND (INDIA)

8/2/2024

31500

Gola river 50 Year HFL Points

Left Bank

Sl. No	Easting (x)	Northing (y)	WSE (m)
991	359202	3219704	269.94
992	359199	3219654	269.53
993	359196	3219605	269.01
994	359200	3219555	269.19
995	359203	3219505	268.51
996	359207	3219455	268.63
997	359211	3219405	268.35
998	359215	3219355	268.35
999	359219	3219305	268.54
1000	359223	3219256	268.48
1001	359227	3219206	268.45
1002	359231	3219156	268.41
1003	359236	3219106	266.54
1004	359239	3219056	266.37
1005	359239	3219006	266.15
1006	359239	3218956	266.14
1007	359238	3218906	266.19
1008	359238	3218856	265.80
1009	359238	3218806	265.88
1010	359237	3218756	265.29
1011	359237	3218706	264.84
1012	359237	3218656	264.62
1013	359236	3218606	264.19
1014	359236	3218556	264.22
1015	359236	3218506	264.07
1016	359235	3218456	263.91
1017	359235	3218406	263.89
1018	359224	3218359	262.99
1019	359203	3218314	260.74
1020	359218	3218266	260.81
1021	359234	3218219	260.44
1022	359244	3218170	260.37
1023	359252	3218121	260.03
1024	359259	3218071	259.74
1025	359266	3218022	259.75
1026	359273	3217972	258.89
1027	359290	3217926	257.91
1028	359309	3217879	257.69
1029	359329	3217833	257.82
1030	359348	3217787	257.86
1031	359367	3217741	257.76
1032	359387	3217695	257.85
1033	359406	3217649	255.65
1034	359435	3217609	255.58
1035	359456	3217566	255.61
1036	359466	3217517	255.08
1037	359476	3217468	254.90
1038	359486	3217419	255.02
1039	359501	3217371	252.09
1040	359515	3217323	252.18
1041	359527	3217275	251.76
1042	359540	3217227	251.75
1043	359552	3217178	251.31
1044	359564	3217130	251.27
1045	359577	3217081	251.28
1046	359590	3217033	250.48
1047	359605	3216985	250.40
1048	359621	3216938	250.07
1049	359637	3216891	249.04
1050	359654	3216843	249.22
1051	359670	3216796	246.19
1052	359675	3216747	246.32
1053	359677	3216697	246.10
1054	359679	3216647	246.27
1055	359681	3216597	246.28
1056	359683	3216547	246.20
1057	359685	3216497	245.59
1058	359686	3216447	245.59
1059	359681	3216398	245.53
1060	359663	3216352	245.40
1061	359661	3216302	244.89
1062	359659	3216252	244.86
1063	359656	3216202	244.54
1064	359654	3216152	244.24
1065	359652	3216102	244.39
1066	359650	3216052	244.42
1067	359652	3216002	244.48
1068	359657	3215953	243.91
1069	359670	3215906	243.33
1070	359696	3215863	242.16
1071	359698	3215813	242.43
1072	359699	3215763	242.37
1073	359701	3215713	242.27
1074	359711	3215665	242.33
1075	359730	3215618	242.43
1076	359727	3215569	242.17
1077	359727	3215519	241.73
1078	359731	3215469	241.69
1079	359742	3215420	241.22
1080	359753	3215372	240.96

Dr. P. S. Bisht
Advocate
HQ-NAINITAL
OATH COMMISSIONER
GOVT. OF UTTARAKHAND

Gola river 50 Year HFL Points

Left Bank

Sl. No	Easting (x)	Northing (y)	WSE (m)
1081	359768	3215324	240.98
1082	359785	3215277	240.97
1083	359799	3215229	240.37
1084	359818	3215183	240.37
1085	359842	3215139	240.29
1086	359865	3215094	239.41
1087	359888	3215050	239.38
1088	359912	3215006	239.10
1089	359935	3214962	239.00
1090	359959	3214918	238.83
1091	359983	3214874	238.82
1092	360018	3214838	238.21
1093	360060	3214812	238.29
1094	360104	3214787	237.64
1095	360148	3214764	237.24
1096	360188	3214734	237.24
1097	360226	3214702	236.90
1098	360261	3214667	236.62
1099	360277	3214620	236.66
1100	360309	3214589	236.47
1101	360324	3214564	236.58
1102	360329	3214516	236.47
1103	360349	3214470	236.50
1104	360364	3214423	236.39
1105	360382	3214377	236.43
1106	360391	3214328	236.28
1107	360393	3214280	236.22
1108	360397	3214240	236.22
1109	360417	3214198	236.22
1110	360437	3214154	236.40
1111	360469	3214117	235.67
1112	360493	3214078	235.21
1113	360526	3214048	235.19
1114	360555	3214024	235.08
1115	360580	3213987	235.13
1116	360590	3213945	235.08
1117	360609	3213905	234.95
1118	360623	3213863	234.89
1119	360640	3213818	234.48
1120	360655	3213771	234.42
1121	360646	3213724	234.41
1122	360620	3213684	233.09
1123	360626	3213636	233.00
1124	360658	3213598	232.69
1125	360683	3213554	232.48
1126	360712	3213515	232.41
1127	360738	3213473	232.26
1128	360744	3213424	232.29
1129	360743	3213374	232.24
1130	360739	3213325	232.17
1131	360709	3213287	231.95
1132	360685	3213244	231.99
1133	360663	3213202	231.76
1134	360630	3213165	231.43
1135	360611	3213123	231.58
1136	360607	3213085	231.44
1137	360620	3213039	230.73
1138	360634	3212992	229.51
1139	360667	3212959	229.40
1140	360699	3212922	229.55
1141	360713	3212874	229.51
1142	360715	3212824	229.40
1143	360703	3212776	229.55
1144	360672	3212738	229.37
1145	360651	3212695	229.42
1146	360667	3212651	229.24
1147	360696	3212611	229.20
1148	360715	3212565	228.86
1149	360731	3212518	228.74
1150	360747	3212470	228.45
1151	360763	3212423	228.44
1152	360775	3212375	226.96
1153	360782	3212325	226.94
1154	360788	3212275	226.99
1155	360794	3212226	226.99
1156	360800	3212176	226.93
1157	360795	3212127	225.87
1158	360783	3212079	225.91
1159	360771	3212030	225.81
1160	360759	3211982	225.36
1161	360747	3211933	225.61
1162	360735	3211885	225.36
1163	360723	3211836	225.29
1164	360704	3211794	224.98
1165	360690	3211747	224.69
1166	360709	3211706	224.08
1167	360717	3211657	223.99
1168	360733	3211610	224.06
1169	360754	3211565	223.49
1170	360768	3211517	223.36

31501

NOTARY GOVT. OF UTTARAKHAND (INDIA) Dr. P. S. Bhakuni HQ-NAINITAL

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31502

Gola river 50 Year HFL Points

Left Bank

Sl. No	Easting (x)	Northing (y)	WSE (m)
1171	360769	3211467	223.46
1172	360768	3211417	222.81
1173	360771	3211367	222.33
1174	360770	3211317	222.42
1175	360784	3211271	221.26
1176	360803	3211225	221.31
1177	360814	3211177	221.26
1178	360819	3211127	220.68
1179	360815	3211077	220.79
1180	360806	3211029	220.78
1181	360797	3210979	220.58
1182	360786	3210931	220.42
1183	360768	3210885	220.54
1184	360734	3210849	220.27
1185	360701	3210813	220.25
1186	360682	3210766	220.18
1187	360663	3210720	220.29
1188	360644	3210674	220.06
1189	360625	3210628	219.95
1190	360599	3210585	220.07
1191	360570	3210544	219.66
1192	360539	3210506	219.65
1193	360504	3210470	219.47
1194	360474	3210430	219.49
1195	360444	3210390	219.64
1196	360414	3210350	219.50
1197	360371	3210325	219.58
1198	360328	3210299	219.52
1199	360285	3210274	219.62
1200	360246	3210244	219.70
1201	360218	3210203	219.61
1202	360189	3210162	219.56
1203	360151	3210129	219.45
1204	360119	3210092	219.24
1205	360096	3210050	219.17
1206	360096	3210000	219.10
1207	360103	3209951	219.15
1208	360119	3209904	219.07
1209	360132	3209856	219.14
1210	360139	3209807	219.00
1211	360131	3209758	217.90
1212	360123	3209708	217.72
1213	360120	3209659	217.78
1214	360126	3209609	217.91
1215	360130	3209559	217.65
1216	360131	3209509	217.68
1217	360133	3209459	217.67
1218	360133	3209409	217.75
1219	360130	3209359	217.24
1220	360128	3209309	217.21
1221	360126	3209260	217.43
1222	360112	3209212	217.33
1223	360091	3209167	217.46
1224	360062	3209126	217.35
1225	360034	3209085	217.17
1226	360005	3209044	217.33
1227	359971	3209008	217.23
1228	359931	3208979	217.11
1229	359895	3208944	217.10
1230	359859	3208909	217.15
1231	359814	3208890	216.97
1232	359767	3208873	216.89
1233	359722	3208853	216.96
1234	359674	3208843	216.99
1235	359629	3208820	216.84
1236	359594	3208786	216.75
1237	359566	3208745	216.84
1238	359549	3208698	216.46
1239	359535	3208650	216.55
1240	359524	3208602	216.40
1241	359496	3208561	216.52
1242	359468	3208520	216.55
1243	359443	3208477	216.33
1244	359422	3208432	216.31
1245	359406	3208385	216.47
1246	359403	3208336	216.34
1247	359404	3208286	216.13
1248	359408	3208236	216.20
1249	359403	3208186	216.21
1250	359391	3208138	216.17
1251	359364	3208096	216.12
1252	359341	3208052	215.93
1253	359333	3208003	216.00
1254	359325	3207954	216.18
1255	359315	3207905	216.07
1256	359289	3207878	215.95
1257	359265	3207839	216.00
1258	359232	3207802	215.87
1259	359199	3207764	216.08
1260	359164	3207730	216.06

NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhakuni Adv. HQ-NAINITAL

31503

Gola river 50 Year HFL Points

Left Bank

Sl. No	Easting (x)	Northing (y)	WSE (m)
1261	359131	3207699	215.83
1262	359128	3207651	215.88
1263	359092	3207618	215.87
1264	359055	3207591	215.87
1265	359009	3207579	215.79
1266	358982	3207541	215.97
1267	358955	3207501	216.00
1268	358934	3207459	215.88
1269	358890	3207435	215.68
1270	358865	3207400	215.69
1271	358854	3207358	215.82
1272	358836	3207329	215.84
1273	358826	3207284	215.67
1274	358802	3207243	215.79
1275	358791	3207197	214.80
1276	358779	3207149	214.77
1277	358760	3207102	214.63
1278	358743	3207056	214.57
1279	358771	3207022	214.79
1280	358809	3206994	214.43
1281	358838	3206954	214.45
1282	358884	3206936	214.43
1283	358921	3206904	214.59
1284	358957	3206871	214.36
1285	358989	3206838	214.42
1286	359029	3206811	214.11
1287	359075	3206800	214.21
1288	359125	3206796	213.93
1289	359174	3206809	213.97
1290	359199	3206767	213.95
1291	359231	3206730	213.90
1292	359248	3206683	214.02
1293	359264	3206636	214.04
1294	359285	3206590	213.95
1295	359313	3206549	213.69
1296	359331	3206502	213.91
1297	359347	3206455	213.66
1298	359361	3206407	213.79
1299	359371	3206358	213.94
1300	359382	3206309	213.62
1301	359374	3206265	213.77
1302	359339	3206230	213.56
1303	359293	3206221	213.61
1304	359246	3206233	213.57
1305	359219	3206207	213.57
1306	359210	3206158	213.52
1307	359192	3206112	213.63
1308	359172	3206066	213.46
1309	359157	3206020	213.70
1310	359145	3205982	213.74
1311	359099	3205962	213.47
1312	359067	3205926	213.46
1313	359034	3205889	213.57
1314	358990	3205868	213.70
1315	358940	3205862	213.56
1316	358891	3205870	213.60
1317	358843	3205884	213.56
1318	358795	3205899	213.66
1319	358746	3205896	213.60
1320	358697	3205887	213.61
1321	358648	3205879	213.66
1322	358599	3205870	213.55
1323	358567	3205836	213.39
1324	358557	3205787	213.44
1325	358532	3205744	213.47
1326	358517	3205699	213.39
1327	358526	3205650	213.50
1328	358528	3205600	213.37
1329	358551	3205558	213.33
1330	358575	3205516	213.48
1331	358569	3205471	213.39
1332	358547	3205439	213.09
1333	358498	3205434	213.28
1334	358471	3205392	213.25
1335	358462	3205345	213.20
1336	358487	3205304	213.29
1337	358509	3205260	213.32
1338	358531	3205216	212.45
1339	358516	3205173	212.47
1340	358497	3205127	211.18
1341	358478	3205081	211.17
1342	358466	3205036	211.35
1343	358451	3204989	211.24
1344	358425	3204946	211.30
1345	358413	3204899	211.11
1346	358405	3204851	211.09
1347	358422	3204804	211.11
1348	358440	3204758	211.24
1349	358465	3204715	210.96
1350	358483	3204671	210.73

NOTARY (Dr. P. S. Bhakuni) Advocate HQ-N & INIT & TARAKESHWAR

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31504

Gola river 50 Year HFL Points

Left Bank

Sl. No	Easting (x)	Northing (y)	WSE (m)
1351	358480	3204621	210.70
1352	358479	3204571	210.35
1353	358479	3204521	210.01
1354	358486	3204472	210.06
1355	358517	3204438	210.09
1356	358551	3204403	209.96
1357	358577	3204361	209.71
1358	358614	3204327	209.62
1359	358652	3204295	209.46
1360	358695	3204269	209.63
1361	358729	3204238	209.55
1362	358738	3204189	209.50
1363	358748	3204140	209.39
1364	358758	3204091	209.18
1365	358766	3204042	209.15
1366	358760	3203992	209.03
1367	358762	3203943	209.06
1368	358768	3203893	209.21
1369	358773	3203843	209.05
1370	358779	3203793	209.11
1371	358786	3203744	209.09
1372	358793	3203695	209.17
1373	358819	3203654	208.34
1374	358832	3203605	208.10
1375	358828	3203557	208.36
1376	358817	3203508	208.32
1377	358809	3203459	208.14
1378	358802	3203409	208.28
1379	358795	3203360	207.81
1380	358790	3203310	207.95
1381	358779	3203261	207.72
1382	358764	3203214	207.82
1383	358750	3203167	207.96
1384	358771	3203122	207.76
1385	358790	3203076	207.84
1386	358795	3203027	207.90
1387	358789	3202978	207.59
1388	358773	3202931	207.57
1389	358750	3202886	207.75
1390	358715	3202852	207.67
1391	358689	3202810	207.53
1392	358653	3202778	207.73
1393	358605	3202764	207.49
1394	358560	3202743	207.72
1395	358525	3202709	207.57
1396	358483	3202683	207.69
1397	358434	3202677	207.62
1398	358386	3202690	207.48
1399	358337	3202701	207.69
1400	358289	3202714	207.29
1401	358239	3202723	207.36
1402	358194	3202722	207.23
1403	358151	3202702	207.13
1404	358106	3202679	207.34
1405	358062	3202656	207.29
1406	358014	3202644	206.94
1407	357968	3202626	207.08
1408	357923	3202605	207.05
1409	357877	3202585	206.97
1410	357861	3202544	207.16
1411	357866	3202495	206.93
1412	357876	3202446	207.13
1413	357914	3202417	207.04
1414	357963	3202413	207.17
1415	358007	3202390	207.17
1416	358033	3202353	207.13
1417	358045	3202307	207.15
1418	358076	3202268	207.03
1419	358083	3202220	207.00
1420	358056	3202183	207.04
1421	358058	3202134	206.97
1422	358062	3202084	205.07
1423	358067	3202035	205.02
1424	358072	3201985	205.24
1425	358086	3201937	205.29
1426	358097	3201889	205.02
1427	358104	3201839	205.20
1428	358115	3201790	205.03
1429	358132	3201746	205.03
1430	358171	3201714	205.27
1431	358210	3201683	205.23
1432	358248	3201651	205.25
1433	358287	3201620	205.04
1434	358328	3201591	205.20
1435	358373	3201569	205.07
1436	358417	3201545	205.13
1437	358458	3201517	205.03
1438	358495	3201484	205.00
1439	358534	3201453	205.16
1440	358574	3201423	205.25

NOTARY GOVT. OF INDIA
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
No. 20 of 2014

8/11/14

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31505

Gola river 50 Year HFL Points

Left Bank

Sl. No	Easting (x)	Northing (y)	WSE (m)
1441	358614	3201393	205.03
1442	358654	3201363	205.19
1443	358692	3201331	205.14
1444	358725	3201294	205.06
1445	358752	3201251	205.19
1446	358795	3201235	205.21
1447	358818	3201198	205.20
1448	358825	3201149	205.04
1449	358819	3201100	205.16
1450	358814	3201050	205.07
1451	358806	3201002	204.96
1452	358794	3200953	204.99
1453	358782	3200905	205.02
1454	358772	3200856	205.23
1455	358761	3200807	205.04
1456	358740	3200762	205.02
1457	358714	3200720	205.21
1458	358704	3200673	205.07
1459	358707	3200623	204.96
1460	358726	3200577	204.95
1461	358746	3200531	205.07
1462	358765	3200485	204.98
1463	358789	3200441	204.97
1464	358815	3200399	205.14
1465	358842	3200356	205.08
1466	358869	3200314	204.96
1467	358884	3200268	205.01
1468	358888	3200218	205.14
1469	358892	3200168	205.10
1470	358895	3200118	205.06
1471	358898	3200069	204.96
1472	358901	3200019	205.15
1473	358882	3199972	205.09
1474	358864	3199926	204.97
1475	358845	3199879	204.95
1476	358818	3199843	204.96
1477	358769	3199832	205.00
1478	358720	3199822	205.14
1479	358682	3199796	205.12
1480	358653	3199755	205.16
1481	358625	3199714	205.03
1482	358597	3199673	205.13
1483	358565	3199635	204.95
1484	358529	3199600	204.95
1485	358494	3199564	205.11
1486	358458	3199529	204.89
1487	358422	3199494	204.87
1488	358377	3199473	204.98
1489	358332	3199451	205.10
1490	358287	3199430	204.85
1491	358241	3199410	204.85
1492	358193	3199397	204.86
1493	358145	3199383	205.10
1494	358097	3199369	204.92
1495	358049	3199355	204.86
1496	358001	3199340	204.82
1497	357953	3199325	204.94
1498	357905	3199311	205.00
1499	357857	3199298	204.98
1500	357808	3199287	204.98
1501	357759	3199279	204.91
1502	357709	3199273	204.87
1503	357660	3199268	203.16
1504	357610	3199262	203.20
1505	357562	3199250	203.13
1506	357513	3199237	203.00
1507	357465	3199225	203.17
1508	357441	3199210	203.12
1509	357486	3199187	203.00
1510	357519	3199150	203.03
1511	357550	3199111	202.95
1512	357559	3199062	203.01
1513	357569	3199013	203.16
1514	357581	3198965	202.96
1515	357594	3198916	202.95
1516	357584	3198867	202.98
1517	357572	3198820	203.13
1518	357529	3198795	203.19
1519	357486	3198769	203.15
1520	357480	3198721	203.04
1521	357484	3198671	203.09
1522	357488	3198622	203.00
1523	357484	3198572	202.99
1524	357486	3198522	203.00
1525	357491	3198472	202.90
1526	357496	3198423	203.08
1527	357507	3198374	203.06
1528	357517	3198325	202.95
1529	357523	3198276	202.97
1530	357512	3198227	202.89

NOTARY
Dr. P. S.
HQ-NAINITAL

31506

Gola river 50 Year HFL Points

Left Bank

Sl. No	Easting (x)	Northing (y)	WSE (m)
1531	357495	3198180	203.02
1532	357479	3198133	202.93
1533	357463	3198085	202.98
1534	357444	3198039	202.99
1535	357417	3197998	203.04
1536	357378	3197966	203.00
1537	357330	3197954	203.03
1538	357299	3197987	202.97
1539	357279	3198032	203.04
1540	357240	3198057	203.01
1541	357193	3198041	202.88
1542	357153	3198012	202.90
1543	357120	3197975	202.95
1544	357093	3197932	203.04
1545	357073	3197887	202.91
1546	357064	3197838	203.03
1547	357055	3197789	202.95
1548	357044	3197740	202.99
1549	357030	3197692	203.03
1550	357006	3197649	202.92
1551	356979	3197608	202.82
1552	356968	3197559	202.85
1553	356965	3197509	202.95
1554	356962	3197459	202.83
1555	356948	3197411	203.05
1556	356925	3197367	202.83
1557	356892	3197329	203.07
1558	356854	3197299	202.96
1559	356807	3197282	202.90
1560	356760	3197299	203.10
1561	356715	3197292	203.05
1562	356694	3197249	203.04
1563	356674	3197204	202.94
1564	356638	3197170	203.05
1565	356601	3197137	203.00
1566	356568	3197099	202.84
1567	356551	3197053	203.07
1568	356537	3197005	202.93
1569	356523	3196958	202.81
1570	356536	3196909	202.93
1571	356550	3196861	203.10
1572	356568	3196815	203.04
1573	356588	3196769	203.11
1574	356609	3196724	202.88
1575	356631	3196679	203.00
1576	356652	3196633	202.85
1577	356666	3196585	203.05
1578	356647	3196542	203.02
1579	356619	3196500	202.89
1580	356586	3196464	203.05
1581	356541	3196442	202.82
1582	356500	3196416	202.88
1583	356481	3196369	202.97
1584	356464	3196323	202.87
1585	356441	3196279	202.81
1586	356411	3196239	202.92
1587	356378	3196202	202.83
1588	356342	3196166	202.79
1589	356306	3196131	202.92
1590	356271	3196096	203.00
1591	356235	3196061	202.94
1592	356200	3196026	202.83
1593	356166	3195989	202.92
1594	356134	3195951	202.93
1595	356099	3195915	203.01
1596	356067	3195877	202.80
1597	356035	3195839	203.03
1598	355998	3195806	201.58
1599	355956	3195780	201.29
1600	355909	3195762	201.43
1601	355860	3195751	201.41
1602	355811	3195746	201.34
1603	355761	3195741	201.46
1604	355711	3195739	201.53
1605	355661	3195741	201.58
1606	355612	3195748	201.45
1607	355569	3195722	201.32
1608	355541	3195683	201.32
1609	355517	3195639	201.46
1610	355482	3195604	200.40
1611	355436	3195586	200.37
1612	355387	3195591	199.87
1613	355338	3195599	199.48
1614	355301	3195578	199.43
1615	355274	3195536	198.92
1616	355247	3195494	198.09
1617	355217	3195456	198.25
1618	355171	3195436	198.05
1619	355123	3195437	198.09
1620	355076	3195424	197.94



31507

Sl. No	Easting (x)	Northing (y)	WSE (m)
1621	355046	3195388	197.96
1622	355036	3195340	197.86
1623	355019	3195293	197.82
1624	354989	3195254	197.58
1625	354953	3195219	197.67
1626	354933	3195174	197.54
1627	354920	3195126	197.68
1628	354906	3195078	197.43
1629	354874	3195042	197.43
1630	354842	3195004	197.45
1631	354813	3194963	197.45
1632	354784	3194923	197.37
1633	354750	3194887	197.23
1634	354718	3194848	197.33
1635	354692	3194806	197.07
1636	354664	3194764	197.16
1637	354635	3194724	197.28
1638	354599	3194690	197.07
1639	354552	3194684	196.93
1640	354526	3194646	196.94
1641	354487	3194629	196.90
1642	354439	3194641	196.62
1643	354391	3194644	196.58
1644	354343	3194648	196.56
1645	354306	3194623	196.62
1646	354283	3194579	196.62
1647	354317	3194551	196.71
1648	354315	3194512	196.67
1649	354316	3194477	196.64
1650	354322	3194451	196.53

Gola river 50 Year HFL Points

Left Bank

Sl. No	Easting (x)	Northing (y)	WSE (m)
1651	354283	3194421	196.67
1652	354236	3194411	196.32
1653	354187	3194407	196.52
1654	354143	3194383	196.52
1655	354099	3194360	195.76
1656	354090	3194312	195.75
1657	354079	3194264	195.79
1658	354067	3194215	195.61
1659	354059	3194180	195.65

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND (INDIA)

31508

Gola river 100 Year HFL Points

Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1	369016	3241983	914.27
2	369008	3241934	913.97
3	369007	3241884	912.89
4	369006	3241834	910.79
5	369006	3241784	910.51
6	369016	3241735	910.35
7	369030	3241687	909.99
8	369033	3241637	907.25
9	369016	3241591	906.05
10	368995	3241547	904.20
11	368996	3241497	903.83
12	369009	3241448	903.62
13	369043	3241424	902.02
14	369049	3241375	900.65
15	369061	3241327	899.58
16	369083	3241282	894.28
17	369113	3241242	892.26
18	369142	3241201	890.58
19	369157	3241157	890.49
20	369152	3241107	889.45
21	369147	3241060	888.62
22	369167	3241014	887.64
23	369188	3240969	885.63
24	369207	3240923	883.09
25	369216	3240874	882.93
26	369237	3240829	878.78
27	369267	3240789	878.08
28	369301	3240752	877.53
29	369333	3240714	877.02
30	369368	3240678	875.59
31	369404	3240644	873.50
32	369444	3240614	872.65
33	369491	3240601	870.45
34	369525	3240576	870.12
35	369505	3240531	870.09
36	369483	3240487	864.97
37	369467	3240440	863.55
38	369461	3240390	863.28
39	369464	3240340	863.37
40	369475	3240292	862.63
41	369505	3240256	861.59
42	369554	3240244	860.50
43	369585	3240211	860.05
44	369594	3240162	858.93
45	369595	3240112	857.54
46	369607	3240064	857.40
47	369641	3240028	857.39
48	369681	3239998	855.47
49	369715	3239962	855.52
50	369758	3239936	855.34
51	369807	3239925	852.33
52	369856	3239921	849.44
53	369905	3239931	849.30
54	369917	3239977	848.49
55	369932	3240024	848.83
56	369975	3240044	845.66
57	369994	3240005	845.34
58	370002	3239956	844.88
59	370021	3239911	842.58
60	370028	3239862	832.92
61	370060	3239824	832.77
62	370099	3239792	933.01
63	370134	3239758	830.57
64	370176	3239735	830.58
65	370221	3239741	830.82
66	370269	3239737	830.91
67	370316	3239728	830.41
68	370364	3239737	830.68
69	370412	3239724	828.79
70	370443	3239686	827.20
71	370467	3239642	825.28
72	370481	3239595	817.01
73	370488	3239545	811.51
74	370510	3239503	810.33
75	370551	3239475	810.29
76	370582	3239436	810.27
77	370614	3239398	809.83
78	370655	3239370	808.81
79	370702	3239353	808.41
80	370740	3239323	808.63
81	370715	3239285	808.61
82	370675	3239255	808.24
83	370639	3239227	807.56
84	370603	3239198	806.74
85	370570	3239162	806.71
86	370547	3239118	806.42
87	370532	3239072	806.34
88	370521	3239025	806.02
89	370527	3238976	806.28
90	370550	3238932	806.05

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
STATE OF UTTARAKHAND

31509

Gola river 100 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
91	370591	3238907	788.52
92	370637	3238887	787.86
93	370661	3238844	787.59
94	370700	3238815	787.49
95	370746	3238796	786.13
96	370793	3238778	785.92
97	370833	3238749	785.92
98	370870	3238716	784.91
99	370904	3238680	784.69
100	370918	3238633	781.30
101	370918	3238583	780.80
102	370916	3238533	779.69
103	370911	3238483	775.48
104	370915	3238433	773.52
105	370920	3238384	773.47
106	370922	3238334	770.26
107	370921	3238285	770.18
108	370943	3238248	770.11
109	370984	3238226	769.05
110	371015	3238188	768.76
111	371036	3238146	767.69
112	371016	3238113	766.67
113	370987	3238088	766.28
114	370946	3238065	766.45
115	370903	3238042	765.85
116	370858	3238025	765.82
117	370810	3238011	765.47
118	370772	3237984	765.73
119	370749	3237941	765.57
120	370724	3237898	764.84
121	370712	3237851	764.46
122	370735	3237811	764.76
123	370745	3237765	758.47
124	370725	3237722	758.52
125	370685	3237696	758.27
126	370649	3237665	757.90
127	370621	3237626	757.62
128	370586	3237591	756.66
129	370551	3237555	756.34
130	370517	3237518	755.36
131	370484	3237481	755.03
132	370454	3237441	754.10
133	370424	3237402	753.91
134	370399	3237361	750.68
135	370381	3237315	749.40
136	370375	3237265	748.65
137	370369	3237216	748.69
138	370383	3237170	748.45
139	370421	3237137	748.33
140	370466	3237138	748.28
141	370512	3237136	748.15
142	370556	3237119	748.39
143	370586	3237093	748.08
144	370605	3237051	748.02
145	370581	3237009	747.91
146	370556	3236968	747.66
147	370561	3236921	747.61
148	370558	3236875	747.45
149	370538	3236829	747.67
150	370510	3236790	747.50
151	370467	3236765	747.37
152	370434	3236729	744.37
153	370404	3236695	744.23
154	370375	3236655	744.98
155	370361	3236612	744.24
156	370366	3236572	743.82
157	370365	3236525	737.12
158	370359	3236476	736.67
159	370341	3236430	734.35
160	370347	3236381	733.62
161	370356	3236333	733.30
162	370330	3236294	733.34
163	370281	3236287	733.21
164	370232	3236282	732.67
165	370183	3236272	732.48
166	370147	3236242	731.29
167	370126	3236197	732.71
168	370113	3236158	729.00
169	370072	3236143	728.75
170	370040	3236178	727.55
171	370001	3236207	726.87
172	369964	3236237	725.34
173	369933	3236270	725.29
174	369899	3236306	724.86
175	369859	3236336	723.77
176	369821	3236367	721.49
177	369781	3236396	720.81
178	369739	3236422	720.65
179	369693	3236425	720.87
180	369645	3236425	717.84

NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhakuni Adv. HQ-NAINITAL

31510

Gola river 100 Year HFL Points

Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
181	369604	3236449	717.78
182	369556	3236461	716.44
183	369508	3236457	716.36
184	369466	3236434	715.97
185	369418	3236427	715.21
186	369376	3236443	714.86
187	369327	3236443	714.45
188	369285	3236464	714.55
189	369243	3236487	714.33
190	369215	3236529	714.35
191	369191	3236572	713.88
192	369168	3236616	713.21
193	369142	3236655	712.84
194	369097	3236676	712.80
195	369053	3236695	711.38
196	369014	3236723	711.48
197	368975	3236752	710.57
198	368938	3236783	709.72
199	368901	3236816	708.71
200	368866	3236851	708.78
201	368827	3236876	708.63
202	368781	3236885	706.59
203	368742	3236912	703.31
204	368721	3236932	702.78
205	368681	3236939	702.53
206	368632	3236947	702.14
207	368583	3236950	700.81
208	368537	3236964	699.78
209	368496	3236985	699.71
210	368449	3236994	699.82
211	368401	3237002	699.57
212	368356	3237022	699.47
213	368313	3237048	699.21
214	368270	3237073	698.73
215	368226	3237094	698.70
216	368182	3237114	698.73
217	368137	3237133	698.73
218	368090	3237149	698.59
219	368041	3237156	697.86
220	367991	3237157	694.45
221	367942	3237153	694.25
222	367892	3237148	693.39
223	367844	3237139	693.30
224	367799	3237133	692.23
225	367751	3237146	691.81
226	367710	3237162	690.81
227	367674	3237165	690.54
228	367632	3237189	687.21
229	367584	3237198	687.54
230	367535	3237207	687.06
231	367486	3237201	686.53
232	367438	3237187	686.52
233	367393	3237165	686.33
234	367351	3237143	686.25
235	367332	3237111	686.32
236	367309	3237079	686.20
237	367280	3237058	686.35
238	367264	3237043	686.47
239	367235	3237040	686.20
240	367190	3237045	685.91
241	367161	3237049	684.00
242	367118	3237065	683.67
243	367072	3237073	683.45
244	367034	3237095	682.84
245	367026	3237143	682.71
246	367017	3237191	681.76
247	367019	3237238	681.49
248	367027	3237286	681.69
249	367040	3237334	681.78
250	367034	3237382	680.57
251	367033	3237430	679.91
252	367002	3237462	677.96
253	367005	3237497	678.05
254	366971	3237533	675.02
255	366931	3237557	672.97
256	366890	3237584	672.91
257	366848	3237592	672.97
258	366807	3237610	672.07
259	366764	3237627	671.80
260	366726	3237608	671.42
261	366727	3237561	671.36
262	366707	3237527	671.17
263	366690	3237507	671.14
264	366668	3237482	671.11
265	366622	3237488	671.23
266	366592	3237527	671.00
267	366558	3237562	670.52
268	366515	3237575	670.36
269	366502	3237621	669.63
270	366507	3237669	669.33

NOTARY GOVT. OF UTTARAKHAND INDIA
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL

31511

Gola river 100 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
271	366536	3237707	668.26
272	366546	3237728	668.27
273	366504	3237750	667.98
274	366487	3237794	668.01
275	366470	3237829	666.40
276	366443	3237868	664.38
277	366416	3237910	663.30
278	366382	3237946	663.31
279	366342	3237971	662.73
280	366294	3237981	662.65
281	366254	3237981	662.58
282	366218	3237987	662.72
283	366196	3237964	662.51
284	366157	3237958	662.03
285	366115	3237975	662.10
286	366082	3237999	662.03
287	366047	3238032	662.09
288	366013	3238069	661.96
289	365990	3238108	660.27
290	365970	3238132	660.07
291	365938	3238169	658.93
292	365907	3238205	658.46
293	365867	3238234	658.74
294	365819	3238245	658.48
295	365788	3238211	654.16
296	365773	3238171	653.73
297	365740	3238161	653.81
298	365693	3238165	653.57
299	365658	3238198	653.62
300	365620	3238227	651.39
301	365594	3238269	651.37
302	365600	3238318	651.03
303	365586	3238365	649.67
304	365577	3238409	649.00
305	365593	3238454	648.57
306	365593	3238494	647.66
307	365585	3238534	646.49
308	365569	3238580	645.43
309	365554	3238626	644.20
310	365526	3238660	644.10
311	365502	3238692	644.04
312	365458	3238713	643.85
313	365415	3238736	643.81
314	365370	3238750	643.95
315	365324	3238763	641.78
316	365276	3238766	641.22
317	365229	3238752	640.79
318	365183	3238754	639.25
319	365134	3238762	639.34
320	365086	3238775	639.33
321	365040	3238787	637.76
322	364994	3238794	637.88
323	364948	3238810	637.24
324	364900	3238822	636.66
325	364852	3238829	636.56
326	364803	3238840	635.28
327	364759	3238855	634.18
328	364719	3238885	633.79
329	364698	3238926	633.43
330	364679	3238967	633.18
331	364677	3239017	632.59
332	364676	3239065	632.24
333	364678	3239115	631.93
334	364681	3239164	629.65
335	364671	3239212	629.10
336	364666	3239261	628.59
337	364660	3239310	627.75
338	364650	3239358	626.87
339	364638	3239403	626.56
340	364651	3239451	626.58
341	364658	3239500	626.29
342	364670	3239549	625.49
343	364685	3239596	624.67
344	364705	3239642	624.51
345	364726	3239688	625.44
346	364747	3239733	625.24
347	364765	3239779	623.39
348	364779	3239826	622.96
349	364781	3239876	622.76
350	364773	3239925	622.92
351	364759	3239973	617.90
352	364732	3240015	616.98
353	364708	3240059	616.87
354	364669	3240087	615.83
355	364625	3240111	615.58
356	364582	3240136	615.01
357	364534	3240146	614.64
358	364489	3240168	614.61
359	364442	3240185	614.49
360	364395	3240202	614.04

NOTARY * Dr. P. S. Bhakuni Advocate HQ-NAINITAL * GOVT. OF UTTARAKHAND (INDIA)

31512

Gola river 100 Year HFL Points

Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
361	364359	3240234	613.80
362	364318	3240260	613.90
363	364273	3240279	613.44
364	364234	3240307	611.91
365	364193	3240333	610.90
366	364152	3240360	610.75
367	364107	3240374	610.73
368	364065	3240399	610.78
369	364020	3240420	609.47
370	363983	3240447	608.59
371	363945	3240477	608.55
372	363909	3240509	607.85
373	363875	3240542	607.32
374	363847	3240582	607.29
375	363830	3240629	606.23
376	363813	3240676	605.87
377	363795	3240722	605.84
378	363769	3240765	603.48
379	363750	3240811	603.15
380	363737	3240859	603.22
381	363723	3240907	602.90
382	363707	3240954	601.99
383	363687	3240998	601.67
384	363685	3241045	601.34
385	363686	3241089	601.09
386	363689	3241133	600.62
387	363673	3241175	600.69
388	363647	3241212	600.45
389	363600	3241227	599.53
390	363559	3241253	599.34
391	363513	3241270	599.42
392	363480	3241306	599.33
393	363440	3241335	599.09
394	363397	3241356	599.06
395	363358	3241345	599.22
396	363330	3241363	599.00
397	363347	3241387	599.07
398	363302	3241409	599.00
399	363262	3241398	598.97
400	363228	3241429	598.94
401	363192	3241446	599.03
402	363146	3241452	598.25
403	363102	3241438	598.26
404	363069	3241408	596.29
405	363029	3241385	596.40
406	363030	3241349	596.25
407	362998	3241345	596.23
408	362955	3241327	595.14
409	362907	3241320	595.29
410	362858	3241313	595.24
411	362810	3241324	595.04
412	362763	3241312	594.63
413	362716	3241298	594.74
414	362669	3241290	594.57
415	362622	3241284	594.54
416	362575	3241292	594.45
417	362530	3241298	594.02
418	362486	3241300	591.95
419	362451	3241319	590.91
420	362410	3241335	589.09
421	362370	3241362	587.94
422	362340	3241382	585.91
423	362322	3241412	583.21
424	362319	3241445	582.99
425	362310	3241475	582.25
426	362276	3241508	581.98
427	362229	3241514	581.48
428	362181	3241504	581.10
429	362141	3241478	579.28
430	362099	3241463	579.49
431	362054	3241480	578.21
432	362016	3241509	575.65
433	361980	3241543	574.75
434	361949	3241581	574.38
435	361918	3241613	574.49
436	361885	3241646	573.57
437	361857	3241681	573.48
438	361821	3241712	572.58
439	361785	3241744	572.68
440	361750	3241778	572.17
441	361711	3241806	571.70
442	361668	3241830	571.47
443	361635	3241865	570.64
444	361594	3241887	570.53
445	361558	3241915	570.16
446	361514	3241932	569.63
447	361473	3241951	569.05
448	361429	3241955	568.52
449	361383	3241962	568.12
450	361337	3241950	567.97

31513

Gola river 100 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
451	361292	3241934	567.81
452	361253	3241912	567.46
453	361205	3241914	566.55
454	361156	3241927	566.57
455	361107	3241937	566.46
456	361058	3241943	567.18
457	361013	3241943	565.83
458	360964	3241949	564.55
459	360919	3241963	564.43
460	360871	3241971	562.71
461	360829	3241956	562.60
462	360782	3241957	562.02
463	360739	3241944	561.89
464	360695	3241930	561.69
465	360654	3241906	561.22
466	360618	3241880	560.51
467	360596	3241871	560.40
468	360567	3241835	559.96
469	360531	3241808	559.77
470	360496	3241784	559.30
471	360465	3241746	558.66
472	360436	3241709	557.71
473	360414	3241666	556.40
474	360392	3241621	555.81
475	360389	3241582	555.72
476	360358	3241550	555.45
477	360332	3241510	555.53
478	360304	3241491	555.37
479	360262	3241475	555.20
480	360216	3241462	554.80
481	360168	3241455	554.41
482	360118	3241462	553.46
483	360070	3241451	553.42
484	360028	3241439	553.25
485	359982	3241440	552.60
486	359938	3241445	552.69
487	359899	3241437	552.79
488	359865	3241416	551.07
489	359826	3241389	549.35
490	359780	3241375	546.75
491	359739	3241359	545.45
492	359697	3241339	544.56
493	359652	3241320	542.13
494	359604	3241310	541.34
495	359557	3241294	541.09
496	359510	3241277	540.28
497	359463	3241259	539.73
498	359418	3241238	539.77
499	359372	3241217	539.35
500	359328	3241194	538.61
501	359284	3241170	538.60
502	359241	3241144	538.56
503	359197	3241121	537.71
504	359158	3241090	537.89
505	359120	3241057	537.86
506	359082	3241025	537.28
507	359044	3240996	537.19
508	359010	3240996	536.90
509	359022	3240949	536.96
510	359009	3240901	536.98
511	359011	3240858	536.94
512	359055	3240835	537.14
513	359085	3240799	536.78
514	359109	3240756	536.71
515	359125	3240709	536.57
516	359136	3240660	536.86
517	359143	3240611	536.56
518	359149	3240561	536.77
519	359152	3240511	536.39
520	359148	3240461	536.17
521	359131	3240419	534.97
522	359121	3240381	534.68
523	359115	3240343	534.43
524	359097	3240302	534.54
525	359076	3240275	533.54
526	359054	3240238	533.30
527	359034	3240210	530.30
528	358996	3240191	529.28
529	358969	3240156	528.92
530	358939	3240124	528.72
531	358898	3240096	528.22
532	358854	3240071	527.30
533	358812	3240045	526.75
534	358771	3240017	526.28
535	358740	3239979	524.79
536	358728	3239932	524.44
537	358713	3239887	524.13
538	358691	3239843	524.26
539	358676	3239801	524.18
540	358675	3239758	524.30



31514

Gola river 100 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
541	358691	3239719	524.25
542	358737	3239727	523.85
543	358745	3239697	523.82
544	358775	3239665	523.77
545	358799	3239629	523.75
546	358836	3239607	523.91
547	358856	3239569	523.78
548	358853	3239524	523.87
549	358817	3239501	523.67
550	358836	3239465	523.83
551	358814	3239429	523.92
552	358794	3239389	523.79
553	358772	3239350	523.55
554	358758	3239306	523.79
555	358765	3239266	523.44
556	358747	3239224	523.38
557	358754	3239177	523.46
558	358769	3239135	523.46
559	358775	3239092	523.46
560	358779	3239044	523.53
561	358810	3239006	523.37
562	358823	3238959	523.23
563	358847	3238920	513.42
564	358863	3238873	512.33
565	358873	3238825	512.50
566	358880	3238775	512.19
567	358897	3238730	511.73
568	358932	3238702	510.65
569	358950	3238669	509.35
570	358957	3238620	506.42
571	358940	3238573	503.83
572	358924	3238526	503.14
573	358915	3238485	502.72
574	358906	3238439	501.93
575	358894	3238392	501.97
576	358882	3238346	501.16
577	358870	3238299	501.22
578	358852	3238254	500.58
579	358833	3238208	499.88
580	358811	3238163	498.33
581	358785	3238121	498.35
582	358759	3238078	498.10
583	358728	3238040	498.17
584	358694	3238005	497.12
585	358656	3237972	496.91
586	358623	3237935	496.59
587	358590	3237898	496.89
588	358555	3237865	496.26
589	358544	3237817	496.01
590	358533	3237768	496.15
591	358526	3237718	496.01
592	358517	3237669	495.87
593	358505	3237621	496.04
594	358491	3237573	496.10
595	358482	3237523	491.74
596	358475	3237474	491.84
597	358468	3237425	491.18
598	358461	3237375	490.68
599	358452	3237326	489.22
600	358449	3237276	488.48
601	358449	3237226	487.66
602	358448	3237176	485.27
603	358448	3237127	484.59
604	358441	3237077	484.29
605	358434	3237028	484.25
606	358428	3236978	484.27
607	358423	3236928	484.07
608	358439	3236881	484.02
609	358455	3236834	478.81
610	358450	3236784	477.02
611	358446	3236735	475.85
612	358452	3236685	475.59
613	358467	3236638	475.83
614	358491	3236594	475.67
615	358514	3236549	475.59
616	358529	3236503	475.69
617	358535	3236453	475.46
618	358539	3236403	475.28
619	358547	3236354	475.37
620	358554	3236304	471.19
621	358557	3236254	469.19
622	358571	3236207	469.66
623	358589	3236160	468.85
624	358609	3236114	468.76
625	358630	3236069	468.87
626	358640	3236020	468.57
627	358643	3235970	468.38
628	358650	3235921	467.58
629	358673	3235878	467.15
630	358685	3235831	464.22

NOTARY GOVT. OF UTTARAKHAND (INDIA) Dr. P. S. Bhakuni Adv. Advocate HQ-NAINITAL

31515

Gola river 100 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
631	358672	3235783	463.91
632	358667	3235734	464.09
633	358666	3235684	463.59
634	358658	3235634	463.31
635	358649	3235585	462.65
636	358638	3235536	461.30
637	358628	3235487	461.09
638	358617	3235438	461.23
639	358607	3235390	461.16
640	358597	3235341	460.77
641	358582	3235293	461.15
642	358543	3235285	460.99
643	358494	3235294	460.92
644	358454	3235289	461.09
645	358438	3235241	460.86
646	358422	3235194	460.85
647	358406	3235146	460.36
648	358390	3235099	457.46
649	358375	3235051	455.56
650	358359	3235004	455.36
651	358343	3234957	455.42
652	358328	3234909	455.47
653	358312	3234861	455.50
654	358297	3234814	455.03
655	358282	3234766	455.24
656	358267	3234718	450.47
657	358252	3234671	450.58
658	358238	3234623	450.13
659	358225	3234574	449.78
660	358211	3234526	449.83
661	358198	3234478	449.05
662	358185	3234430	449.19
663	358173	3234381	448.95
664	358161	3234333	448.06
665	358147	3234285	447.17
666	358134	3234236	442.86
667	358120	3234188	443.21
668	358105	3234141	442.76
669	358092	3234093	442.75
670	358081	3234044	440.66
671	358058	3233999	440.36
672	358030	3233958	440.10
673	357997	3233921	439.37
674	357964	3233884	438.44
675	357930	3233847	438.61
676	357897	3233810	437.77
677	357866	3233771	437.62
678	357834	3233731	436.48
679	357807	3233691	436.66
680	357796	3233642	436.40
681	357782	3233594	434.80
682	357763	3233548	434.15
683	357757	3233499	432.17
684	357755	3233449	431.11
685	357756	3233399	430.93
686	357756	3233349	430.85
687	357756	3233299	430.89
688	357753	3233249	431.19
689	357751	3233199	430.34
690	357746	3233149	429.97
691	357734	3233101	429.98
692	357711	3233057	429.67
693	357692	3233011	426.55
694	357677	3232963	425.47
695	357663	3232915	424.44
696	357648	3232867	422.85
697	357632	3232820	422.42
698	357619	3232772	421.96
699	357627	3232723	422.01
700	357635	3232674	421.73
701	357658	3232629	421.66
702	357671	3232581	421.26
703	357686	3232533	421.40
704	357687	3232483	419.35
705	357686	3232433	419.17
706	357680	3232384	418.31
707	357677	3232334	417.36
708	357680	3232284	416.52
709	357685	3232235	414.49
710	357687	3232185	414.17
711	357687	3232135	413.79
712	357703	3232088	413.89
713	357737	3232056	413.44
714	357766	3232015	413.13
715	357744	3231979	413.01
716	357714	3231943	413.30
717	357716	3231894	413.26
718	357717	3231844	412.42
719	357719	3231794	412.27
720	357729	3231745	411.54

NOTARY GOVT. OF UTTARAKHAND (INDIA) Lt. P. S. Bhakuni Adv. etc HQ-NAINITAL

31516

Gola river 100 Year HFL Points

Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
721	357743	3231698	407.41
722	357757	3231650	407.42
723	357777	3231604	406.93
724	357793	3231557	406.38
725	357814	3231512	402.58
726	357840	3231469	402.34
727	357871	3231430	402.03
728	357909	3231399	401.53
729	357955	3231380	401.43
730	357999	3231356	401.19
731	358022	3231322	400.37
732	358031	3231275	400.21
733	358035	3231226	399.96
734	358036	3231176	400.02
735	358042	3231126	398.40
736	358051	3231077	397.71
737	358060	3231028	397.24
738	358062	3230978	395.65
739	358066	3230928	392.45
740	358082	3230881	392.17
741	358098	3230834	390.73
742	358116	3230787	390.85
743	358139	3230743	390.66
744	358138	3230694	390.58
745	358137	3230644	390.72
746	358140	3230594	390.34
747	358139	3230544	388.93
748	358138	3230494	388.88
749	358144	3230445	388.47
750	358155	3230396	387.33
751	358168	3230348	386.73
752	358182	3230300	386.12
753	358195	3230252	386.18
754	358207	3230203	386.00
755	358209	3230154	384.51
756	358205	3230104	384.36
757	358199	3230055	383.33
758	358182	3230009	383.31
759	358172	3229960	383.33
760	358159	3229912	380.87
761	358151	3229863	380.87
762	358152	3229813	379.09
763	358154	3229763	379.18
764	358162	3229714	374.21
765	358177	3229666	374.18
766	358188	3229618	374.22
767	358181	3229569	374.07
768	358178	3229519	374.20
769	358180	3229469	374.06
770	358182	3229419	373.23
771	358187	3229370	372.82
772	358197	3229321	373.05
773	358220	3229276	373.00
774	358243	3229232	370.61
775	358265	3229187	370.80
776	358286	3229142	369.92
777	358310	3229098	369.48
778	358342	3229060	368.75
779	358359	3229013	368.55
780	358362	3228969	368.87
781	358346	3228924	368.26
782	358331	3228877	367.20
783	358328	3228827	366.04
784	358328	3228777	365.99
785	358326	3228727	365.63
786	358329	3228677	363.71
787	358333	3228628	363.73
788	358341	3228578	361.62
789	358352	3228530	361.20
790	358354	3228480	361.40
791	358344	3228432	361.02
792	358324	3228386	361.17
793	358301	3228342	360.81
794	358277	3228298	361.11
795	358247	3228259	360.39
796	358211	3228224	359.02
797	358187	3228181	359.23
798	358170	3228134	358.32
799	358153	3228087	357.68
800	358145	3228038	357.32
801	358140	3227988	356.03
802	358135	3227938	355.78
803	358130	3227889	355.85
804	358132	3227839	354.41
805	358136	3227789	354.60
806	358141	3227739	353.40
807	358155	3227692	353.23
808	358173	3227645	352.24
809	358198	3227602	351.84
810	358225	3227560	351.98

NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhandari Advocate HQ-NAINITAL

31517

Gola river 100 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
811	358233	3227511	351.39
812	358218	3227464	351.58
813	358219	3227414	350.74
814	358222	3227364	349.68
815	358228	3227314	349.69
816	358237	3227265	348.42
817	358246	3227216	348.43
818	358245	3227166	347.95
819	358256	3227119	346.85
820	358274	3227073	345.81
821	358296	3227028	345.07
822	358318	3226983	344.52
823	358351	3226946	342.59
824	358384	3226910	342.43
825	358411	3226868	342.30
826	358424	3226820	341.20
827	358425	3226770	341.05
828	358426	3226720	341.00
829	358427	3226670	338.92
830	358421	3226621	338.56
831	358415	3226571	338.65
832	358405	3226522	338.57
833	358392	3226474	336.40
834	358378	3226426	336.17
835	358366	3226377	336.22
836	358354	3226329	335.57
837	358352	3226279	335.46
838	358351	3226229	335.09
839	358349	3226179	334.93
840	358348	3226129	334.84
841	358347	3226079	332.54
842	358352	3226029	332.50
843	358358	3225980	332.54
844	358360	3225930	331.94
845	358362	3225880	331.16
846	358364	3225830	330.88
847	358377	3225781	330.34
848	358384	3225732	330.18
849	358386	3225682	330.21
850	358387	3225632	331.06
851	358389	3225582	329.13
852	358389	3225532	329.22
853	358386	3225483	329.10
854	358384	3225433	328.00
855	358389	3225383	325.25
856	358399	3225334	324.15
857	358419	3225289	324.08
858	358448	3225248	324.02
859	358484	3225213	324.05
860	358518	3225177	324.04
861	358533	3225132	323.85
862	358543	3225083	323.42
863	358560	3225037	322.62
864	358590	3224998	322.98
865	358593	3224948	322.76
866	358593	3224898	322.16
867	358592	3224848	321.41
868	358597	3224799	321.22
869	358606	3224749	320.25
870	358610	3224700	319.77
871	358613	3224650	318.19
872	358607	3224600	318.04
873	358599	3224551	317.87
874	358589	3224502	316.53
875	358578	3224453	316.10
876	358567	3224405	316.14
877	358556	3224356	315.83
878	358546	3224307	313.57
879	358535	3224258	312.97
880	358531	3224209	313.27
881	358538	3224159	311.42
882	358544	3224110	311.47
883	358554	3224062	311.43
884	358537	3224015	311.03
885	358530	3223966	310.90
886	358524	3223917	310.79
887	358514	3223868	309.67
888	358499	3223820	309.63
889	358487	3223771	308.57
890	358480	3223722	307.19
891	358477	3223672	306.30
892	358481	3223623	305.77
893	358490	3223573	305.23
894	358505	3223526	304.78
895	358515	3223477	305.09
896	358523	3223428	304.59
897	358524	3223378	304.26
898	358527	3223328	303.23
899	358536	3223279	303.16
900	358551	3223232	302.80

NOTARY GOVT. OF UTTARAKHAND (INDIA) Dr. P. S. Bhakuni Advocate HQ-NAINITAL

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31518

Gola river 100 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
901	358571	3223186	301.09
902	358588	3223139	300.84
903	358604	3223091	300.18
904	358624	3223046	299.22
905	358649	3223003	299.37
906	358674	3222959	299.15
907	358696	3222915	298.61
908	358714	3222868	298.92
909	358722	3222819	298.52
910	358730	3222770	298.38
911	358738	3222720	296.78
912	358752	3222672	295.78
913	358771	3222626	295.48
914	358757	3222582	295.43
915	358732	3222539	294.86
916	358724	3222490	294.88
917	358725	3222440	294.40
918	358713	3222393	292.66
919	358696	3222347	292.48
920	358699	3222298	292.24
921	358686	3222250	290.63
922	358674	3222201	290.51
923	358659	3222154	290.19
924	358644	3222106	290.10
925	358634	3222057	288.26
926	358626	3222008	288.39
927	358617	3221959	288.13
928	358595	3221913	287.90
929	358574	3221868	287.55
930	358555	3221822	287.75
931	358543	3221774	286.39
932	358543	3221725	285.87
933	358553	3221676	284.89
934	358554	3221626	285.14
935	358553	3221576	284.98
936	358551	3221526	284.61
937	358556	3221477	282.70
938	358564	3221427	282.49
939	358573	3221378	282.35
940	358581	3221329	282.00
941	358580	3221279	280.89
942	358578	3221229	280.99
943	358578	3221179	279.62
944	358581	3221129	279.82
945	358590	3221081	279.59
946	358605	3221034	279.60
947	358608	3220984	279.11
948	358597	3220935	278.67
949	358585	3220887	277.42
950	358574	3220838	277.42
951	358574	3220788	277.27
952	358575	3220738	277.13
953	358576	3220688	276.26
954	358578	3220638	275.93
955	358579	3220588	275.83
956	358580	3220538	275.61
957	358588	3220490	275.93
958	358617	3220449	272.92
959	358645	3220408	272.92
960	358675	3220368	272.23
961	358706	3220329	272.05
962	358737	3220290	271.93
963	358747	3220242	271.62
964	358751	3220192	271.35
965	358760	3220143	270.67
966	358773	3220095	270.36
967	358787	3220047	270.31
968	358793	3219998	270.20
969	358797	3219948	270.18
970	358809	3219900	270.21
971	358816	3219850	269.84
972	358817	3219800	270.21
973	358814	3219750	270.10
974	358812	3219700	270.18
975	358809	3219650	269.96
976	358806	3219600	269.91
977	358800	3219551	269.66
978	358787	3219503	268.41
979	358773	3219455	268.43
980	358760	3219407	268.61
981	358746	3219359	268.22
982	358735	3219310	268.08
983	358727	3219261	268.07
984	358724	3219211	268.01
985	358730	3219162	267.49
986	358747	3219115	267.50
987	358746	3219065	267.29
988	358742	3219015	267.32
989	358737	3218966	266.86
990	358731	3218916	266.52

NOTARY ... GOVT. OF UTTARAKHAND ... Dr. P. S. Bisht ... HQ-NAINITAL

8/11/2024

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31519

Gola river 100 Year HFL Points

Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
991	358725	3218866	266.06
992	358721	3218816	265.92
993	358719	3218766	265.45
994	358717	3218716	265.27
995	358719	3218667	264.62
996	358707	3218619	264.59
997	358704	3218570	264.51
998	358697	3218520	263.82
999	358693	3218470	263.90
1000	358709	3218424	264.12
1001	358727	3218378	263.44
1002	358736	3218329	261.31
1003	358727	3218280	261.03
1004	358732	3218230	261.19
1005	358750	3218185	260.96
1006	358782	3218146	260.92
1007	358799	3218100	260.75
1008	358813	3218052	260.74
1009	358819	3218002	260.18
1010	358824	3217954	259.54
1011	358837	3217906	258.73
1012	358865	3217864	258.49
1013	358889	3217821	258.26
1014	358907	3217774	258.25
1015	358928	3217729	258.28
1016	358936	3217681	257.89
1017	358938	3217632	256.17
1018	358947	3217583	256.34
1019	358954	3217533	256.08
1020	358972	3217488	256.05
1021	358981	3217438	255.32
1022	358980	3217389	255.11
1023	358976	3217340	254.95
1024	358985	3217292	253.57
1025	358998	3217248	252.35
1026	359023	3217206	252.25
1027	359034	3217158	252.39
1028	359058	3217115	251.91
1029	359086	3217074	251.33
1030	359102	3217035	251.35
1031	359097	3216988	250.32
1032	359108	3216939	250.04
1033	359121	3216891	250.24
1034	359118	3216842	249.93
1035	359123	3216793	249.80
1036	359129	3216744	247.94
1037	359129	3216694	246.33
1038	359143	3216647	246.08
1039	359169	3216605	246.05
1040	359187	3216558	246.95
1041	359220	3216521	245.91
1042	359232	3216473	246.07
1043	359221	3216424	245.80
1044	359222	3216376	246.04
1045	359245	3216332	245.66
1046	359259	3216285	245.76
1047	359247	3216237	245.46
1048	359241	3216187	244.98
1049	359232	3216138	245.21
1050	359207	3216095	244.33
1051	359216	3216046	244.33
1052	359210	3215998	244.06
1053	359214	3215949	244.07
1054	359230	3215902	244.27
1055	359245	3215854	243.32
1056	359261	3215807	242.87
1057	359277	3215759	242.71
1058	359293	3215712	242.66
1059	359306	3215663	242.45
1060	359324	3215617	242.40
1061	359337	3215570	242.29
1062	359333	3215520	242.20
1063	359329	3215470	242.21
1064	359314	3215424	241.70
1065	359309	3215374	242.00
1066	359328	3215337	241.83
1067	359360	3215307	241.93
1068	359379	3215266	241.58
1069	359378	3215216	241.55
1070	359369	3215167	241.21
1071	359388	3215124	240.27
1072	359427	3215093	240.49
1073	359462	3215062	240.09
1074	359470	3215014	240.25
1075	359500	3214975	239.49
1076	359535	3214939	239.59
1077	359566	3214904	239.46
1078	359581	3214856	239.16
1079	359594	3214808	239.08
1080	359611	3214761	239.08

NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL Regd. No. 30 (3)(10)/2011 GOVT. OF UTTARAKHAND

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Gola river 100 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1081	359624	3214713	238.72
1082	359635	3214665	237.82
1083	359644	3214615	238.10
1084	359657	3214567	237.98
1085	359671	3214519	237.60
1086	359674	3214469	237.30
1087	359710	3214438	237.21
1088	359743	3214400	237.36
1089	359770	3214358	237.33
1090	359791	3214313	237.47
1091	359810	3214267	236.56
1092	359843	3214230	236.61
1093	359884	3214201	236.39
1094	359912	3214160	236.50
1095	359916	3214111	236.07
1096	359914	3214061	236.12
1097	359920	3214012	236.07
1098	359927	3213962	234.99
1099	359926	3213913	235.98
1100	359939	3213865	235.80
1101	359947	3213815	235.57
1102	359949	3213766	235.43
1103	359955	3213716	235.05
1104	359962	3213667	234.54
1105	359984	3213622	233.24
1106	360022	3213590	233.29
1107	360065	3213566	233.52
1108	360092	3213524	233.40
1109	360119	3213482	233.08
1110	360148	3213441	233.03
1111	360190	3213431	232.92
1112	360230	3213416	232.73
1113	360244	3213368	232.49
1114	360262	3213321	232.56
1115	360262	3213271	232.23
1116	360261	3213221	232.13
1117	360255	3213172	231.80
1118	360215	3213142	232.10
1119	360199	3213104	231.74
1120	360217	3213057	231.99
1121	360247	3213023	231.93
1122	360246	3212979	230.51
1123	360230	3212932	230.44
1124	360231	3212883	230.78
1125	360255	3212840	230.60
1126	360281	3212797	230.30
1127	360280	3212753	230.31
1128	360239	3212724	230.37
1129	360203	3212690	230.15
1130	360179	3212646	229.65
1131	360160	3212600	229.67
1132	360144	3212553	229.39
1133	360127	3212506	229.61
1134	360124	3212456	229.24
1135	360130	3212407	229.18
1136	360139	3212358	227.73
1137	360151	3212309	227.56
1138	360168	3212263	227.56
1139	360179	3212214	227.60
1140	360213	3212178	227.54
1141	360259	3212160	227.31
1142	360303	3212137	226.51
1143	360315	3212089	226.21
1144	360318	3212040	226.00
1145	360317	3211993	226.29
1146	360340	3211950	225.99
1147	360357	3211907	226.00
1148	360356	3211857	225.67
1149	360356	3211807	225.68
1150	360357	3211757	225.40
1151	360370	3211711	224.64
1152	360381	3211665	224.15
1153	360397	3211617	224.41
1154	360408	3211570	223.80
1155	360392	3211523	223.51
1156	360362	3211483	222.88
1157	360335	3211441	222.99
1158	360310	3211398	223.01
1159	360282	3211356	222.70
1160	360284	3211307	222.60
1161	360302	3211260	222.40
1162	360321	3211214	221.58
1163	360349	3211173	221.65
1164	360379	3211133	221.64
1165	360402	3211089	221.45
1166	360403	3211042	221.38
1167	360384	3210995	221.22
1168	360350	3210962	221.25
1169	360327	3210918	220.72
1170	360321	3210868	220.92

NOTARY GOVT. OF INDIA
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL

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Gola river 100 Year HFL Points

Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1171	360314	3210819	220.71
1172	360303	3210770	220.62
1173	360268	3210737	220.59
1174	360225	3210712	220.83
1175	360191	3210676	220.48
1176	360161	3210638	220.20
1177	360126	3210603	220.32
1178	360092	3210567	220.31
1179	360047	3210547	220.43
1180	359999	3210532	220.41
1181	359953	3210513	220.16
1182	359915	3210482	220.09
1183	359881	3210445	219.94
1184	359853	3210404	220.19
1185	359838	3210356	219.95
1186	359824	3210308	219.98
1187	359812	3210260	219.91
1188	359800	3210211	219.47
1189	359769	3210175	219.30
1190	359730	3210143	219.62
1191	359696	3210107	218.55
1192	359678	3210062	218.64
1193	359690	3210015	218.68
1194	359689	3209974	218.78
1195	359678	3209927	218.63
1196	359667	3209879	218.43
1197	359663	3209829	218.40
1198	359661	3209780	218.31
1199	359631	3209752	218.46
1200	359586	3209731	218.55
1201	359538	3209717	218.45
1202	359499	3209686	218.26
1203	359466	3209650	218.12
1204	359444	3209605	218.16
1205	359421	3209561	218.13
1206	359390	3209521	217.93
1207	359362	3209483	218.17
1208	359351	3209434	218.23
1209	359347	3209384	218.15
1210	359329	3209339	217.90
1211	359298	3209300	218.04
1212	359280	3209254	217.91
1213	359262	3209208	217.73
1214	359245	3209161	217.73
1215	359258	3209113	217.73
1216	359257	3209063	217.51
1217	359265	3209016	217.57
1218	359264	3208967	217.48
1219	359250	3208919	217.48
1220	359229	3208874	217.31
1221	359219	3208826	217.44
1222	359193	3208784	217.21
1223	359180	3208740	217.21
1224	359174	3208695	217.15
1225	359134	3208668	216.70
1226	359094	3208643	216.50
1227	359071	3208600	216.50
1228	359050	3208557	216.63
1229	359027	3208514	216.24
1230	359000	3208472	216.07
1231	358982	3208426	216.16
1232	358968	3208379	216.93
1233	358958	3208333	216.61
1234	358938	3208297	216.78
1235	358912	3208256	216.60
1236	358877	3208222	216.32
1237	358829	3208234	216.21
1238	358796	3208212	215.96
1239	358780	3208168	215.97
1240	358744	3208135	215.94
1241	358716	3208095	216.36
1242	358686	3208055	216.27
1243	358658	3208014	216.23
1244	358624	3207978	216.05
1245	358591	3207940	216.13
1246	358559	3207901	215.99
1247	358524	3207866	216.03
1248	358489	3207830	216.01
1249	358475	3207785	215.87
1250	358456	3207739	215.99
1251	358434	3207694	215.93
1252	358393	3207667	216.12
1253	358357	3207633	215.88
1254	358336	3207587	216.06
1255	358307	3207548	216.00
1256	358272	3207512	215.83
1257	358240	3207474	215.81
1258	358224	3207427	216.09
1259	358230	3207379	215.94
1260	358241	3207330	216.17

NOTARY GOVT. OF UTTARAKHAND (INDIA) Dr. P. S. Bhakuni Advocate HQ-NAINITAL No. 30

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Gola river 100 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1261	358251	3207281	215.85
1262	358261	3207232	216.79
1263	358272	3207183	216.68
1264	358281	3207134	216.38
1265	358290	3207085	216.19
1266	358298	3207036	216.45
1267	358310	3206987	216.15
1268	358323	3206939	216.28
1269	358347	3206895	216.13
1270	358372	3206852	216.39
1271	358397	3206809	216.08
1272	358433	3206775	215.16
1273	358476	3206751	214.91
1274	358525	3206742	215.43
1275	358574	3206732	214.77
1276	358622	3206720	214.76
1277	358671	3206708	214.73
1278	358719	3206696	214.81
1279	358760	3206672	214.67
1280	358788	3206631	214.69
1281	358816	3206590	214.77
1282	358846	3206549	214.71
1283	358876	3206509	214.71
1284	358858	3206463	214.53
1285	358839	3206417	214.65
1286	358819	3206371	214.61
1287	358781	3206340	214.43
1288	358737	3206315	214.41
1289	358691	3206296	214.51
1290	358644	3206281	214.39
1291	358595	3206270	214.17
1292	358546	3206259	214.36
1293	358498	3206248	214.47
1294	358449	3206237	214.05
1295	358400	3206226	214.20
1296	358351	3206215	214.20
1297	358302	3206204	213.93
1298	358260	3206180	214.10
1299	358221	3206149	214.28
1300	358181	3206118	214.08
1301	358152	3206079	214.06
1302	358128	3206035	214.09
1303	358107	3205990	213.99
1304	358088	3205943	214.04
1305	358075	3205895	214.21
1306	358068	3205846	214.27
1307	358065	3205796	213.77
1308	358067	3205747	214.17
1309	358099	3205713	213.94
1310	358141	3205688	214.30
1311	358161	3205644	213.42
1312	358173	3205596	213.39
1313	358177	3205550	213.34
1314	358141	3205515	213.24
1315	358122	3205472	213.32
1316	358105	3205425	213.01
1317	358063	3205406	213.17
1318	358013	3205403	213.21
1319	357982	3205382	213.17
1320	358006	3205339	213.26
1321	358047	3205313	212.98
1322	358051	3205268	212.89
1323	358045	3205219	213.00
1324	358037	3205169	213.06
1325	358024	3205121	212.64
1326	358013	3205072	211.69
1327	358002	3205023	211.35
1328	357989	3204975	211.35
1329	357970	3204930	211.12
1330	357939	3204890	211.40
1331	357910	3204850	211.24
1332	357883	3204807	211.22
1333	357859	3204764	211.24
1334	357838	3204719	211.11
1335	357822	3204672	211.28
1336	357838	3204625	211.03
1337	357861	3204580	210.85
1338	357886	3204537	210.88
1339	357914	3204496	210.47
1340	357944	3204456	210.40
1341	357967	3204412	210.59
1342	357996	3204377	210.15
1343	357957	3204352	210.25
1344	357921	3204318	210.45
1345	357886	3204282	210.26
1346	357873	3204235	210.35
1347	357868	3204186	210.35
1348	357862	3204136	210.03
1349	357864	3204087	209.99
1350	357882	3204041	209.97

Dr. P. S. Bhakuni
Adv. cate
HQ-NAINITAL

31523

Gola river 100 Year HFL Points

Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1351	357865	3203995	209.76
1352	357842	3203950	209.81
1353	357818	3203907	208.94
1354	357794	3203863	208.95
1355	357766	3203822	209.38
1356	357732	3203785	209.13
1357	357698	3203748	209.13
1358	357665	3203711	209.22
1359	357633	3203673	209.22
1360	357600	3203635	208.92
1361	357569	3203596	209.02
1362	357538	3203557	207.65
1363	357507	3203518	207.71
1364	357470	3203486	207.31
1365	357424	3203466	207.72
1366	357378	3203446	207.50
1367	357331	3203432	207.42
1368	357281	3203424	207.45
1369	357232	3203416	207.71
1370	357183	3203408	207.48
1371	357133	3203407	207.58
1372	357083	3203405	207.45
1373	357033	3203400	207.53
1374	356983	3203396	207.65
1375	356938	3203411	207.38
1376	356891	3203427	207.34
1377	356842	3203435	207.61
1378	356797	3203416	207.38
1379	356761	3203381	207.37
1380	356741	3203337	207.27
1381	356729	3203288	207.26
1382	356728	3203241	207.28
1383	356755	3203199	207.52
1384	356786	3203161	207.15
1385	356828	3203135	207.51
1386	356877	3203123	207.48
1387	356926	3203117	207.46
1388	356968	3203099	207.68
1389	356996	3203057	207.50
1390	357035	3203028	207.52
1391	357031	3202984	207.42
1392	356982	3202976	207.44
1393	356932	3202968	207.31
1394	356883	3202961	207.34
1395	356835	3202948	207.51
1396	356797	3202917	207.65
1397	356764	3202880	207.26
1398	356735	3202838	207.44
1399	356719	3202793	207.28
1400	356714	3202743	207.47
1401	356676	3202721	207.40
1402	356648	3202689	207.22
1403	356632	3202641	207.16
1404	356615	3202595	207.32
1405	356578	3202561	207.38
1406	356541	3202527	207.21
1407	356527	3202481	207.31
1408	356532	3202432	207.48
1409	356541	3202383	207.40
1410	356553	3202334	207.30
1411	356570	3202287	207.34
1412	356587	3202240	207.46
1413	356600	3202192	207.01
1414	356619	3202146	207.09
1415	356636	3202099	207.30
1416	356606	3202063	207.23
1417	356599	3202014	207.24
1418	356591	3201964	207.13
1419	356584	3201915	207.19
1420	356572	3201866	207.35
1421	356557	3201819	207.42
1422	356552	3201769	207.22
1423	356524	3201730	207.48
1424	356490	3201694	206.01
1425	356479	3201645	206.04
1426	356455	3201606	206.24
1427	356413	3201579	206.00
1428	356373	3201549	206.11
1429	356341	3201512	206.05
1430	356322	3201466	206.12
1431	356304	3201419	205.90
1432	356283	3201374	205.78
1433	356260	3201330	205.87
1434	356246	3201282	205.87
1435	356237	3201233	205.63
1436	356230	3201183	205.82
1437	356226	3201134	205.75
1438	356221	3201084	205.68
1439	356213	3201035	205.83
1440	356203	3200985	205.71

NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhakuni Advocate HQ-NAINITAL

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Gola river 100 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1441	356194	3200936	205.81
1442	356186	3200887	205.52
1443	356179	3200837	205.68
1444	356172	3200788	205.72
1445	356165	3200738	205.63
1446	356158	3200689	205.61
1447	356198	3200661	205.74
1448	356239	3200633	205.68
1449	356281	3200606	205.57
1450	356321	3200575	205.37
1451	356360	3200544	205.37
1452	356399	3200513	205.57
1453	356438	3200482	205.57
1454	356472	3200445	205.47
1455	356505	3200408	205.63
1456	356539	3200371	205.32
1457	356536	3200326	205.28
1458	356527	3200277	205.44
1459	356509	3200234	205.28
1460	356469	3200203	203.62
1461	356421	3200190	203.81
1462	356396	3200148	203.62
1463	356383	3200100	203.90
1464	356372	3200051	203.45
1465	356354	3200005	203.65
1466	356341	3199956	203.53
1467	356335	3199907	203.59
1468	356327	3199857	203.57
1469	356315	3199809	203.44
1470	356295	3199763	203.76

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1471	356256	3199733	203.46
1472	356215	3199705	203.50
1473	356174	3199676	203.58
1474	356133	3199648	203.41
1475	356097	3199613	203.59
1476	356064	3199576	203.56
1477	356031	3199538	203.30
1478	355999	3199500	203.32
1479	355965	3199464	203.42
1480	355927	3199430	203.60
1481	355911	3199384	203.72
1482	355899	3199336	203.48
1483	355890	3199287	203.41
1484	355880	3199238	203.47
1485	355869	3199189	203.63
1486	355876	3199140	203.37
1487	355889	3199092	203.40
1488	355916	3199054	203.40
1489	355901	3199007	203.38
1490	355902	3198957	203.43
1491	355923	3198913	203.44
1492	355960	3198880	203.42
1493	355985	3198841	203.38
1494	355965	3198795	203.59
1495	355963	3198748	203.50
1496	355961	3198699	203.44
1497	355933	3198658	203.33
1498	355911	3198613	203.47
1499	355891	3198568	203.55
1500	355865	3198525	203.69

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1501	355838	3198483	203.51
1502	355806	3198445	203.48
1503	355775	3198406	203.66
1504	355757	3198359	203.34
1505	355753	3198310	203.28
1506	355754	3198260	203.67
1507	355757	3198210	203.54
1508	355760	3198160	203.28
1509	355763	3198110	203.47
1510	355765	3198061	203.35
1511	355772	3198011	203.49
1512	355785	3197963	203.35
1513	355798	3197915	203.39
1514	355812	3197867	203.62
1515	355825	3197819	203.42
1516	355838	3197770	203.24
1517	355852	3197722	203.54
1518	355865	3197674	203.51
1519	355869	3197626	203.14
1520	355840	3197593	203.12
1521	355792	3197581	203.18
1522	355747	3197560	203.34
1523	355710	3197529	202.98
1524	355687	3197484	203.07
1525	355665	3197439	203.31
1526	355623	3197412	203.14
1527	355581	3197385	203.32
1528	355539	3197359	203.25
1529	355501	3197329	203.13
1530	355500	3197279	203.13



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31525

Gola river 100 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1531	355498	3197229	203.02
1532	355496	3197179	203.29
1533	355494	3197129	203.33
1534	355492	3197079	203.06
1535	355491	3197029	203.06
1536	355484	3196980	203.09
1537	355478	3196930	203.18
1538	355471	3196881	203.15
1539	355468	3196831	203.12
1540	355465	3196781	203.17
1541	355462	3196731	203.30
1542	355459	3196681	203.19
1543	355457	3196631	203.17
1544	355455	3196581	203.19
1545	355453	3196531	203.15
1546	355451	3196481	203.25
1547	355448	3196432	203.08
1548	355402	3196416	202.98
1549	355353	3196411	203.06
1550	355303	3196405	202.94
1551	355253	3196399	202.82
1552	355204	3196390	202.82
1553	355162	3196363	202.55
1554	355122	3196333	201.48
1555	355091	3196295	201.59
1556	355075	3196248	201.54
1557	355086	3196200	201.69
1558	355069	3196155	201.39
1559	355038	3196116	201.44
1560	355002	3196083	201.32

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1561	354991	3196037	201.07
1562	354989	3195988	199.68
1563	354969	3195942	199.46
1564	354932	3195910	198.70
1565	354893	3195880	198.86
1566	354847	3195860	198.85
1567	354802	3195839	198.77
1568	354756	3195818	198.73
1569	354712	3195795	198.66
1570	354668	3195772	198.43
1571	354625	3195747	198.34
1572	354589	3195713	198.04
1573	354569	3195667	198.30
1574	354551	3195620	198.03
1575	354529	3195576	198.02
1576	354497	3195537	197.03
1577	354466	3195498	197.08
1578	354435	3195459	197.97
1579	354397	3195426	198.10
1580	354358	3195396	197.78
1581	354319	3195365	197.79
1582	354279	3195334	197.86
1583	354237	3195307	197.78
1584	354193	3195283	197.91
1585	354149	3195259	197.94
1586	354110	3195228	197.71
1587	354074	3195194	197.88
1588	354041	3195158	197.38
1589	354001	3195128	197.71
1590	353968	3195091	197.81

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1591	353925	3195064	197.22
1592	353882	3195040	197.33
1593	353837	3195017	196.98
1594	353794	3194993	196.58
1595	353759	3194957	196.47
1596	353717	3194930	196.50
1597	353669	3194916	196.03
1598	353630	3194887	196.23
1599	353591	3194855	196.13
1600	353559	3194817	196.12
1601	353531	3194775	196.16
1602	353520	3194727	195.86
1603	353513	3194710	195.93

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31526

Gola river 100 Year HFL Points

Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1	369172	3242051	915.19
2	369214	3242024	914.84
3	369256	3241998	914.47
4	369261	3241952	914.27
5	369232	3241912	913.53
6	369214	3241868	912.24
7	369201	3241820	911.04
8	369192	3241771	910.07
9	369205	3241723	909.98
10	369225	3241678	908.45
11	369243	3241631	906.69
12	369259	3241584	906.36
13	369284	3241541	906.13
14	369324	3241521	898.84
15	369374	3241525	899.08
16	369418	3241510	898.86
17	369436	3241463	893.41
18	369446	3241416	891.98
19	369411	3241381	891.99
20	369388	3241341	891.93
21	369401	3241295	891.91
22	369424	3241251	891.87
23	369428	3241201	891.94
24	369413	3241154	890.45
25	369394	3241110	890.58
26	369378	3241066	889.33
27	369399	3241022	886.82
28	369420	3240977	884.26
29	369465	3240957	883.30
30	369469	3240909	881.93
31	369485	3240862	880.69
32	369504	3240816	876.10
33	369532	3240775	874.27
34	369565	3240738	873.42
35	369595	3240699	872.44
36	369629	3240663	871.37
37	369647	3240618	871.44
38	369681	3240582	870.02
39	369703	3240538	870.21
40	369705	3240489	867.97
41	369691	3240441	867.03
42	369681	3240392	863.95
43	369693	3240344	862.64
44	369717	3240301	860.51
45	369748	3240261	859.64
46	369771	3240218	858.21
47	369815	3240196	856.04
48	369864	3240203	852.62
49	369913	3240208	848.80
50	369963	3240214	846.70
51	370009	3240201	845.82
52	370048	3240173	845.84
53	370093	3240163	845.54
54	370142	3240159	844.75
55	370192	3240162	844.90
56	370234	3240148	844.96
57	370247	3240100	844.29
58	370257	3240051	844.40
59	370254	3240002	842.72
60	370258	3239955	832.73
61	370305	3239940	832.69
62	370355	3239935	830.42
63	370404	3239925	830.53
64	370450	3239906	830.11
65	370495	3239885	828.58
66	370541	3239867	828.70
67	370590	3239860	828.85
68	370637	3239848	828.93
69	370686	3239839	826.92
70	370733	3239829	826.99
71	370749	3239783	825.17
72	370785	3239750	824.98
73	370795	3239702	817.84
74	370814	3239656	810.40
75	370828	3239610	810.46
76	370822	3239561	810.63
77	370818	3239516	810.28
78	370841	3239472	810.59
79	370848	3239424	808.96
80	370846	3239376	808.86
81	370852	3239327	808.98
82	370852	3239278	808.83
83	370827	3239235	808.81
84	370780	3239226	807.32
85	370746	3239192	805.93
86	370744	3239146	806.18
87	370764	3239101	805.94
88	370798	3239065	805.80
89	370833	3239029	787.68
90	370873	3238999	787.46

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Gola river 100 Year HFL Points

Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
91	370914	3238972	786.01
92	370960	3238952	786.38
93	371010	3238949	784.75
94	371055	3238961	784.60
95	371084	3239000	784.56
96	371092	3239049	784.66
97	371120	3239088	784.60
98	371169	3239087	784.62
99	371211	3239065	784.81
100	371244	3239028	783.18
101	371252	3238980	783.27
102	371261	3238931	783.37
103	371264	3238881	783.05
104	371263	3238831	781.73
105	371259	3238782	781.67
106	371273	3238739	781.58
107	371278	3238689	781.57
108	371277	3238639	781.39
109	371283	3238590	780.03
110	371299	3238544	778.29
111	371285	3238496	778.83
112	371259	3238467	773.92
113	371211	3238453	773.94
114	371168	3238428	773.86
115	371130	3238395	773.75
116	371112	3238353	772.68
117	371124	3238305	769.20
118	371141	3238257	768.71
119	371144	3238211	767.91
120	371143	3238168	767.81
121	371149	3238124	768.09
122	371165	3238091	767.36
123	371183	3238050	767.28
124	371159	3238027	767.12
125	371115	3238019	767.11
126	371070	3238005	766.31
127	371044	3237965	765.49
128	371039	3237917	765.55
129	371045	3237872	764.75
130	371031	3237824	764.55
131	371021	3237776	759.10
132	371006	3237729	759.18
133	370982	3237689	758.65
134	370949	3237651	758.41
135	370911	3237636	758.47
136	370884	3237601	758.67
137	370861	3237557	758.46
138	370825	3237526	756.59
139	370819	3237479	756.76
140	370787	3237443	756.23
141	370749	3237412	755.76
142	370721	3237374	754.88
143	370674	3237362	754.24
144	370635	3237333	749.28
145	370662	3237304	748.85
146	370701	3237305	748.6[illegible]
147	370740	3237277	748.9[illegible]
148	370776	3237245	748.8[illegible]
149	370797	3237200	748.1[illegible]
150	370812	3237156	748.23
151	370826	3237112	748.25
152	370841	3237067	748.31
153	370850	3237018	748.44
154	370865	3236971	747.46
155	370874	3236922	747.39
156	370887	3236874	745.41
157	370909	3236829	745.44
158	370926	3236782	745.18
159	370943	3236735	745.53
160	370943	3236688	745.51
161	370908	3236652	743.74
162	370878	3236616	743.99
163	370841	3236584	743.82
164	370799	3236564	743.87
165	370768	3236531	743.82
166	370739	3236491	737.64
167	370719	3236445	736.74
168	370694	3236403	736.64
169	370668	3236362	732.92
170	370640	3236325	733.20
171	370599	3236305	733.19
172	370594	3236257	733.01
173	370580	3236209	733.04
174	370561	3236164	732.96
175	370534	3236126	733.16
176	370503	3236089	732.29
177	370512	3236040	732.14
178	370521	3235991	732.42
179	370507	3235943	732.34
180	370486	3235901	732.52

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Gola river 100 Year HFL Points

Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
181	370440	3235882	732.46
182	370392	3235870	728.84
183	370343	3235861	728.60
184	370294	3235851	728.81
185	370244	3235851	728.80
186	370196	3235858	728.57
187	370153	3235885	728.29
188	370108	3235902	727.98
189	370070	3235934	728.02
190	370024	3235946	727.92
191	369978	3235965	728.32
192	369956	3235996	728.04
193	369933	3236021	728.20
194	369883	3236022	726.63
195	369837	3236035	726.70
196	369789	3236039	726.03
197	369743	3236044	725.13
198	369712	3236072	722.88
199	369676	3236095	722.70
200	369633	3236115	719.95
201	369585	3236119	719.72
202	369544	3236134	720.21
203	369499	3236150	717.36
204	369462	3236160	717.34
205	369465	3236116	717.28
206	369447	3236160	717.23
207	369422	3236197	717.43
208	369384	3236220	716.35
209	369348	3236235	716.51
210	369301	3236243	714.41
211	369253	3236231	714.53
212	369203	3236227	714.50
213	369160	3236251	714.33
214	369124	3236274	713.91
215	369085	3236297	713.43
216	369054	3236325	713.40
217	369015	3236352	713.54
218	368972	3236375	712.90
219	368929	3236389	712.80
220	368929	3236355	712.82
221	368948	3236336	712.97
222	368906	3236349	712.88
223	368904	3236384	713.08
224	368885	3236414	710.07
225	368843	3236431	710.09
226	368795	3236437	709.78
227	368753	3236458	709.40
228	368707	3236472	708.86
229	368658	3236470	708.57
230	368609	3236475	708.01
231	368560	3236483	706.43
232	368512	3236497	703.15
233	368467	3236519	702.31
234	368423	3236543	702.30
235	368383	3236573	702.73
236	368350	3236609	702.32
237	368329	3236654	700.76
238	368307	3236699	700.68
239	368297	3236745	699.93
240	368251	3236756	700.00
241	368203	3236764	699.75
242	368155	3236769	699.49
243	368113	3236754	699.06
244	368067	3236745	698.10
245	368021	3236736	696.95
246	367973	3236730	694.51
247	367924	3236729	694.10
248	367877	3236739	693.17
249	367830	3236755	693.39
250	367790	3236784	693.38
251	367748	3236796	692.78
252	367732	3236810	692.60
253	367702	3236843	692.57
254	367665	3236872	692.60
255	367617	3236868	691.81
256	367574	3236874	691.88
257	367525	3236883	687.86
258	367480	3236896	688.14
259	367434	3236903	687.70
260	367386	3236907	686.85
261	367343	3236917	686.66
262	367300	3236913	686.90
263	367279	3236889	686.70
264	367231	3236895	686.78
265	367187	3236885	686.61
266	367146	3236870	684.99
267	367112	3236896	684.96
268	367074	3236922	684.90
269	367051	3236950	683.88
270	367018	3236933	683.11

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Gola river 100 Year HFL Points
Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
271	367021	3236971	683.04
272	366977	3236989	682.82
273	366934	3237013	682.68
274	366903	3237036	682.99
275	366869	3237071	682.37
276	366868	3237116	681.85
277	366887	3237134	681.63
278	366883	3237174	681.77
279	366873	3237214	681.07
280	366903	3237224	681.02
281	366891	3237264	680.32
282	366878	3237296	680.63
283	366840	3237326	678.67
284	366793	3237343	672.89
285	366744	3237344	672.78
286	366696	3237359	671.67
287	366667	3237328	671.89
288	366619	3237316	671.87
289	366574	3237333	671.78
290	366539	3237365	671.72
291	366502	3237363	671.74
292	366466	3237376	671.00
293	366432	3237408	670.18
294	366385	3237419	669.47
295	366365	3237463	669.55
296	366337	3237504	669.61
297	366345	3237539	669.55
298	366354	3237567	669.70
299	366361	3237600	669.85
300	366369	3237633	669.85
301	366357	3237680	669.21
302	366330	3237719	669.28
303	366294	3237754	667.60
304	366254	3237768	666.09
305	366234	3237797	663.35
306	366190	3237819	663.68
307	366142	3237824	663.49
308	366110	3237832	663.37
309	366071	3237834	663.32
310	366031	3237865	663.37
311	366012	3237908	662.99
312	365986	3237950	662.53
313	365972	3237993	661.12
314	365950	3238035	660.09
315	365916	3238067	659.18
316	365878	3238091	658.40
317	365834	3238110	654.69
318	365793	3238093	653.98
319	365760	3238059	653.89
320	365714	3238053	653.35
321	365674	3238041	653.10
322	365627	3238040	653.19
323	365585	3238040	653.40
324	365545	3238055	651.68
325	365506	3238081	651.80
326	365475	3238116	651.86
327	365462	3238159	650.99
328	365469	3238193	651.12
329	365477	3238237	650.96
330	365498	3238260	651.00
331	365488	3238308	649.65
332	365487	3238357	648.99
333	365492	3238405	648.97
334	365501	3238451	648.11
335	365520	3238490	648.25
336	365503	3238535	645.69
337	365476	3238576	644.80
338	365446	3238614	644.30
339	365408	3238642	644.38
340	365366	3238666	644.09
341	365319	3238679	643.49
342	365270	3238677	640.44
343	365221	3238674	640.44
344	365172	3238675	640.18
345	365128	3238690	640.09
346	365082	3238706	639.49
347	365034	3238712	638.81
348	364999	3238730	638.25
349	364954	3238729	637.82
350	364905	3238726	637.46
351	364860	3238731	636.40
352	364816	3238741	635.92
353	364779	3238756	635.24
354	364732	3238764	635.15
355	364688	3238782	634.47
356	364642	3238797	634.01
357	364592	3238806	634.25
358	364550	3238829	633.84
359	364505	3238844	633.40
360	364461	3238856	633.59

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31530

Gola river 100 Year HFL Points

Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
361	364433	3238882	633.74
362	364398	3238916	632.88
363	364383	3238961	632.73
364	364378	3239011	632.11
365	364375	3239058	632.22
366	364371	3239105	631.51
367	364376	3239154	631.01
368	364382	3239202	629.66
369	364394	3239248	629.30
370	364394	3239291	628.64
371	364409	3239316	627.24
372	364427	3239361	627.57
373	364456	3239390	627.24
374	364469	3239433	627.31
375	364481	3239473	627.36
376	364478	3239520	626.09
377	364481	3239569	626.25
378	364461	3239614	625.47
379	364444	3239660	625.78
380	364425	3239706	624.94
381	364408	3239753	624.30
382	364391	3239799	624.65
383	364364	3239841	616.51
384	364339	3239884	615.78
385	364310	3239923	615.28
386	364283	3239965	614.73
387	364244	3239996	614.72
388	364209	3240032	615.00
389	364171	3240063	612.75
390	364125	3240082	612.75
391	364077	3240097	612.41
392	364041	3240131	611.78
393	364013	3240172	611.09
394	363980	3240209	610.58
395	363944	3240244	609.87
396	363908	3240279	609.91
397	363874	3240315	609.32
398	363836	3240347	608.90
399	363807	3240388	608.39
400	363777	3240428	607.67
401	363750	3240469	607.18
402	363718	3240507	607.16
403	363687	3240546	606.57
404	363654	3240584	606.02
405	363617	3240617	605.43
406	363594	3240659	604.93
407	363573	3240703	604.51
408	363562	3240750	604.42
409	363550	3240798	603.85
410	363558	3240831	603.54
411	363544	3240878	603.18
412	363532	3240926	602.85
413	363504	3240967	602.62
414	363488	3241014	602.37
415	363466	3241057	602.39
416	363431	3241087	599.54
417	363407	3241128	599.67
418	363389	3241171	599.16
419	363367	3241210	599.09
420	363334	3241247	599.23
421	363287	3241255	599.22
422	363249	3241268	599.02
423	363202	3241259	599.04
424	363158	3241253	598.42
425	363110	3241260	596.35
426	363067	3241242	596.33
427	363023	3241227	595.77
428	362994	3241256	595.73
429	362949	3241266	595.71
430	362914	3241251	595.80
431	362870	3241240	595.53
432	362834	3241228	594.61
433	362788	3241225	593.92
434	362755	3241225	594.05
435	362723	3241217	593.80
436	362692	3241207	593.95
437	362654	3241207	593.92
438	362616	3241207	592.85
439	362582	3241210	593.08
440	362541	3241215	593.16
441	362499	3241220	592.24
442	362459	3241224	592.47
443	362425	3241233	592.34
444	362390	3241245	590.47
445	362376	3241271	588.95
446	362370	3241308	586.80
447	362340	3241303	586.91
448	362314	3241339	585.22
449	362276	3241370	583.29
450	362267	3241418	583.40

NOTARY GOVT. OF UTTARAKHAND (INDIA) Dr. P. S. Bhakuni Adv. HQ-NAINITAL

31531

Gola river 100 Year HFL Points

Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
451	362228	3241436	580.44
452	362195	3241407	579.81
453	362146	3241401	579.00
454	362098	3241397	577.79
455	362049	3241397	577.90
456	362007	3241413	577.15
457	361967	3241440	577.01
458	361940	3241480	575.84
459	361914	3241520	575.38
460	361882	3241556	574.53
461	361847	3241590	574.09
462	361815	3241623	574.01
463	361780	3241655	573.40
464	361749	3241686	573.13
465	361711	3241708	572.63
466	361668	3241723	571.74
467	361628	3241750	571.86
468	361584	3241773	571.33
469	361566	3241818	570.39
470	361521	3241836	570.31
471	361471	3241834	569.41
472	361422	3241829	568.77
473	361378	3241811	568.14
474	361329	3241806	567.82
475	361280	3241800	567.78
476	361235	3241803	566.97
477	361190	3241820	566.44
478	361142	3241822	566.45
479	361093	3241818	565.23
480	361046	3241831	565.18
481	361004	3241853	563.99
482	360957	3241865	563.93
483	360908	3241868	563.42
484	360860	3241883	562.65
485	360816	3241877	562.09
486	360772	3241863	561.82
487	360725	3241850	561.34
488	360677	3241840	560.93
489	360644	3241809	560.20
490	360616	3241780	559.99
491	360576	3241757	559.77
492	360543	3241722	559.10
493	360519	3241684	558.27
494	360485	3241661	557.37
495	360458	3241620	556.43
496	360439	3241577	555.74
497	360416	3241533	555.69
498	360400	3241486	555.66
499	360366	3241458	555.77
500	360327	3241439	555.70
501	360291	3241424	555.70
502	360250	3241415	555.64
503	360205	3241404	555.74
504	360160	3241390	555.27
505	360114	3241375	555.10
506	360066	3241368	554.70
507	360029	3241358	554.52
508	359999	3241344	554.12
509	359964	3241346	552.30
510	359923	3241339	552.54
511	359887	3241343	552.29
512	359851	3241347	550.80
513	359807	3241329	548.98
514	359760	3241313	545.83
515	359713	3241299	545.61
516	359668	3241282	543.72
517	359623	3241262	542.25
518	359577	3241242	541.97
519	359531	3241222	541.75
520	359486	3241200	540.88
521	359440	3241180	540.20
522	359396	3241157	539.35
523	359354	3241130	538.48
524	359312	3241102	538.51
525	359273	3241071	538.31
526	359230	3241047	538.53
527	359185	3241025	537.92
528	359143	3240997	537.61
529	359116	3240956	537.61
530	359104	3240909	537.62
531	359121	3240863	537.45
532	359152	3240824	537.35
533	359168	3240777	537.54
534	359186	3240731	537.38
535	359196	3240682	537.56
536	359196	3240632	537.26
537	359199	3240582	537.12
538	359203	3240532	537.08
539	359206	3240482	535.87
540	359199	3240433	536.00

GOVT. OF INDIA (INDIA) Dr. P. S. Bhakuni HQ-NAINITAL

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Gola river 100 Year HFL Points
Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
541	359194	3240389	535.41
542	359175	3240351	534.40
543	359167	3240309	534.26
544	359158	3240269	533.09
545	359141	3240229	531.08
546	359113	3240199	531.00
547	359090	3240163	530.38
548	359062	3240123	529.72
549	359031	3240087	528.93
550	358999	3240050	527.70
551	358963	3240020	527.00
552	358929	3239987	527.00
553	358893	3239954	525.68
554	358857	3239924	525.86
555	358820	3239890	524.75
556	358781	3239861	524.63
557	358754	3239821	524.02
558	358768	3239786	523.98
559	358794	3239758	523.77
560	358817	3239728	523.89
561	358844	3239712	523.94
562	358878	3239683	523.61
563	358898	3239649	523.82
564	358909	3239616	523.78
565	358933	3239580	523.88
566	358943	3239538	523.46
567	358942	3239499	523.71
568	358942	3239466	523.37
569	358940	3239453	523.12
570	358911	3239416	523.25

Sl. No	Easting (X)	Northing (Y)	WSE (m)
571	358893	3239377	523.03
572	358861	3239343	523.20
573	358853	3239300	523.21
574	358858	3239254	523.01
575	358873	3239210	522.91
576	358863	3239172	523.00
577	358891	3239131	523.04
578	358918	3239090	523.01
579	358938	3239044	523.09
580	358961	3239000	513.70
581	358986	3238957	513.58
582	359017	3238917	512.94
583	359045	3238876	512.19
584	359062	3238829	511.18
585	359081	3238783	511.04
586	359098	3238736	510.18
587	359106	3238688	509.64
588	359104	3238641	509.50
589	359085	3238596	507.46
590	359049	3238565	507.62
591	359024	3238523	505.73
592	359004	3238479	505.80
593	359000	3238430	503.96
594	359003	3238380	502.93
595	359008	3238333	501.85
596	359010	3238288	501.18
597	359000	3238240	500.02
598	358992	3238191	499.57
599	358986	3238151	499.64
600	358996	3238115	499.00

Sl. No	Easting (X)	Northing (Y)	WSE (m)
601	359018	3238070	498.31
602	359043	3238027	497.68
603	359064	3237982	497.52
604	359079	3237934	497.45
605	359080	3237884	497.78
606	359080	3237834	497.84
607	359097	3237789	497.46
608	359122	3237774	497.43
609	359132	3237728	497.12
610	359149	3237681	496.99
611	359155	3237631	496.98
612	359157	3237581	496.83
613	359161	3237535	491.31
614	359172	3237488	491.10
615	359171	3237439	491.15
616	359164	3237390	490.47
617	359157	3237341	489.19
618	359149	3237293	488.48
619	359155	3237248	487.90
620	359174	3237203	487.11
621	359196	3237159	484.44
622	359223	3237117	484.63
623	359253	3237077	484.89
624	359283	3237037	483.69
625	359313	3236997	484.16
626	359345	3236959	478.74
627	359374	3236919	476.89
628	359397	3236874	475.88
629	359419	3236829	475.24
630	359441	3236784	475.51

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND (INDIA)

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Gola river 100 Year HFL Points
Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
631	359452	3236736	475.46
632	359446	3236686	475.47
633	359437	3236637	475.59
634	359420	3236590	475.46
635	359420	3236541	475.39
636	359428	3236493	475.59
637	359457	3236453	475.51
638	359479	3236408	470.07
639	359514	3236373	469.94
640	359549	3236337	469.44
641	359576	3236296	468.09
642	359598	3236251	468.11
643	359619	3236205	468.18
644	359641	3236160	467.96
645	359663	3236120	467.47
646	359710	3236137	467.72
647	359759	3236148	467.47
648	359803	3236171	467.63
649	359849	3236190	467.60
650	359873	3236171	467.31
651	359875	3236126	467.50
652	359852	3236082	467.64
653	359827	3236038	467.52
654	359801	3235995	467.60
655	359768	3235958	467.39
656	359750	3235915	467.44
657	359708	3235892	467.58
658	359675	3235855	467.46
659	359668	3235806	464.30
660	359648	3235761	463.73
661	359610	3235728	463.71
662	359573	3235695	463.72
663	359547	3235654	463.06
664	359542	3235605	463.11
665	359538	3235555	462.24
666	359533	3235505	462.10
667	359518	3235458	461.84
668	359497	3235412	461.60
669	359477	3235367	461.62
670	359457	3235321	461.60
671	359437	3235275	461.66
672	359417	3235229	461.05
673	359388	3235189	460.95
674	359358	3235149	461.05
675	359330	3235108	460.36
676	359305	3235064	460.24
677	359285	3235018	460.43
678	359272	3234970	460.41
679	359265	3234921	456.29
680	359255	3234872	455.57
681	359241	3234824	455.89
682	359219	3234780	455.73
683	359198	3234734	454.99
684	359176	3234689	454.58
685	359149	3234648	454.45
686	359131	3234602	450.45
687	359149	3234559	450.45
688	359141	3234509	450.47
689	359133	3234460	449.69
690	359124	3234411	449.75
691	359109	3234363	448.98
692	359094	3234316	449.09
693	359079	3234268	448.96
694	359047	3234232	448.60
695	359006	3234204	448.58
696	358973	3234170	447.81
697	358940	3234132	447.83
698	358910	3234092	443.12
699	358883	3234050	443.26
700	358855	3234009	440.44
701	358809	3233994	440.52
702	358760	3233986	440.41
703	358712	3233971	440.67
704	358668	3233949	440.64
705	358632	3233916	440.70
706	358613	3233870	440.49
707	358599	3233822	440.19
708	358588	3233773	439.14
709	358574	3233725	439.40
710	358560	3233677	438.79
711	358538	3233632	438.10
712	358506	3233595	438.05
713	358470	3233560	437.22
714	358434	3233526	437.31
715	358410	3233482	435.93
716	358386	3233439	434.67
717	358358	3233398	432.65
718	358341	3233352	432.54
719	358314	3233310	431.88
720	358287	3233268	431.97

NOTARY
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HQ-NAINITAL
GOVT. OF UTTARAKHAND (INDIA)

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Gola river 100 Year HFL Points

Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
721	358255	3233229	432.07
722	358225	3233189	431.31
723	358210	3233141	431.07
724	358214	3233092	430.35
725	358208	3233043	430.36
726	358199	3232993	429.80
727	358185	3232946	426.73
728	358168	3232899	424.90
729	358171	3232853	424.23
730	358162	3232813	423.70
731	358143	3232779	422.68
732	358133	3232732	422.46
733	358120	3232685	421.87
734	358117	3232636	421.91
735	358106	3232587	421.27
736	358092	3232545	421.18
737	358080	3232497	421.56
738	358064	3232450	419.39
739	358050	3232403	419.02
740	358035	3232355	418.83
741	358021	3232308	417.40
742	358003	3232261	416.69
743	357992	3232213	414.84
744	358017	3232172	414.74
745	358052	3232137	413.56
746	358090	3232104	413.50
747	358130	3232074	413.74
748	358169	3232043	413.50
749	358205	3232009	412.54
750	358234	3231968	412.58

Sl. No	Easting (X)	Northing (Y)	WSE (m)
751	358257	3231924	411.87
752	358279	3231880	402.37
753	358307	3231838	401.58
754	358332	3231795	401.44
755	358351	3231749	401.33
756	358369	3231702	401.56
757	358388	3231656	401.78
758	358403	3231608	400.91
759	358415	3231560	401.01
760	358424	3231511	400.24
761	358431	3231461	400.20
762	358436	3231411	400.09
763	358458	3231367	400.20
764	358484	3231324	400.31
765	358515	3231286	399.09
766	358557	3231259	398.20
767	358586	3231219	397.66
768	358606	3231174	396.70
769	358622	3231126	395.99
770	358627	3231077	396.10
771	358627	3231027	395.34
772	358624	3230977	392.96
773	358617	3230928	392.55
774	358609	3230879	392.92
775	358607	3230829	391.02
776	358623	3230785	390.70
777	358659	3230751	390.65
778	358696	3230717	390.70
779	358727	3230678	390.84
780	358751	3230634	390.86

Sl. No	Easting (X)	Northing (Y)	WSE (m)
781	358765	3230587	390.80
782	358770	3230538	390.80
783	358767	3230488	388.71
784	358753	3230440	387.33
785	358736	3230393	387.42
786	358716	3230347	387.40
787	358688	3230306	386.77
788	358656	3230268	386.66
789	358655	3230218	386.66
790	358655	3230168	386.13
791	358667	3230121	385.93
792	358689	3230076	379.32
793	358706	3230030	379.49
794	358715	3229980	379.45
795	358716	3229930	378.43
796	358712	3229881	378.53
797	358691	3229836	374.17
798	358707	3229789	374.34
799	358719	3229741	374.38
800	358723	3229691	374.39
801	358728	3229642	374.16
802	358730	3229592	374.26
803	358723	3229542	373.82
804	358717	3229493	373.92
805	358711	3229443	373.22
806	358696	3229396	373.36
807	358716	3229352	373.48
808	358736	3229306	370.63
809	358758	3229262	370.55
810	358770	3229214	370.70

NOTARY
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GOVT. OF UTTARAKHAND (INDIA)

9/2024

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Gola river 100 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
721	357743	3231698	407.41
722	357757	3231650	407.42
723	357777	3231604	406.93
724	357793	3231557	406.38
725	357814	3231512	402.58
726	357840	3231469	402.34
727	357871	3231430	402.03
728	357909	3231399	401.53
729	357955	3231380	401.43
730	357999	3231356	401.19
731	358022	3231322	400.37
732	358031	3231275	400.21
733	358035	3231226	399.96
734	358036	3231176	400.02
735	358042	3231126	398.40
736	358051	3231077	397.71
737	358060	3231028	397.24
738	358062	3230978	395.65
739	358066	3230928	392.45
740	358082	3230881	392.17
741	358098	3230834	390.73
742	358116	3230787	390.85
743	358139	3230743	390.66
744	358138	3230694	390.58
745	358137	3230644	390.72
746	358140	3230594	390.34
747	358139	3230544	388.93
748	358138	3230494	388.88
749	358144	3230445	388.47
750	358155	3230396	387.33
751	358168	3230348	386.73
752	358182	3230300	386.12
753	358195	3230252	386.18
754	358207	3230203	386.00
755	358209	3230154	384.51
756	358205	3230104	384.36
757	358199	3230055	383.33
758	358182	3230009	383.31
759	358172	3229960	383.33
760	358159	3229912	380.87
761	358151	3229863	380.87
762	358152	3229813	379.09
763	358154	3229763	379.18
764	358162	3229714	374.21
765	358177	3229666	374.18
766	358188	3229618	374.22
767	358181	3229569	374.07
768	358178	3229519	374.20
769	358180	3229469	374.06
770	358182	3229419	373.23
771	358187	3229370	372.82
772	358197	3229321	373.05
773	358220	3229276	373.00
774	358243	3229232	370.61
775	358265	3229187	370.80
776	358286	3229142	369.92
777	358310	3229098	369.48
778	358342	3229060	368.75
779	358359	3229013	368.55
780	358362	3228969	368.87
781	358346	3228924	368.26
782	358331	3228877	367.20
783	358328	3228827	366.04
784	358328	3228777	365.99
785	358326	3228727	365.63
786	358329	3228677	363.71
787	358333	3228628	363.73
788	358341	3228578	361.62
789	358352	3228530	361.20
790	358354	3228480	361.40
791	358344	3228432	361.02
792	358324	3228386	361.17
793	358301	3228342	360.81
794	358277	3228298	361.11
795	358247	3228259	360.39
796	358211	3228224	359.02
797	358187	3228181	359.23
798	358170	3228134	358.32
799	358153	3228087	357.68
800	358145	3228038	357.32
801	358140	3227988	356.03
802	358135	3227938	355.78
803	358130	3227889	355.85
804	358132	3227839	354.41
805	358136	3227789	354.60
806	358141	3227739	353.40
807	358155	3227692	353.23
808	358173	3227645	352.24
809	358198	3227602	351.84
810	358225	3227560	351.98



31536

Gola river 100 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
811	358233	3227511	351.39
812	358218	3227464	351.58
813	358219	3227414	350.74
814	358222	3227364	349.68
815	358228	3227314	349.69
816	358237	3227265	348.42
817	358246	3227216	348.43
818	358245	3227166	347.95
819	358256	3227119	346.85
820	358274	3227073	345.81
821	358296	3227028	345.07
822	358318	3226983	344.52
823	358351	3226946	342.59
824	358384	3226910	342.43
825	358411	3226868	342.30
826	358424	3226820	341.20
827	358425	3226770	341.05
828	358426	3226720	341.00
829	358427	3226670	338.92
830	358421	3226621	338.56
831	358415	3226571	338.65
832	358405	3226522	338.57
833	358392	3226474	336.40
834	358378	3226426	336.17
835	358366	3226377	336.22
836	358354	3226329	335.57
837	358352	3226279	335.46
838	358351	3226229	335.09
839	358349	3226179	334.93
840	358348	3226129	334.84
841	358347	3226079	332.54
842	358352	3226029	332.50
843	358358	3225980	332.54
844	358360	3225930	331.94
845	358362	3225880	331.16
846	358364	3225830	330.88
847	358377	3225781	330.34
848	358384	3225732	330.18
849	358386	3225682	330.21
850	358387	3225632	331.06
851	358389	3225582	329.13
852	358389	3225532	329.22
853	358386	3225483	329.10
854	358384	3225433	328.00
855	358389	3225383	325.25
856	358399	3225334	324.15
857	358419	3225289	324.08
858	358448	3225248	324.02
859	358484	3225213	324.05
860	358518	3225177	324.04
861	358533	3225132	323.85
862	358543	3225083	323.42
863	358560	3225037	322.62
864	358590	3224998	322.98
865	358593	3224948	322.76
866	358593	3224898	322.16
867	358592	3224848	321.41
868	358597	3224799	321.22
869	358606	3224749	320.25
870	358610	3224700	319.77
871	358613	3224650	318.19
872	358607	3224600	318.04
873	358599	3224551	317.87
874	358589	3224502	316.53
875	358578	3224453	316.10
876	358567	3224405	316.14
877	358556	3224356	315.83
878	358546	3224307	313.57
879	358535	3224258	312.97
880	358531	3224209	313.27
881	358538	3224159	311.42
882	358544	3224110	311.47
883	358554	3224062	311.43
884	358537	3224015	311.03
885	358530	3223966	310.90
886	358524	3223917	310.79
887	358514	3223868	309.67
888	358499	3223820	309.63
889	358487	3223771	308.57
890	358480	3223722	307.19
891	358477	3223672	306.30
892	358481	3223623	305.77
893	358490	3223573	305.23
894	358505	3223526	304.78
895	358515	3223477	305.09
896	358523	3223428	304.59
897	358524	3223378	304.26
898	358527	3223328	303.23
899	358536	3223279	303.16
900	358551	3223232	302.80



Gola river 100 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
901	358571	3223186	301.09
902	358588	3223139	300.84
903	358604	3223091	300.18
904	358624	3223046	299.22
905	358649	3223003	299.37
906	358674	3222959	299.15
907	358696	3222915	298.61
908	358714	3222868	298.92
909	358722	3222819	298.52
910	358730	3222770	298.38
911	358738	3222720	296.78
912	358752	3222672	295.78
913	358771	3222626	295.48
914	358757	3222582	295.43
915	358732	3222539	294.86
916	358724	3222490	294.88
917	358725	3222440	294.40
918	358713	3222393	292.66
919	358696	3222347	292.48
920	358699	3222298	292.24
921	358686	3222250	290.63
922	358674	3222201	290.51
923	358659	3222154	290.19
924	358644	3222106	290.10
925	358634	3222057	288.26
926	358626	3222008	288.39
927	358617	3221959	288.13
928	358595	3221913	287.90
929	358574	3221868	287.55
930	358555	3221822	287.75
931	358543	3221774	286.39
932	358543	3221725	285.87
933	358553	3221676	284.89
934	358554	3221626	285.14
935	358553	3221576	284.98
936	358551	3221526	284.61
937	358556	3221477	282.70
938	358564	3221427	282.49
939	358573	3221378	282.35
940	358581	3221329	282.00
941	358580	3221279	280.89
942	358578	3221229	280.99
943	358578	3221179	279.62
944	358581	3221129	279.82
945	358590	3221081	279.59
946	358605	3221034	279.60
947	358608	3220984	279.11
948	358597	3220935	278.67
949	358585	3220887	277.42
950	358574	3220838	277.42
951	358574	3220788	277.27
952	358575	3220738	277.13
953	358576	3220688	276.26
954	358578	3220638	275.93
955	358579	3220588	275.83
956	358580	3220538	275.61
957	358588	3220490	275.93
958	358617	3220449	272.93
959	358645	3220408	272.92
960	358675	3220368	272.23
961	358706	3220329	272.05
962	358737	3220290	271.93
963	358747	3220242	271.62
964	358751	3220192	271.35
965	358760	3220143	270.67
966	358773	3220095	270.36
967	358787	3220047	270.31
968	358793	3219998	270.20
969	358797	3219948	270.18
970	358809	3219900	270.21
971	358816	3219850	269.84
972	358817	3219800	270.21
973	358814	3219750	270.10
974	358812	3219700	270.18
975	358809	3219650	269.96
976	358806	3219600	269.91
977	358800	3219551	269.66
978	358787	3219503	268.41
979	358773	3219455	268.43
980	358760	3219407	268.61
981	358746	3219359	268.22
982	358735	3219310	268.08
983	358727	3219261	268.07
984	358724	3219211	268.01
985	358730	3219162	267.49
986	358747	3219115	267.50
987	358746	3219065	267.29
988	358742	3219015	267.32
989	358737	3218966	266.86
990	358731	3218916	266.52

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NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhakuni Adv. HQ-NAINITAL

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Gola river 100 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
991	358725	3218866	266.06
992	358721	3218816	265.92
993	358719	3218766	265.45
994	358717	3218716	265.27
995	358719	3218667	264.62
996	358707	3218619	264.59
997	358704	3218570	264.51
998	358697	3218520	263.82
999	358693	3218470	263.90
1000	358709	3218424	264.12
1001	358727	3218378	263.44
1002	358736	3218329	261.31
1003	358727	3218280	261.03
1004	358732	3218230	261.19
1005	358750	3218185	260.96
1006	358782	3218146	260.92
1007	358799	3218100	260.75
1008	358813	3218052	260.74
1009	358819	3218002	260.18
1010	358824	3217954	259.54
1011	358837	3217906	258.73
1012	358865	3217864	258.49
1013	358889	3217821	258.26
1014	358907	3217774	258.25
1015	358928	3217729	258.28
1016	358936	3217681	257.89
1017	358938	3217632	256.17
1018	358947	3217583	256.34
1019	358954	3217533	256.08
1020	358972	3217488	256.05
1021	358981	3217438	255.32
1022	358980	3217389	255.11
1023	358976	3217340	254.95
1024	358985	3217292	253.57
1025	358998	3217248	252.35
1026	359023	3217206	252.25
1027	359034	3217158	252.39
1028	359058	3217115	251.91
1029	359086	3217074	251.33
1030	359102	3217035	251.35
1031	359097	3216988	250.32
1032	359108	3216939	250.04
1033	359121	3216891	250.24
1034	359118	3216842	249.93
1035	359123	3216793	249.80
1036	359129	3216744	247.94
1037	359129	3216694	246.33
1038	359143	3216647	246.08
1039	359169	3216605	246.05
1040	359187	3216558	246.95
1041	359220	3216521	245.91
1042	359232	3216473	246.07
1043	359221	3216424	245.80
1044	359222	3216376	246.04
1045	359245	3216332	245.66
1046	359259	3216285	245.76
1047	359247	3216237	245.46
1048	359241	3216187	244.98
1049	359232	3216138	245.21
1050	359207	3216095	244.33
1051	359216	3216046	244.33
1052	359210	3215998	244.06
1053	359214	3215949	244.07
1054	359230	3215902	244.27
1055	359245	3215854	243.32
1056	359261	3215807	242.87
1057	359277	3215759	242.71
1058	359293	3215712	242.66
1059	359306	3215663	242.45
1060	359324	3215617	242.40
1061	359337	3215570	242.29
1062	359333	3215520	242.20
1063	359329	3215470	242.21
1064	359314	3215424	241.70
1065	359309	3215374	242.00
1066	359328	3215337	241.83
1067	359360	3215307	241.93
1068	359379	3215266	241.58
1069	359378	3215216	241.55
1070	359369	3215167	241.21
1071	359388	3215124	240.27
1072	359427	3215093	240.49
1073	359462	3215062	240.09
1074	359470	3215014	240.25
1075	359500	3214975	239.49
1076	359535	3214939	239.59
1077	359566	3214904	239.46
1078	359581	3214856	239.16
1079	359594	3214808	239.08
1080	359611	3214761	239.08

NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhakuni Advocate HQ-NAINITAL

Gola river 100 Year HFL Points

Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1081	359624	3214713	238.72
1082	359635	3214665	237.82
1083	359644	3214615	238.10
1084	359657	3214567	237.98
1085	359671	3214519	237.60
1086	359674	3214469	237.30
1087	359710	3214438	237.21
1088	359743	3214400	237.36
1089	359770	3214358	237.33
1090	359791	3214313	237.47
1091	359810	3214267	236.56
1092	359843	3214230	236.61
1093	359884	3214201	236.39
1094	359912	3214160	236.50
1095	359916	3214111	236.07
1096	359914	3214061	236.12
1097	359920	3214012	236.07
1098	359927	3213962	234.99
1099	359926	3213913	235.98
1100	359939	3213865	235.80
1101	359947	3213815	235.57
1102	359949	3213766	235.43
1103	359955	3213716	235.05
1104	359962	3213667	234.54
1105	359984	3213622	233.24
1106	360022	3213590	233.29
1107	360065	3213566	233.52
1108	360092	3213524	233.40
1109	360119	3213482	233.08
1110	360148	3213441	233.03
1111	360190	3213431	232.92
1112	360230	3213416	232.73
1113	360244	3213368	232.49
1114	360262	3213321	232.56
1115	360262	3213271	232.23
1116	360261	3213221	232.13
1117	360255	3213172	231.80
1118	360215	3213142	232.10
1119	360199	3213104	231.74
1120	360217	3213057	231.99
1121	360247	3213023	231.93
1122	360246	3212979	230.51
1123	360230	3212932	230.44
1124	360231	3212883	230.78
1125	360255	3212840	230.60
1126	360281	3212797	230.30
1127	360280	3212753	230.31
1128	360239	3212724	230.37
1129	360203	3212690	230.15
1130	360179	3212646	229.65
1131	360160	3212600	229.67
1132	360144	3212553	229.39
1133	360127	3212506	229.61
1134	360124	3212456	229.24
1135	360130	3212407	229.18
1136	360139	3212358	227.73
1137	360151	3212309	227.56
1138	360168	3212263	227.56
1139	360179	3212214	227.60
1140	360213	3212178	227.54
1141	360259	3212160	227.31
1142	360303	3212137	226.51
1143	360315	3212089	226.21
1144	360318	3212040	226.00
1145	360317	3211993	226.29
1146	360340	3211950	225.99
1147	360357	3211907	226.00
1148	360356	3211857	225.67
1149	360356	3211807	225.68
1150	360357	3211757	225.40
1151	360370	3211711	224.64
1152	360381	3211665	224.15
1153	360397	3211617	224.41
1154	360408	3211570	223.80
1155	360392	3211523	223.51
1156	360362	3211483	222.88
1157	360335	3211441	222.99
1158	360310	3211398	223.01
1159	360282	3211356	222.70
1160	360284	3211307	222.60
1161	360302	3211260	222.40
1162	360321	3211214	221.58
1163	360349	3211173	221.65
1164	360379	3211133	221.64
1165	360402	3211089	221.45
1166	360403	3211042	221.38
1167	360384	3210995	221.22
1168	360350	3210962	221.25
1169	360327	3210918	220.72
1170	360321	3210868	220.92

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NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhakuni Advocate HQ-NAINITAL

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Gola river 100 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1171	360314	3210819	220.71
1172	360303	3210770	220.62
1173	360268	3210737	220.59
1174	360225	3210712	220.83
1175	360191	3210676	220.48
1176	360161	3210638	220.20
1177	360126	3210603	220.32
1178	360092	3210567	220.31
1179	360047	3210547	220.43
1180	359999	3210532	220.41
1181	359953	3210513	220.16
1182	359915	3210482	220.09
1183	359881	3210445	219.94
1184	359853	3210404	220.19
1185	359838	3210356	219.95
1186	359824	3210308	219.98
1187	359812	3210260	219.91
1188	359800	3210211	219.47
1189	359769	3210175	219.30
1190	359730	3210143	219.62
1191	359696	3210107	218.55
1192	359678	3210062	218.64
1193	359690	3210015	218.68
1194	359689	3209974	218.78
1195	359678	3209927	218.63
1196	359667	3209879	218.43
1197	359663	3209829	218.40
1198	359661	3209780	218.31
1199	359631	3209752	218.46
1200	359586	3209731	218.55
1201	359538	3209717	218.45
1202	359499	3209686	218.26
1203	359466	3209650	218.12
1204	359444	3209605	218.16
1205	359421	3209561	218.13
1206	359390	3209521	217.93
1207	359362	3209483	218.17
1208	359351	3209434	218.23
1209	359347	3209384	218.15
1210	359329	3209339	217.90
1211	359298	3209300	218.04
1212	359280	3209254	217.91
1213	359262	3209208	217.73
1214	359245	3209161	217.73
1215	359258	3209113	217.73
1216	359257	3209063	217.51
1217	359265	3209016	217.57
1218	359264	3208967	217.48
1219	359250	3208919	217.48
1220	359229	3208874	217.31
1221	359219	3208826	217.44
1222	359193	3208784	217.21
1223	359180	3208740	217.21
1224	359174	3208695	217.15
1225	359134	3208668	216.70
1226	359094	3208643	216.50
1227	359071	3208600	216.50
1228	359050	3208557	216.63
1229	359027	3208514	216.24
1230	359000	3208472	216.07
1231	358982	3208426	216.16
1232	358968	3208379	216.93
1233	358958	3208333	216.61
1234	358938	3208297	216.78
1235	358912	3208256	216.60
1236	358877	3208222	216.32
1237	358829	3208234	216.21
1238	358796	3208212	215.96
1239	358780	3208168	215.97
1240	358744	3208135	215.94
1241	358716	3208095	216.36
1242	358686	3208055	216.27
1243	358658	3208014	216.23
1244	358624	3207978	216.05
1245	358591	3207940	216.13
1246	358559	3207901	215.99
1247	358524	3207866	216.03
1248	358489	3207830	216.01
1249	358475	3207785	215.87
1250	358456	3207739	215.99
1251	358434	3207694	215.93
1252	358393	3207667	216.12
1253	358357	3207633	215.88
1254	358336	3207587	216.06
1255	358307	3207548	216.00
1256	358272	3207512	215.83
1257	358240	3207474	215.81
1258	358224	3207427	216.09
1259	358230	3207379	215.94
1260	358241	3207330	216.17

NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhakuni HQ-NALNIL

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Gola river 100 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1261	358251	3207281	215.85
1262	358261	3207232	216.79
1263	358272	3207183	216.68
1264	358281	3207134	216.38
1265	358290	3207085	216.19
1266	358298	3207036	216.45
1267	358310	3206987	216.15
1268	358323	3206939	216.28
1269	358347	3206895	216.13
1270	358372	3206852	216.39
1271	358397	3206809	216.08
1272	358433	3206775	215.16
1273	358476	3206751	214.91
1274	358525	3206742	215.43
1275	358574	3206732	214.77
1276	358622	3206720	214.76
1277	358671	3206708	214.73
1278	358719	3206696	214.81
1279	358760	3206672	214.67
1280	358788	3206631	214.69
1281	358816	3206590	214.77
1282	358846	3206549	214.71
1283	358876	3206509	214.71
1284	358858	3206463	214.53
1285	358839	3206417	214.65
1286	358819	3206371	214.61
1287	358781	3206340	214.43
1288	358737	3206315	214.41
1289	358691	3206296	214.51
1290	358644	3206281	214.39
1291	358595	3206270	214.17
1292	358546	3206259	214.36
1293	358498	3206248	214.47
1294	358449	3206237	214.05
1295	358400	3206226	214.20
1296	358351	3206215	214.20
1297	358302	3206204	213.93
1298	358260	3206180	214.10
1299	358221	3206149	214.28
1300	358181	3206118	214.08
1301	358152	3206079	214.06
1302	358128	3206035	214.09
1303	358107	3205990	213.99
1304	358088	3205943	214.04
1305	358075	3205895	214.21
1306	358068	3205846	214.27
1307	358065	3205796	213.77
1308	358067	3205747	214.17
1309	358099	3205713	213.94
1310	358141	3205688	214.30
1311	358161	3205644	213.42
1312	358173	3205596	213.39
1313	358177	3205550	213.34
1314	358141	3205515	213.24
1315	358122	3205472	213.32
1316	358105	3205425	213.01
1317	358063	3205406	213.17
1318	358013	3205403	213.21
1319	357982	3205382	213.17
1320	358006	3205339	213.26
1321	358047	3205313	212.98
1322	358051	3205268	212.89
1323	358045	3205219	213.00
1324	358037	3205169	213.06
1325	358024	3205121	212.64
1326	358013	3205072	211.69
1327	358002	3205023	211.35
1328	357989	3204975	211.35
1329	357970	3204930	211.12
1330	357939	3204890	211.40
1331	357910	3204850	211.24
1332	357883	3204807	211.22
1333	357859	3204764	211.24
1334	357838	3204719	211.11
1335	357822	3204672	211.28
1336	357838	3204625	211.03
1337	357861	3204580	210.85
1338	357886	3204537	210.88
1339	357914	3204496	210.47
1340	357944	3204456	210.40
1341	357967	3204412	210.59
1342	357996	3204377	210.15
1343	357957	3204352	210.25
1344	357921	3204318	210.45
1345	357886	3204282	210.26
1346	357873	3204235	210.35
1347	357868	3204186	210.35
1348	357862	3204136	210.03
1349	357864	3204087	209.99
1350	357882	3204041	209.97



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Gola river 100 Year HFL Points

Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1351	357865	3203995	209.76
1352	357842	3203950	209.81
1353	357818	3203907	208.94
1354	357794	3203863	208.95
1355	357766	3203822	209.38
1356	357732	3203785	209.13
1357	357698	3203748	209.13
1358	357665	3203711	209.22
1359	357633	3203673	209.22
1360	357600	3203635	208.92
1361	357569	3203596	209.02
1362	357538	3203557	207.65
1363	357507	3203518	207.71
1364	357470	3203486	207.31
1365	357424	3203466	207.72
1366	357378	3203446	207.50
1367	357331	3203432	207.42
1368	357281	3203424	207.45
1369	357232	3203416	207.71
1370	357183	3203408	207.48
1371	357133	3203407	207.58
1372	357083	3203405	207.45
1373	357033	3203400	207.53
1374	356983	3203396	207.65
1375	356938	3203411	207.38
1376	356891	3203427	207.34
1377	356842	3203435	207.61
1378	356797	3203416	207.38
1379	356761	3203381	207.37
1380	356741	3203337	207.27
1381	356729	3203288	207.26
1382	356728	3203241	207.28
1383	356755	3203199	207.52
1384	356786	3203161	207.15
1385	356828	3203135	207.51
1386	356877	3203123	207.48
1387	356926	3203117	207.46
1388	356968	3203099	207.68
1389	356996	3203057	207.50
1390	357035	3203028	207.52
1391	357031	3202984	207.42
1392	356982	3202976	207.44
1393	356932	3202968	207.31
1394	356883	3202961	207.34
1395	356835	3202948	207.51
1396	356797	3202917	207.65
1397	356764	3202880	207.26
1398	356735	3202838	207.44
1399	356719	3202793	207.28
1400	356714	3202743	207.47
1401	356676	3202721	207.40
1402	356648	3202689	207.22
1403	356632	3202641	207.16
1404	356615	3202595	207.32
1405	356578	3202561	207.38
1406	356541	3202527	207.21
1407	356527	3202481	207.31
1408	356532	3202432	207.48
1409	356541	3202383	207.40
1410	356553	3202334	207.30
1411	356570	3202287	207.34
1412	356587	3202240	207.46
1413	356600	3202192	207.01
1414	356619	3202146	207.09
1415	356636	3202099	207.30
1416	356606	3202063	207.23
1417	356599	3202014	207.24
1418	356591	3201964	207.13
1419	356584	3201915	207.19
1420	356572	3201866	207.35
1421	356557	3201819	207.42
1422	356552	3201769	207.22
1423	356524	3201730	207.48
1424	356490	3201694	206.01
1425	356479	3201645	206.04
1426	356455	3201606	206.24
1427	356413	3201579	206.00
1428	356373	3201549	206.11
1429	356341	3201512	206.05
1430	356322	3201466	206.12
1431	356304	3201419	205.90
1432	356283	3201374	205.78
1433	356260	3201330	205.87
1434	356246	3201282	205.87
1435	356237	3201233	205.63
1436	356230	3201183	205.82
1437	356226	3201134	205.75
1438	356221	3201084	205.68
1439	356213	3201035	205.83
1440	356203	3200985	205.71



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Gola river 100 Year HFL Points
Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1441	356194	3200936	205.81
1442	356186	3200887	205.52
1443	356179	3200837	205.68
1444	356172	3200788	205.72
1445	356165	3200738	205.63
1446	356158	3200689	205.61
1447	356198	3200661	205.74
1448	356239	3200633	205.68
1449	356281	3200606	205.57
1450	356321	3200575	205.37
1451	356360	3200544	205.37
1452	356399	3200513	205.57
1453	356438	3200482	205.57
1454	356472	3200445	205.47
1455	356505	3200408	205.63
1456	356539	3200371	205.32
1457	356536	3200326	205.28
1458	356527	3200277	205.44
1459	356509	3200234	205.28
1460	356469	3200203	203.62
1461	356421	3200190	203.81
1462	356396	3200148	203.62
1463	356383	3200100	203.90
1464	356372	3200051	203.45
1465	356354	3200005	203.65
1466	356341	3199956	203.53
1467	356335	3199907	203.59
1468	356327	3199857	203.57
1469	356315	3199809	203.44
1470	356295	3199763	203.76

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1471	356256	3199733	203.46
1472	356215	3199705	203.50
1473	356174	3199676	203.58
1474	356133	3199648	203.41
1475	356097	3199613	203.59
1476	356064	3199576	203.56
1477	356031	3199538	203.30
1478	355999	3199500	203.32
1479	355965	3199464	203.42
1480	355927	3199430	203.60
1481	355911	3199384	203.72
1482	355899	3199336	203.48
1483	355890	3199287	203.41
1484	355880	3199238	203.47
1485	355869	3199189	203.63
1486	355876	3199140	203.37
1487	355889	3199092	203.40
1488	355916	3199054	203.40
1489	355901	3199007	203.38
1490	355902	3198957	203.43
1491	355923	3198913	203.44
1492	355960	3198880	203.42
1493	355985	3198841	203.38
1494	355965	3198795	203.59
1495	355963	3198748	203.50
1496	355961	3198699	203.44
1497	355933	3198658	203.33
1498	355911	3198613	203.47
1499	355891	3198568	203.55
1500	355865	3198525	203.69

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1501	355838	3198483	203.51
1502	355806	3198445	203.48
1503	355775	3198406	203.66
1504	355757	3198359	203.34
1505	355753	3198310	203.28
1506	355754	3198260	203.67
1507	355757	3198210	203.54
1508	355760	3198160	203.28
1509	355763	3198110	203.47
1510	355765	3198061	203.35
1511	355772	3198011	203.49
1512	355785	3197963	203.35
1513	355798	3197915	203.39
1514	355812	3197867	203.62
1515	355825	3197819	203.42
1516	355838	3197770	203.24
1517	355852	3197722	203.54
1518	355865	3197674	203.51
1519	355869	3197626	203.14
1520	355840	3197593	203.12
1521	355792	3197581	203.18
1522	355747	3197560	203.34
1523	355710	3197529	202.98
1524	355687	3197484	203.07
1525	355665	3197439	203.31
1526	355623	3197412	203.14
1527	355581	3197385	203.32
1528	355539	3197359	203.25
1529	355501	3197329	203.13
1530	355500	3197279	203.13

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Gola river 100 Year HFL Points

Right Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1531	355498	3197229	203.02
1532	355496	3197179	203.29
1533	355494	3197129	203.33
1534	355492	3197079	203.06
1535	355491	3197029	203.06
1536	355484	3196980	203.09
1537	355478	3196930	203.18
1538	355471	3196881	203.15
1539	355468	3196831	203.12
1540	355465	3196781	203.17
1541	355462	3196731	203.30
1542	355459	3196681	203.19
1543	355457	3196631	203.17
1544	355455	3196581	203.19
1545	355453	3196531	203.15
1546	355451	3196481	203.25
1547	355448	3196432	203.08
1548	355402	3196416	202.98
1549	355353	3196411	203.06
1550	355303	3196405	202.94
1551	355253	3196399	202.82
1552	355204	3196390	202.82
1553	355162	3196363	202.55
1554	355122	3196333	201.48
1555	355091	3196295	201.59
1556	355075	3196248	201.54
1557	355086	3196200	201.69
1558	355069	3196155	201.39
1559	355038	3196116	201.44
1560	355002	3196083	201.32
1561	354991	3196037	201.07
1562	354989	3195988	199.68
1563	354969	3195942	199.46
1564	354932	3195910	198.70
1565	354893	3195880	198.86
1566	354847	3195860	198.85
1567	354802	3195839	198.77
1568	354756	3195818	198.73
1569	354712	3195795	198.66
1570	354668	3195772	198.43
1571	354625	3195747	198.34
1572	354589	3195713	198.04
1573	354569	3195667	198.30
1574	354551	3195620	198.03
1575	354529	3195576	198.02
1576	354497	3195537	197.03
1577	354466	3195498	197.08
1578	354435	3195459	197.97
1579	354397	3195426	198.10
1580	354358	3195396	197.78
1581	354319	3195365	197.79
1582	354279	3195334	197.86
1583	354237	3195307	197.78
1584	354193	3195283	197.91
1585	354149	3195259	197.94
1586	354110	3195228	197.71
1587	354074	3195194	197.88
1588	354041	3195158	197.38
1589	354001	3195128	197.71
1590	353968	3195091	197.81
1591	353925	3195064	197.22
1592	353882	3195040	197.33
1593	353837	3195017	196.98
1594	353794	3194993	196.58
1595	353759	3194957	196.47
1596	353717	3194930	196.50
1597	353669	3194916	196.03
1598	353630	3194887	196.23
1599	353591	3194855	196.13
1600	353559	3194817	196.12
1601	353531	3194775	196.16
1602	353520	3194727	195.86
1603	353513	3194710	195.93

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Gola river 100 Year HFL Points

Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1	369172	3242051	915.19
2	369214	3242024	914.84
3	369256	3241998	914.47
4	369261	3241952	914.27
5	369232	3241912	913.53
6	369214	3241868	912.24
7	369201	3241820	911.04
8	369192	3241771	910.07
9	369205	3241723	909.98
10	369225	3241678	908.45
11	369243	3241631	906.69
12	369259	3241584	906.36
13	369284	3241541	906.13
14	369324	3241521	898.84
15	369374	3241525	899.08
16	369418	3241510	898.86
17	369436	3241463	893.41
18	369446	3241416	891.98
19	369411	3241381	891.99
20	369388	3241341	891.93
21	369401	3241295	891.91
22	369424	3241251	891.87
23	369428	3241201	891.94
24	369413	3241154	890.45
25	369394	3241110	890.58
26	369378	3241066	889.33
27	369399	3241022	886.82
28	369420	3240977	884.26
29	369465	3240957	883.30
30	369469	3240909	881.93
31	369485	3240862	880.69
32	369504	3240816	876.10
33	369532	3240775	874.27
34	369565	3240738	873.42
35	369595	3240699	872.44
36	369629	3240663	871.37
37	369647	3240618	871.44
38	369681	3240582	870.02
39	369703	3240538	870.21
40	369705	3240489	867.97
41	369691	3240441	867.03
42	369681	3240392	863.95
43	369693	3240344	862.64
44	369717	3240301	860.51
45	369748	3240261	859.64
46	369771	3240218	858.21
47	369815	3240196	856.04
48	369864	3240203	852.62
49	369913	3240208	848.80
50	369963	3240214	846.70
51	370009	3240201	845.82
52	370048	3240173	845.84
53	370093	3240163	845.54
54	370142	3240159	844.75
55	370192	3240162	844.90
56	370234	3240148	844.96
57	370247	3240100	844.21
58	370257	3240051	844.40
59	370254	3240002	842.72
60	370258	3239955	832.73
61	370305	3239940	832.69
62	370355	3239935	830.42
63	370404	3239925	830.53
64	370450	3239906	830.11
65	370495	3239885	828.58
66	370541	3239867	828.70
67	370590	3239860	828.85
68	370637	3239848	828.93
69	370686	3239839	826.92
70	370733	3239829	826.99
71	370749	3239783	825.17
72	370785	3239750	824.98
73	370795	3239702	817.84
74	370814	3239656	810.40
75	370828	3239610	810.46
76	370822	3239561	810.63
77	370818	3239516	810.28
78	370841	3239472	810.59
79	370848	3239424	808.96
80	370846	3239376	808.86
81	370852	3239327	808.98
82	370852	3239278	808.83
83	370827	3239235	808.81
84	370780	3239226	807.32
85	370746	3239192	805.93
86	370744	3239146	806.18
87	370764	3239101	805.94
88	370798	3239065	805.80
89	370833	3239029	787.68
90	370873	3238999	787.46

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Gola river 100 Year HFL Points
Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
91	370914	3238972	786.01
92	370960	3238952	786.38
93	371010	3238949	784.75
94	371055	3238961	784.60
95	371084	3239000	784.56
96	371092	3239049	784.66
97	371120	3239088	784.60
98	371169	3239087	784.62
99	371211	3239065	784.81
100	371244	3239028	783.18
101	371252	3238980	783.27
102	371261	3238931	783.37
103	371264	3238881	783.05
104	371263	3238831	781.73
105	371259	3238782	781.67
106	371273	3238739	781.58
107	371278	3238689	781.57
108	371277	3238639	781.39
109	371283	3238590	780.03
110	371299	3238544	778.29
111	371285	3238496	778.83
112	371259	3238467	773.92
113	371211	3238453	773.94
114	371168	3238428	773.86
115	371130	3238395	773.75
116	371112	3238353	772.68
117	371124	3238305	769.20
118	371141	3238257	768.71
119	371144	3238211	767.91
120	371143	3238168	767.81

Sl. No	Easting (X)	Northing (Y)	WSE (m)
121	371149	3238124	768.09
122	371165	3238091	767.36
123	371183	3238050	767.28
124	371159	3238027	767.12
125	371115	3238019	767.11
126	371070	3238005	766.31
127	371044	3237965	765.49
128	371039	3237917	765.55
129	371045	3237872	764.75
130	371031	3237824	764.55
131	371021	3237776	759.10
132	371006	3237729	759.18
133	370982	3237689	758.65
134	370949	3237651	758.41
135	370911	3237636	758.47
136	370884	3237601	758.67
137	370861	3237557	758.46
138	370825	3237526	756.59
139	370819	3237479	756.76
140	370787	3237443	756.23
141	370749	3237412	755.76
142	370721	3237374	754.88
143	370674	3237362	754.24
144	370635	3237333	749.28
145	370662	3237304	748.85
146	370701	3237305	748.67
147	370740	3237277	748.98
148	370776	3237245	748.83
149	370797	3237200	748.11
150	370812	3237156	748.23

Sl. No	Easting (X)	Northing (Y)	WSE (m)
151	370826	3237112	748.25
152	370841	3237067	748.31
153	370850	3237018	748.44
154	370865	3236971	747.46
155	370874	3236922	747.39
156	370887	3236874	745.41
157	370909	3236829	745.44
158	370926	3236782	745.18
159	370943	3236735	745.53
160	370943	3236688	745.51
161	370908	3236652	743.74
162	370878	3236616	743.99
163	370841	3236584	743.82
164	370799	3236564	743.87
165	370768	3236531	743.82
166	370739	3236491	737.64
167	370719	3236445	736.74
168	370694	3236403	736.64
169	370668	3236362	732.92
170	370640	3236325	733.20
171	370599	3236305	733.19
172	370594	3236257	733.01
173	370580	3236209	733.04
174	370561	3236164	732.96
175	370534	3236126	733.16
176	370503	3236089	732.29
177	370512	3236040	732.14
178	370521	3235991	732.42
179	370507	3235943	732.34
180	370486	3235901	732.52

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Gola river 100 Year HFL Points
Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
181	370440	3235882	732.46
182	370392	3235870	728.84
183	370343	3235861	728.60
184	370294	3235851	728.81
185	370244	3235851	728.80
186	370196	3235858	728.57
187	370153	3235885	728.29
188	370108	3235902	727.98
189	370070	3235934	728.02
190	370024	3235946	727.92
191	369978	3235965	728.32
192	369956	3235996	728.04
193	369933	3236021	728.20
194	369883	3236022	726.63
195	369837	3236035	726.70
196	369789	3236039	726.03
197	369743	3236044	725.13
198	369712	3236072	722.88
199	369676	3236095	722.70
200	369633	3236115	719.95
201	369585	3236119	719.72
202	369544	3236134	720.21
203	369499	3236150	717.36
204	369462	3236160	717.34
205	369465	3236116	717.28
206	369447	3236160	717.23
207	369422	3236197	717.43
208	369384	3236220	716.35
209	369348	3236235	716.51
210	369301	3236243	714.41
211	369253	3236231	714.53
212	369203	3236227	714.50
213	369160	3236251	714.33
214	369124	3236274	713.91
215	369085	3236297	713.43
216	369054	3236325	713.40
217	369015	3236352	713.54
218	368972	3236375	712.90
219	368929	3236389	712.80
220	368929	3236355	712.82
221	368948	3236336	712.97
222	368906	3236349	712.88
223	368904	3236384	713.08
224	368885	3236414	710.07
225	368843	3236431	710.09
226	368795	3236437	709.78
227	368753	3236458	709.40
228	368707	3236472	708.86
229	368658	3236470	708.57
230	368609	3236475	708.01
231	368560	3236483	706.43
232	368512	3236497	703.15
233	368467	3236519	702.31
234	368423	3236543	702.30
235	368383	3236573	702.73
236	368350	3236609	702.32
237	368329	3236654	700.76
238	368307	3236699	700.68
239	368297	3236745	699.93
240	368251	3236756	700.00
241	368203	3236764	699.75
242	368155	3236769	699.49
243	368113	3236754	699.06
244	368067	3236745	698.10
245	368021	3236736	696.95
246	367973	3236730	694.51
247	367924	3236729	694.10
248	367877	3236739	693.17
249	367830	3236755	693.39
250	367790	3236784	693.38
251	367748	3236796	692.78
252	367732	3236810	692.60
253	367702	3236843	692.57
254	367665	3236872	692.60
255	367617	3236868	691.81
256	367574	3236874	691.88
257	367525	3236883	687.86
258	367480	3236896	688.14
259	367434	3236903	687.70
260	367386	3236907	686.85
261	367343	3236917	686.66
262	367300	3236913	686.90
263	367279	3236889	686.70
264	367231	3236895	686.78
265	367187	3236885	686.61
266	367146	3236870	684.99
267	367112	3236896	684.96
268	367074	3236922	684.90
269	367051	3236950	683.88
270	367018	3236933	683.11

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NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL GOVT. OF UTTARAKHAND

Gola river 100 Year HFL Points
Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
271	367021	3236971	683.04
272	366977	3236989	682.82
273	366934	3237013	682.68
274	366903	3237036	682.99
275	366869	3237071	682.37
276	366868	3237116	681.85
277	366887	3237134	681.63
278	366883	3237174	681.77
279	366873	3237214	681.07
280	366903	3237224	681.02
281	366891	3237264	680.32
282	366878	3237296	680.63
283	366840	3237326	678.67
284	366793	3237343	672.89
285	366744	3237344	672.78
286	366696	3237359	671.67
287	366667	3237328	671.89
288	366619	3237316	671.87
289	366574	3237333	671.78
290	366539	3237365	671.72
291	366502	3237363	671.74
292	366466	3237376	671.00
293	366432	3237408	670.18
294	366385	3237419	669.47
295	366365	3237463	669.55
296	366337	3237504	669.61
297	366345	3237539	669.55
298	366354	3237567	669.70
299	366361	3237600	669.85
300	366369	3237633	669.85

Sl. No	Easting (X)	Northing (Y)	WSE (m)
301	366357	3237680	669.21
302	366330	3237719	669.28
303	366294	3237754	667.60
304	366254	3237768	666.09
305	366234	3237797	663.35
306	366190	3237819	663.68
307	366142	3237824	663.49
308	366110	3237832	663.37
309	366071	3237834	663.32
310	366031	3237865	663.37
311	366012	3237908	662.99
312	365986	3237950	662.53
313	365972	3237993	661.12
314	365950	3238035	660.09
315	365916	3238067	659.18
316	365878	3238091	658.40
317	365834	3238110	654.69
318	365793	3238093	653.98
319	365760	3238059	653.89
320	365714	3238053	653.35
321	365674	3238041	653.10
322	365627	3238040	653.19
323	365585	3238040	653.40
324	365545	3238055	651.68
325	365506	3238081	651.80
326	365475	3238116	651.86
327	365462	3238159	650.99
328	365469	3238193	651.12
329	365477	3238237	650.96
330	365498	3238260	651.00

Sl. No	Easting (X)	Northing (Y)	WSE (m)
331	365488	3238308	649.65
332	365487	3238357	648.99
333	365492	3238405	648.97
334	365501	3238451	648.11
335	365520	3238490	648.25
336	365503	3238535	645.69
337	365476	3238576	644.80
338	365446	3238614	644.30
339	365408	3238642	644.38
340	365366	3238666	644.09
341	365319	3238679	643.49
342	365270	3238677	640.44
343	365221	3238674	640.44
344	365172	3238675	640.18
345	365128	3238690	640.09
346	365082	3238706	639.49
347	365034	3238712	638.81
348	364999	3238730	638.25
349	364954	3238729	637.82
350	364905	3238726	637.46
351	364860	3238731	636.40
352	364816	3238741	635.92
353	364779	3238756	635.24
354	364732	3238764	635.15
355	364688	3238782	634.47
356	364642	3238797	634.01
357	364592	3238806	634.25
358	364550	3238829	633.84
359	364505	3238844	633.40
360	364461	3238856	633.59

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NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL GOVT. OF UTTARAKHAND INDIA

Gola river 100 Year HFL Points

Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
361	364433	3238882	633.74
362	364398	3238916	632.88
363	364383	3238961	632.73
364	364378	3239011	632.11
365	364375	3239058	632.22
366	364371	3239105	631.51
367	364376	3239154	631.01
368	364382	3239202	629.66
369	364394	3239248	629.30
370	364394	3239291	628.64
371	364409	3239316	627.24
372	364427	3239361	627.57
373	364456	3239390	627.24
374	364469	3239433	627.31
375	364481	3239473	627.36
376	364478	3239520	626.09
377	364481	3239569	626.25
378	364461	3239614	625.47
379	364444	3239660	625.78
380	364425	3239706	624.94
381	364408	3239753	624.30
382	364391	3239799	624.65
383	364364	3239841	616.51
384	364339	3239884	615.78
385	364310	3239923	615.28
386	364283	3239965	614.73
387	364244	3239996	614.72
388	364209	3240032	615.00
389	364171	3240063	612.75
390	364125	3240082	612.75
391	364077	3240097	612.41
392	364041	3240131	611.78
393	364013	3240172	611.09
394	363980	3240209	610.58
395	363944	3240244	609.87
396	363908	3240279	609.91
397	363874	3240315	609.32
398	363836	3240347	608.90
399	363807	3240388	608.39
400	363777	3240428	607.67
401	363750	3240469	607.18
402	363718	3240507	607.16
403	363687	3240546	606.57
404	363654	3240584	606.02
405	363617	3240617	605.43
406	363594	3240659	604.93
407	363573	3240703	604.51
408	363562	3240750	604.42
409	363550	3240798	603.85
410	363558	3240831	603.54
411	363544	3240878	603.18
412	363532	3240926	602.85
413	363504	3240967	602.62
414	363488	3241014	602.37
415	363466	3241057	602.39
416	363431	3241087	599.54
417	363407	3241128	599.67
418	363389	3241171	599.16
419	363367	3241210	599.09
420	363334	3241247	599.23
421	363287	3241255	599.22
422	363249	3241268	599.02
423	363202	3241259	599.04
424	363158	3241253	598.42
425	363110	3241260	596.35
426	363067	3241242	596.33
427	363023	3241227	595.77
428	362994	3241256	595.73
429	362949	3241266	595.71
430	362914	3241251	595.80
431	362870	3241240	595.53
432	362834	3241228	594.61
433	362788	3241225	593.92
434	362755	3241225	594.05
435	362723	3241217	593.80
436	362692	3241207	593.95
437	362654	3241207	593.92
438	362616	3241207	592.85
439	362582	3241210	593.08
440	362541	3241215	593.16
441	362499	3241220	592.24
442	362459	3241224	592.47
443	362425	3241233	592.34
444	362390	3241245	590.47
445	362376	3241271	588.95
446	362370	3241308	586.80
447	362340	3241303	586.91
448	362314	3241339	585.22
449	362276	3241370	583.29
450	362267	3241418	583.40

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NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL

Gola river 100 Year HFL Points

Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
451	362228	3241436	580.44
452	362195	3241407	579.81
453	362146	3241401	579.00
454	362098	3241397	577.79
455	362049	3241397	577.90
456	362007	3241413	577.15
457	361967	3241440	577.01
458	361940	3241480	575.84
459	361914	3241520	575.38
460	361882	3241556	574.53
461	361847	3241590	574.09
462	361815	3241623	574.01
463	361780	3241655	573.40
464	361749	3241686	573.13
465	361711	3241708	572.63
466	361668	3241723	571.74
467	361628	3241750	571.86
468	361584	3241773	571.33
469	361566	3241818	570.39
470	361521	3241836	570.31
471	361471	3241834	569.41
472	361422	3241829	568.77
473	361378	3241811	568.14
474	361329	3241806	567.82
475	361280	3241800	567.78
476	361235	3241803	566.97
477	361190	3241820	566.44
478	361142	3241822	566.45
479	361093	3241818	565.23
480	361046	3241831	565.18
481	361004	3241853	563.99
482	360957	3241865	563.93
483	360908	3241868	563.42
484	360860	3241883	562.65
485	360816	3241877	562.09
486	360772	3241863	561.82
487	360725	3241850	561.34
488	360677	3241840	560.93
489	360644	3241809	560.20
490	360616	3241780	559.99
491	360576	3241757	559.77
492	360543	3241722	559.10
493	360519	3241684	558.27
494	360485	3241661	557.37
495	360458	3241620	556.43
496	360439	3241577	555.74
497	360416	3241533	555.69
498	360400	3241486	555.66
499	360366	3241458	555.77
500	360327	3241439	555.70
501	360291	3241424	555.70
502	360250	3241415	555.64
503	360205	3241404	555.74
504	360160	3241390	555.27
505	360114	3241375	555.10
506	360066	3241368	554.70
507	360029	3241358	554.52
508	359999	3241344	554.12
509	359964	3241346	552.30
510	359923	3241339	552.54
511	359887	3241343	552.29
512	359851	3241347	550.80
513	359807	3241329	548.98
514	359760	3241313	545.83
515	359713	3241299	545.61
516	359668	3241282	543.72
517	359623	3241262	542.25
518	359577	3241242	541.97
519	359531	3241222	541.75
520	359486	3241200	540.88
521	359440	3241180	540.20
522	359396	3241157	539.35
523	359354	3241130	538.48
524	359312	3241102	538.51
525	359273	3241071	538.31
526	359230	3241047	538.53
527	359185	3241025	537.92
528	359143	3240997	537.61
529	359116	3240956	537.61
530	359104	3240909	537.62
531	359121	3240863	537.45
532	359152	3240824	537.35
533	359168	3240777	537.54
534	359186	3240731	537.38
535	359196	3240682	537.56
536	359196	3240632	537.26
537	359199	3240582	537.12
538	359203	3240532	537.08
539	359206	3240482	535.87
540	359199	3240433	536.00

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Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL

Gola river 100 Year HFL Points

Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
541	359194	3240389	535.41
542	359175	3240351	534.40
543	359167	3240309	534.26
544	359158	3240269	533.09
545	359141	3240229	531.08
546	359113	3240199	531.00
547	359090	3240163	530.38
548	359062	3240123	529.72
549	359031	3240087	528.93
550	358999	3240050	527.70
551	358963	3240020	527.00
552	358929	3239987	527.00
553	358893	3239954	525.68
554	358857	3239924	525.86
555	358820	3239890	524.75
556	358781	3239861	524.63
557	358754	3239821	524.02
558	358768	3239786	523.98
559	358794	3239758	523.77
560	358817	3239728	523.89
561	358844	3239712	523.94
562	358878	3239683	523.61
563	358898	3239649	523.82
564	358909	3239616	523.78
565	358933	3239580	523.88
566	358943	3239538	523.46
567	358942	3239499	523.71
568	358942	3239466	523.37
569	358940	3239453	523.12
570	358911	3239416	523.25
571	358893	3239377	523.03
572	358861	3239343	523.20
573	358853	3239300	523.21
574	358858	3239254	523.01
575	358873	3239210	522.91
576	358863	3239172	523.00
577	358891	3239131	523.04
578	358918	3239090	523.01
579	358938	3239044	523.09
580	358961	3239000	513.70
581	358986	3238957	513.58
582	359017	3238917	512.94
583	359045	3238876	512.19
584	359062	3238829	511.18
585	359081	3238783	511.04
586	359098	3238736	510.18
587	359106	3238688	509.64
588	359104	3238641	509.50
589	359085	3238596	507.46
590	359049	3238565	507.62
591	359024	3238523	505.73
592	359004	3238479	505.80
593	359000	3238430	503.96
594	359003	3238380	502.93
595	359008	3238333	501.85
596	359010	3238288	501.18
597	359000	3238240	500.02
598	358992	3238191	499.57
599	358986	3238151	499.64
600	358996	3238115	499.00
601	359018	3238070	498.31
602	359043	3238027	497.68
603	359064	3237982	497.52
604	359079	3237934	497.45
605	359080	3237884	497.78
606	359080	3237834	497.84
607	359097	3237789	497.46
608	359122	3237774	497.43
609	359132	3237728	497.12
610	359149	3237681	496.99
611	359155	3237631	496.98
612	359157	3237581	496.83
613	359161	3237535	491.31
614	359172	3237488	491.10
615	359171	3237439	491.15
616	359164	3237390	490.47
617	359157	3237341	489.19
618	359149	3237293	488.48
619	359155	3237248	487.90
620	359174	3237203	487.11
621	359196	3237159	484.44
622	359223	3237117	484.63
623	359253	3237077	484.89
624	359283	3237037	483.69
625	359313	3236997	484.16
626	359345	3236959	478.74
627	359374	3236919	476.89
628	359397	3236874	475.88
629	359419	3236829	475.24
630	359441	3236784	475.51

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NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL GOVT. OF UTTARAKHAND INDIA

Gola river 100 Year HFL Points
Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
631	359452	3236736	475.46
632	359446	3236686	475.47
633	359437	3236637	475.59
634	359420	3236590	475.46
635	359420	3236541	475.39
636	359428	3236493	475.59
637	359457	3236453	475.51
638	359479	3236408	470.07
639	359514	3236373	469.94
640	359549	3236337	469.44
641	359576	3236296	468.09
642	359598	3236251	468.11
643	359619	3236205	468.18
644	359641	3236160	467.96
645	359663	3236120	467.47
646	359710	3236137	467.72
647	359759	3236148	467.47
648	359803	3236171	467.63
649	359849	3236190	467.60
650	359873	3236171	467.31
651	359875	3236126	467.50
652	359852	3236082	467.64
653	359827	3236038	467.52
654	359801	3235995	467.60
655	359768	3235958	467.39
656	359750	3235915	467.44
657	359708	3235892	467.58
658	359675	3235855	467.46
659	359668	3235806	464.30
660	359648	3235761	463.73
661	359610	3235728	463.71
662	359573	3235695	463.72
663	359547	3235654	463.06
664	359542	3235605	463.11
665	359538	3235555	462.24
666	359533	3235505	462.10
667	359518	3235458	461.84
668	359497	3235412	461.60
669	359477	3235367	461.62
670	359457	3235321	461.60
671	359437	3235275	461.66
672	359417	3235229	461.05
673	359388	3235189	460.95
674	359358	3235149	461.05
675	359330	3235108	460.36
676	359305	3235064	460.24
677	359285	3235018	460.43
678	359272	3234970	460.41
679	359265	3234921	456.29
680	359255	3234872	455.57
681	359241	3234824	455.89
682	359219	3234780	455.73
683	359198	3234734	454.99
684	359176	3234689	454.58
685	359149	3234648	454.45
686	359131	3234602	450.45
687	359149	3234559	450.45
688	359141	3234509	450.47
689	359133	3234460	449.69
690	359124	3234411	449.75
691	359109	3234363	448.98
692	359094	3234316	449.09
693	359079	3234268	448.96
694	359047	3234232	448.60
695	359006	3234204	448.58
696	358972	3234170	447.81
697	358940	3234132	447.83
698	358910	3234092	443.12
699	358883	3234050	443.26
700	358855	3234009	440.44
701	358809	3233994	440.52
702	358760	3233986	440.41
703	358712	3233971	440.67
704	358668	3233949	440.64
705	358632	3233916	440.70
706	358613	3233870	440.49
707	358599	3233822	440.19
708	358588	3233773	439.14
709	358574	3233725	439.40
710	358560	3233677	438.79
711	358538	3233632	438.10
712	358506	3233595	438.05
713	358470	3233560	437.22
714	358434	3233526	437.31
715	358410	3233482	435.93
716	358386	3233439	434.67
717	358358	3233398	432.65
718	358341	3233352	432.54
719	358314	3233310	431.88
720	358287	3233268	431.97

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NOTARY ... Dr. P. S. Bhakuni ... Advocate ... HQ-NAINITAL ... GOVT. OF UTTARAKHAND

Gola river 100 Year HFL Points
Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
721	358255	3233229	432.07
722	358225	3233189	431.31
723	358210	3233141	431.07
724	358214	3233092	430.35
725	358208	3233043	430.36
726	358199	3232993	429.80
727	358185	3232946	426.73
728	358168	3232899	424.90
729	358171	3232853	424.23
730	358162	3232813	423.70
731	358143	3232779	422.68
732	358133	3232732	422.46
733	358120	3232685	421.87
734	358117	3232636	421.91
735	358106	3232587	421.27
736	358092	3232545	421.18
737	358080	3232497	421.56
738	358064	3232450	419.39
739	358050	3232403	419.02
740	358035	3232355	418.83
741	358021	3232308	417.40
742	358003	3232261	416.69
743	357992	3232213	414.84
744	358017	3232172	414.74
745	358052	3232137	413.56
746	358090	3232104	413.50
747	358130	3232074	413.74
748	358169	3232043	413.50
749	358205	3232009	412.54
750	358234	3231968	412.58

Sl. No	Easting (X)	Northing (Y)	WSE (m)
751	358257	3231924	411.87
752	358279	3231880	402.37
753	358307	3231838	401.58
754	358332	3231795	401.44
755	358351	3231749	401.33
756	358369	3231702	401.56
757	358388	3231656	401.78
758	358403	3231608	400.91
759	358415	3231560	401.01
760	358424	3231511	400.24
761	358431	3231461	400.20
762	358436	3231411	400.09
763	358458	3231367	400.20
764	358484	3231324	400.31
765	358515	3231286	399.09
766	358557	3231259	398.20
767	358586	3231219	397.66
768	358606	3231174	396.70
769	358622	3231126	395.99
770	358627	3231077	396.10
771	358627	3231027	395.34
772	358624	3230977	392.96
773	358617	3230928	392.55
774	358609	3230879	392.92
775	358607	3230829	391.02
776	358623	3230785	390.70
777	358659	3230751	390.65
778	358696	3230717	390.70
779	358727	3230678	390.84
780	358751	3230634	390.86

Sl. No	Easting (X)	Northing (Y)	WSE (m)
781	358765	3230587	390.80
782	358770	3230538	390.30
783	358767	3230488	388.71
784	358753	3230440	387.33
785	358736	3230393	387.42
786	358716	3230347	387.40
787	358688	3230306	386.77
788	358656	3230268	386.66
789	358655	3230218	386.66
790	358655	3230168	386.13
791	358667	3230121	385.93
792	358689	3230076	379.32
793	358706	3230030	379.49
794	358715	3229980	379.45
795	358716	3229930	378.43
796	358712	3229881	378.53
797	358691	3229836	374.17
798	358707	3229789	374.34
799	358719	3229741	374.38
800	358723	3229691	374.39
801	358728	3229642	374.16
802	358730	3229592	374.26
803	358723	3229542	373.82
804	358717	3229493	373.92
805	358711	3229443	373.22
806	358696	3229396	373.36
807	358716	3229352	373.48
808	358736	3229306	370.63
809	358758	3229262	370.55
810	358770	3229214	370.70

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Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL

Gola river 100 Year HFL Points

Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
811	358779	3229165	370.27
812	358791	3229116	370.33
813	358791	3229066	369.74
814	358784	3229017	369.60
815	358769	3228969	367.98
816	358773	3228924	367.61
817	358802	3228884	366.86
818	358815	3228836	366.82
819	358811	3228787	365.23
820	358804	3228738	364.96
821	358809	3228688	363.64
822	358808	3228638	363.08
823	358802	3228589	361.70
824	358776	3228547	361.36
825	358748	3228505	361.26
826	358721	3228463	361.23
827	358724	3228414	360.46
828	358727	3228365	359.28
829	358716	3228317	359.55
830	358701	3228269	359.56
831	358690	3228221	359.13
832	358686	3228172	358.28
833	358684	3228122	358.19
834	358685	3228073	358.49
835	358689	3228023	357.76
836	358692	3227973	357.57
837	358684	3227925	356.44
838	358683	3227879	356.56
839	358669	3227832	355.77
840	358647	3227788	354.36
841	358620	3227746	354.43
842	358595	3227703	354.39
843	358577	3227658	353.52
844	358562	3227612	352.70
845	358575	3227565	352.24
846	358602	3227523	352.30
847	358624	3227479	351.22
848	358643	3227432	349.52
849	358662	3227386	348.17
850	358673	3227338	347.78
851	358678	3227288	347.87
852	358689	3227239	346.27
853	358707	3227192	344.01
854	358721	3227145	342.94
855	358741	3227099	342.74
856	358766	3227056	342.73
857	358784	3227009	342.97
858	358802	3226962	341.08
859	358816	3226915	341.18
860	358828	3226866	338.78
861	358831	3226816	338.95
862	358834	3226766	338.89
863	358837	3226716	338.79
864	358854	3226670	338.79
865	358859	3226620	338.94
866	358861	3226570	338.68
867	358859	3226521	338.94
868	358853	3226471	336.45
869	358841	3226423	335.97
870	358830	3226375	336.03
871	358819	3226329	335.99
872	358817	3226279	335.32
873	358818	3226230	335.29
874	358828	3226181	335.33
875	358838	3226132	334.72
876	358853	3226084	333.85
877	358871	3226038	333.71
878	358889	3225991	333.75
879	358901	3225943	333.21
880	358911	3225894	333.12
881	358922	3225845	332.92
882	358931	3225796	332.35
883	358940	3225746	329.87
884	358943	3225697	329.81
885	358939	3225648	329.17
886	358917	3225603	329.10
887	358898	3225558	329.41
888	358896	3225508	329.18
889	358894	3225458	328.41
890	358898	3225408	324.58
891	358902	3225358	324.35
892	358910	3225309	324.78
893	358926	3225262	324.75
894	358942	3225214	323.55
895	358955	3225166	322.48
896	358965	3225117	322.43
897	358977	3225069	322.08
898	358986	3225020	322.31
899	358991	3224970	322.30
900	358996	3224920	322.31

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Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL

Gola river 100 Year HFL Points

Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
901	358999	3224870	321.80
902	359001	3224820	321.66
903	359004	3224770	318.98
904	359004	3224720	318.88
905	359014	3224673	318.31
906	359024	3224624	318.55
907	359027	3224574	318.36
908	359023	3224525	316.48
909	359013	3224476	316.65
910	359006	3224426	316.47
911	358995	3224378	316.26
912	358974	3224332	314.75
913	358951	3224288	314.31
914	358930	3224243	313.61
915	358913	3224196	313.25
916	358905	3224147	313.63
917	358891	3224099	312.08
918	358873	3224053	312.09
919	358854	3224006	311.49
920	358834	3223960	311.21
921	358824	3223912	311.38
922	358818	3223862	310.72
923	358821	3223812	310.35
924	358823	3223762	308.82
925	358826	3223713	307.39
926	358851	3223669	307.47
927	358873	3223625	305.63
928	358895	3223580	304.80
929	358917	3223535	305.01
930	358940	3223490	303.93
931	358962	3223445	303.79
932	358984	3223400	301.73
933	359006	3223356	301.42
934	359028	3223311	300.90
935	359054	3223268	300.55
936	359079	3223225	299.68
937	359104	3223182	299.35
938	359130	3223139	299.31
939	359155	3223095	299.30
940	359176	3223050	298.43
941	359197	3223004	298.75
942	359218	3222959	298.23
943	359239	3222914	297.90
944	359259	3222868	297.67
945	359274	3222821	296.00
946	359276	3222771	295.47
947	359278	3222721	295.29
948	359280	3222671	295.25
949	359283	3222621	294.96
950	359285	3222571	294.35
951	359287	3222521	294.00
952	359263	3222478	293.44
953	359239	3222434	293.49
954	359214	3222391	293.47
955	359186	3222349	292.83
956	359168	3222303	293.05
957	359154	3222255	292.76
958	359144	3222206	290.96
959	359137	3222157	291.04
960	359133	3222107	290.65
961	359118	3222060	290.19
962	359098	3222014	288.73
963	359080	3221967	288.28
964	359073	3221920	288.46
965	359094	3221875	287.99
966	359114	3221829	288.03
967	359118	3221779	287.39
968	359116	3221730	287.08
969	359104	3221682	286.02
970	359091	3221633	286.26
971	359082	3221584	285.28
972	359075	3221535	283.99
973	359069	3221485	282.72
974	359063	3221435	282.62
975	359057	3221386	281.60
976	359051	3221336	281.24
977	359065	3221289	279.72
978	359083	3221242	279.49
979	359104	3221197	279.67
980	359117	3221149	279.58
981	359119	3221099	279.29
982	359117	3221050	279.10
983	359106	3221001	279.08
984	359108	3220951	278.98
985	359110	3220902	276.87
986	359122	3220853	277.10
987	359134	3220804	276.70
988	359145	3220756	276.19
989	359155	3220707	275.96
990	359185	3220667	276.00

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NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhakuni Advocate HQ-NAINITAL

Gola river 100 Year HFL Points

Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
991	359213	3220625	276.13
992	359231	3220579	276.10
993	359250	3220532	275.25
994	359268	3220486	273.49
995	359278	3220437	273.70
996	359292	3220389	273.45
997	359301	3220340	272.12
998	359306	3220290	271.55
999	359312	3220241	271.72
1000	359317	3220191	271.09
1001	359311	3220142	271.08
1002	359299	3220093	270.67
1003	359289	3220045	270.69
1004	359283	3219995	270.72
1005	359277	3219945	270.51
1006	359271	3219896	270.29
1007	359265	3219846	270.33
1008	359252	3219798	270.49
1009	359235	3219751	270.36
1010	359224	3219702	270.27
1011	359217	3219653	269.95
1012	359224	3219604	269.49
1013	359239	3219557	269.52
1014	359253	3219509	268.96
1015	359268	3219461	268.97
1016	359288	3219415	268.70
1017	359309	3219370	268.76
1018	359319	3219321	269.06
1019	359328	3219272	268.91
1020	359335	3219222	268.80
1021	359337	3219172	268.91
1022	359340	3219122	267.06
1023	359339	3219072	266.85
1024	359338	3219022	266.57
1025	359337	3218972	266.62
1026	359337	3218922	266.62
1027	359334	3218872	266.22
1028	359328	3218823	266.47
1029	359322	3218773	265.72
1030	359318	3218723	265.20
1031	359313	3218674	265.01
1032	359303	3218625	264.63
1033	359296	3218575	264.54
1034	359291	3218526	264.60
1035	359284	3218476	264.24
1036	359277	3218427	264.46
1037	359267	3218378	264.34
1038	359253	3218330	263.43
1039	359241	3218281	261.28
1040	359255	3218234	260.74
1041	359272	3218188	260.73
1042	359284	3218139	260.35
1043	359301	3218093	260.19
1044	359307	3218044	260.34
1045	359319	3217995	259.33
1046	359324	3217946	258.34
1047	359349	3217903	258.21
1048	359369	3217859	258.42
1049	359390	3217813	258.23
1050	359408	3217767	258.15
1051	359426	3217720	258.29
1052	359444	3217673	255.95
1053	359473	3217632	255.97
1054	359502	3217592	256.08
1055	359516	3217545	255.65
1056	359523	3217496	255.23
1057	359520	3217447	255.62
1058	359533	3217398	252.44
1059	359549	3217351	252.74
1060	359567	3217304	252.08
1061	359580	3217256	252.26
1062	359589	3217207	251.68
1063	359598	3217158	251.83
1064	359607	3217109	251.82
1065	359618	3217060	250.84
1066	359636	3217013	250.91
1067	359654	3216967	250.61
1068	359671	3216920	249.42
1069	359688	3216872	249.68
1070	359701	3216825	246.67
1071	359703	3216775	246.62
1072	359706	3216725	246.73
1073	359709	3216675	246.60
1074	359711	3216625	246.58
1075	359714	3216575	246.80
1076	359709	3216525	246.67
1077	359704	3216476	246.16
1078	359698	3216426	245.89
1079	359701	3216376	245.97
1080	359705	3216326	245.86

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Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL

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Gola river 100 Year HFL Points

Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1081	359712	3216277	245.33
1082	359723	3216228	245.33
1083	359724	3216178	245.02
1084	359710	3216131	244.56
1085	359690	3216085	244.98
1086	359684	3216036	244.93
1087	359682	3215986	244.88
1088	359685	3215936	244.49
1089	359700	3215889	242.56
1090	359706	3215840	242.60
1091	359704	3215790	242.92
1092	359706	3215740	242.83
1093	359713	3215691	242.79
1094	359732	3215645	242.90
1095	359740	3215597	242.95
1096	359741	3215551	242.69
1097	359753	3215503	242.10
1098	359761	3215454	242.16
1099	359771	3215405	241.57
1100	359781	3215356	241.45
1101	359791	3215307	241.45
1102	359803	3215258	241.29
1103	359825	3215213	240.74
1104	359851	3215171	240.88
1105	359876	3215128	239.80
1106	359901	3215085	239.85
1107	359929	3215043	239.48
1108	359949	3214997	239.46
1109	359966	3214950	239.48
1110	359982	3214903	239.16
1111	360012	3214866	238.53
1112	360054	3214839	238.64
1113	360095	3214810	238.13
1114	360134	3214779	237.82
1115	360173	3214748	237.73
1116	360211	3214716	237.40
1117	360249	3214683	237.20
1118	360271	3214639	237.22
1119	360293	3214595	236.88
1120	360338	3214598	236.92
1121	360345	3214572	237.03
1122	360338	3214526	236.91
1123	360346	3214477	236.90
1124	360368	3214437	236.72
1125	360380	3214390	236.98
1126	360396	3214345	236.84
1127	360389	3214298	236.62
1128	360395	3214253	236.56
1129	360409	3214219	236.57
1130	360431	3214178	236.55
1131	360454	3214135	236.18
1132	360489	3214098	235.52
1133	360514	3214066	235.62
1134	360542	3214039	235.72
1135	360567	3214004	235.43
1136	360594	3213968	235.63
1137	360597	3213924	235.68
1138	360614	3213879	235.39
1139	360633	3213839	235.03
1140	360648	3213791	234.86
1141	360653	3213743	234.91
1142	360626	3213704	233.41
1143	360626	3213656	233.46
1144	360645	3213614	233.12
1145	360672	3213573	232.90
1146	360702	3213537	232.97
1147	360727	3213494	232.57
1148	360744	3213448	232.73
1149	360743	3213398	232.83
1150	360745	3213348	232.72
1151	360726	3213303	232.44
1152	360695	3213266	232.31
1153	360681	3213218	232.09
1154	360648	3213186	232.28
1155	360621	3213146	232.02
1156	360601	3213110	231.95
1157	360612	3213066	231.94
1158	360626	3213020	231.20
1159	360645	3212975	229.83
1160	360680	3212948	229.76
1161	360704	3212906	229.91
1162	360716	3212858	229.97
1163	360716	3212808	230.00
1164	360697	3212762	230.02
1165	360663	3212726	229.84
1166	360661	3212681	229.77
1167	360688	3212639	229.67
1168	360719	3212600	229.58
1169	360752	3212564	229.38
1170	360779	3212526	229.25

NOTARY
Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
Regd. No. 10 (Uttarakhand)
GOVT. OF UTTARAKHAND

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Gola river 100 Year HFL Points
Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1171	360792	3212477	228.94
1172	360809	3212430	228.97
1173	360826	3212383	227.29
1174	360843	3212336	227.49
1175	360851	3212287	227.52
1176	360858	3212238	227.34
1177	360853	3212188	227.30
1178	360849	3212138	226.46
1179	360885	3212108	226.38
1180	360914	3212068	226.33
1181	360937	3212025	226.26
1182	360933	3211975	226.35
1183	360911	3211934	225.80
1184	360872	3211903	226.12
1185	360831	3211875	225.67
1186	360792	3211844	225.60
1187	360755	3211811	225.74
1188	360713	3211794	225.47
1189	360696	3211753	225.05
1190	360710	3211706	224.41
1191	360718	3211658	224.44
1192	360738	3211613	224.46
1193	360761	3211569	224.09
1194	360775	3211521	223.67
1195	360778	3211471	223.79
1196	360779	3211421	223.12
1197	360782	3211371	222.88
1198	360780	3211321	222.83
1199	360792	3211275	221.58
1200	360811	3211229	221.85
1201	360821	3211180	221.85
1202	360823	3211130	221.14
1203	360824	3211080	221.38
1204	360821	3211031	221.19
1205	360807	3210983	221.01
1206	360793	3210935	220.83
1207	360782	3210886	220.99
1208	360747	3210851	220.71
1209	360716	3210813	220.75
1210	360701	3210765	220.61
1211	360686	3210717	220.84
1212	360672	3210669	220.60
1213	360657	3210622	220.45
1214	360639	3210575	220.66
1215	360616	3210531	220.12
1216	360589	3210489	220.13
1217	360558	3210450	219.82
1218	360529	3210409	219.96
1219	360526	3210362	220.03
1220	360527	3210313	220.04
1221	360510	3210266	219.89
1222	360475	3210233	219.86
1223	360428	3210217	219.95
1224	360379	3210226	219.96
1225	360330	3210227	220.20
1226	360282	3210243	220.15
1227	360250	3210225	220.04
1228	360231	3210179	220.10
1229	360196	3210144	219.96
1230	360157	3210113	219.83
1231	360126	3210075	219.81
1232	360121	3210026	219.71
1233	360126	3209976	219.68
1234	360151	3209934	219.61
1235	360166	3209886	219.47
1236	360181	3209838	219.57
1237	360196	3209791	219.56
1238	360213	3209744	218.50
1239	360230	3209697	218.26
1240	360247	3209650	218.09
1241	360264	3209603	218.34
1242	360280	3209555	218.08
1243	360290	3209506	218.06
1244	360300	3209457	218.21
1245	360300	3209407	218.10
1246	360300	3209357	217.73
1247	360301	3209307	217.76
1248	360274	3209266	217.79
1249	360246	3209224	217.88
1250	360212	3209188	217.87
1251	360172	3209158	217.86
1252	360132	3209128	217.94
1253	360097	3209093	217.87
1254	360062	3209057	217.48
1255	360028	3209020	217.84
1256	359992	3208987	217.69
1257	359944	3208974	217.68
1258	359903	3208947	217.53
1259	359865	3208913	217.46
1260	359822	3208891	217.55

NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL GOVT. OF UTTARAKHAND (INDIA)

Gola river 100 Year HFL Points

Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1261	359774	3208875	217.48
1262	359730	3208853	217.36
1263	359681	3208845	217.49
1264	359636	3208823	217.16
1265	359598	3208792	217.08
1266	359571	3208750	217.27
1267	359552	3208704	216.78
1268	359538	3208657	216.93
1269	359527	3208608	216.96
1270	359501	3208566	217.10
1271	359472	3208525	217.01
1272	359446	3208483	216.91
1273	359426	3208437	216.69
1274	359408	3208392	216.92
1275	359404	3208342	216.82
1276	359405	3208292	216.49
1277	359408	3208242	216.66
1278	359405	3208193	216.54
1279	359395	3208144	216.53
1280	359369	3208101	216.48
1281	359343	3208059	216.45
1282	359335	3208009	216.43
1283	359327	3207960	216.58
1284	359317	3207911	216.59
1285	359298	3207876	216.27
1286	359269	3207845	216.41
1287	359238	3207807	216.47
1288	359205	3207770	216.56
1289	359170	3207734	216.56
1290	359133	3207706	216.31
1291	359131	3207657	216.30
1292	359097	3207623	216.23
1293	359064	3207589	216.42
1294	359016	3207582	216.11
1295	358985	3207548	216.47
1296	358961	3207506	216.41
1297	358940	3207463	216.43
1298	358897	3207439	216.02
1299	358869	3207406	216.07
1300	358856	3207362	216.16
1301	358845	3207329	216.21
1302	358828	3207293	215.99
1303	358809	3207249	216.14
1304	358794	3207206	215.34
1305	358783	3207158	215.31
1306	358764	3207111	215.07
1307	358746	3207065	215.07
1308	358764	3207026	215.24
1309	358803	3207000	214.87
1310	358833	3206962	214.87
1311	358877	3206940	214.94
1312	358917	3206912	214.97
1313	358949	3206876	214.67
1314	358986	3206847	214.99
1315	359021	3206814	214.41
1316	359068	3206803	214.64
1317	359117	3206798	214.49
1318	359166	3206808	214.30
1319	359197	3206777	214.28
1320	359226	3206737	214.40
1321	359246	3206692	214.50
1322	359261	3206645	214.36
1323	359281	3206599	214.50
1324	359308	3206557	214.11
1325	359328	3206511	214.43
1326	359345	3206464	214.15
1327	359359	3206416	214.27
1328	359369	3206367	214.40
1329	359380	3206319	214.19
1330	359383	3206272	214.26
1331	359348	3206236	214.07
1332	359304	3206220	214.20
1333	359256	3206227	213.93
1334	359221	3206217	213.99
1335	359212	3206168	214.11
1336	359196	3206121	214.16
1337	359177	3206075	214.04
1338	359156	3206029	214.28
1339	359155	3205986	214.06
1340	359110	3205965	213.84
1341	359073	3205934	213.76
1342	359042	3205895	214.00
1343	359000	3205870	214.19
1344	358951	3205862	214.05
1345	358902	3205867	213.95
1346	358853	3205881	214.15
1347	358806	3205895	214.08
1348	358757	3205897	214.08
1349	358708	3205888	214.19
1350	358658	3205880	214.20

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NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhakuni Advocate HQ-NAINITAL

8/4/2024

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Gola river 100 Year HFL Points

Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1351	358609	3205871	214.10
1352	358572	3205844	213.70
1353	358560	3205796	213.96
1354	358538	3205752	214.06
1355	358515	3205708	213.76
1356	358526	3205660	214.09
1357	358528	3205610	213.96
1358	358546	3205564	213.80
1359	358573	3205525	213.91
1360	358571	3205480	213.88
1361	358558	3205439	213.61
1362	358509	3205435	213.62
1363	358477	3205400	213.73
1364	358461	3205354	213.72
1365	358481	3205311	213.65
1366	358506	3205269	213.77
1367	358526	3205223	212.93
1368	358520	3205183	212.96
1369	358503	3205136	211.50
1370	358485	3205089	211.69
1371	358466	3205045	211.69
1372	358457	3204997	211.57
1373	358431	3204955	211.83
1374	358413	3204908	211.49
1375	358404	3204861	211.67
1376	358419	3204814	211.52
1377	358438	3204767	211.55
1378	358460	3204723	211.41
1379	358484	3204681	211.22
1380	358482	3204631	211.22
1381	358480	3204581	210.75
1382	358480	3204531	210.32
1383	358485	3204481	210.40
1384	358513	3204452	210.62
1385	358562	3204443	210.37
1386	358601	3204414	210.41
1387	358642	3204388	210.17
1388	358692	3204381	209.97
1389	358738	3204366	210.13
1390	358776	3204336	210.22
1391	358789	3204288	209.87
1392	358798	3204239	209.96
1393	358797	3204189	209.99
1394	358808	3204141	209.77
1395	358849	3204119	209.66
1396	358897	3204104	209.51
1397	358936	3204076	209.61
1398	358970	3204039	209.56
1399	358994	3203997	209.67
1400	359009	3203949	209.50
1401	359023	3203901	209.54
1402	359029	3203854	209.39
1403	359008	3203808	209.47
1404	358988	3203762	208.75
1405	358976	3203715	208.89
1406	358980	3203665	208.65
1407	358984	3203616	208.63
1408	358961	3203573	208.48
1409	358932	3203533	208.87
1410	358905	3203490	208.75
1411	358886	3203445	208.45
1412	358878	3203395	208.69
1413	358878	3203346	208.18
1414	358862	3203301	208.42
1415	358831	3203263	208.30
1416	358811	3203217	208.36
1417	358783	3203176	208.27
1418	358788	3203128	208.11
1419	358794	3203078	208.34
1420	358796	3203028	208.31
1421	358790	3202980	208.00
1422	358775	3202932	207.94
1423	358752	3202888	208.22
1424	358717	3202854	208.11
1425	358691	3202812	208.02
1426	358656	3202779	208.07
1427	358609	3202764	208.02
1428	358563	3202744	208.18
1429	358527	3202711	208.03
1430	358486	3202683	208.10
1431	358437	3202676	208.02
1432	358389	3202688	207.96
1433	358340	3202700	208.08
1434	358292	3202712	207.88
1435	358243	3202721	207.93
1436	358197	3202720	207.80
1437	358154	3202703	207.43
1438	358109	3202680	207.66
1439	358065	3202657	207.73
1440	358018	3202643	207.26

NOTARY GOVT. OF UTTARAKHAND Dr. P. S. Bhakuni Advocate HQ-NAINITAL

Gola river 100 Year HFL Points

Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1441	357971	3202627	207.51
1442	357926	3202606	207.50
1443	357880	3202586	207.57
1444	357862	3202546	207.60
1445	357867	3202497	207.25
1446	357876	3202447	207.56
1447	357913	3202418	207.35
1448	357963	3202414	207.54
1449	358007	3202391	207.63
1450	358034	3202355	207.49
1451	358045	3202309	207.48
1452	358077	3202270	207.59
1453	358084	3202222	207.52
1454	358059	3202184	207.42
1455	358059	3202136	207.30
1456	358063	3202087	205.47
1457	358068	3202037	205.52
1458	358073	3201987	205.67
1459	358086	3201939	205.60
1460	358098	3201891	205.41
1461	358105	3201841	205.63
1462	358115	3201793	205.52
1463	358132	3201747	205.36
1464	358170	3201716	205.60
1465	358209	3201684	205.62
1466	358248	3201653	205.73
1467	358287	3201621	205.49
1468	358327	3201592	205.57
1469	358372	3201571	205.67
1470	358416	3201547	205.55
1471	358457	3201519	205.36
1472	358495	3201486	205.55
1473	358533	3201454	205.64
1474	358574	3201425	205.78
1475	358614	3201395	205.51
1476	358654	3201365	205.60
1477	358692	3201332	205.45
1478	358725	3201295	205.42
1479	358752	3201253	205.64
1480	358795	3201236	205.76
1481	358818	3201200	205.67
1482	358825	3201151	205.47
1483	358821	3201102	205.62
1484	358815	3201053	205.56
1485	358808	3201004	205.27
1486	358796	3200955	205.59
1487	358784	3200907	205.38
1488	358773	3200858	205.60
1489	358762	3200809	205.37
1490	358742	3200764	205.39
1491	358716	3200722	205.70
1492	358705	3200675	205.41
1493	358707	3200625	205.42
1494	358726	3200579	205.33
1495	358746	3200533	205.56
1496	358765	3200487	205.33
1497	358788	3200443	205.37
1498	358815	3200401	205.54
1499	358842	3200358	205.64
1500	358869	3200316	205.33
1501	358885	3200270	205.50
1502	358889	3200221	205.70
1503	358892	3200171	205.55
1504	358895	3200121	205.61
1505	358898	3200071	205.46
1506	358901	3200021	205.65
1507	358884	3199974	205.41
1508	358865	3199928	205.37
1509	358847	3199882	205.54
1510	358822	3199842	205.54
1511	358773	3199832	205.31
1512	358724	3199822	205.55
1513	358684	3199798	205.58
1514	358656	3199757	205.64
1515	358627	3199716	205.33
1516	358599	3199675	205.69
1517	358568	3199636	205.34
1518	358532	3199601	205.43
1519	358496	3199566	205.44
1520	358461	3199531	205.26
1521	358425	3199496	205.24
1522	358381	3199473	205.29
1523	358336	3199452	205.40
1524	358290	3199431	205.18
1525	358245	3199411	205.44
1526	358197	3199397	205.36
1527	358149	3199383	205.58
1528	358101	3199369	205.39
1529	358053	3199355	205.42
1530	358005	3199340	205.16

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Gola river 100 Year HFL Points

Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1531	357957	3199325	205.52
1532	357909	3199311	205.31
1533	357861	3199298	205.56
1534	357812	3199287	205.51
1535	357763	3199279	205.45
1536	357713	3199273	205.37
1537	357664	3199267	203.54
1538	357614	3199262	203.65
1539	357565	3199250	203.49
1540	357517	3199237	203.42
1541	357468	3199225	203.55
1542	357441	3199211	203.65
1543	357485	3199188	203.43
1544	357519	3199152	203.52
1545	357551	3199114	203.26
1546	357560	3199065	203.48
1547	357569	3199015	203.60
1548	357582	3198967	203.46
1549	357594	3198919	203.39
1550	357586	3198870	203.40
1551	357575	3198821	203.45
1552	357532	3198796	203.66
1553	357489	3198771	203.64
1554	357480	3198724	203.57
1555	357485	3198674	203.45
1556	357490	3198624	203.37
1557	357485	3198574	203.36
1558	357487	3198525	203.31
1559	357491	3198475	203.24
1560	357497	3198425	203.46
1561	357508	3198376	203.59
1562	357518	3198327	203.25
1563	357526	3198278	203.30
1564	357524	3198228	203.20
1565	357520	3198178	203.49
1566	357508	3198130	203.46
1567	357493	3198082	203.37
1568	357477	3198035	203.45
1569	357449	3197994	203.42
1570	357415	3197958	203.57
1571	357374	3197929	203.39
1572	357325	3197928	203.54
1573	357286	3197948	203.51
1574	357258	3197988	203.40
1575	357216	3198016	203.24
1576	357176	3198010	203.40
1577	357155	3197965	203.40
1578	357135	3197919	203.40
1579	357115	3197873	203.30
1580	357105	3197824	203.33
1581	357095	3197775	203.30
1582	357089	3197726	203.31
1583	357086	3197676	203.43
1584	357065	3197632	203.43
1585	357029	3197598	203.28
1586	356988	3197588	203.21
1587	356981	3197539	203.29
1588	356977	3197489	203.39
1589	356966	3197441	203.18
1590	356947	3197394	203.64
1591	356922	3197352	203.19
1592	356888	3197315	203.45
1593	356846	3197288	203.51
1594	356798	3197281	203.29
1595	356750	3197295	203.41
1596	356709	3197277	203.43
1597	356693	3197230	203.37
1598	356667	3197188	203.45
1599	356629	3197156	203.60
1600	356593	3197121	203.41
1601	356565	3197081	203.33
1602	356553	3197032	203.45
1603	356535	3196986	203.28
1604	356533	3196938	203.27
1605	356547	3196890	203.36
1606	356561	3196842	203.55
1607	356578	3196795	203.44
1608	356600	3196750	203.53
1609	356620	3196705	203.28
1610	356641	3196659	203.51
1611	356659	3196613	203.21
1612	356675	3196565	203.50
1613	356694	3196519	203.51
1614	356714	3196473	203.45
1615	356727	3196429	203.39
1616	356689	3196397	203.54
1617	356651	3196365	203.62
1618	356613	3196332	203.26
1619	356575	3196299	203.40
1620	356538	3196266	203.32

Gola river 100 Year HFL Points
Left Bank

Sl. No	Easting (X)	Northing (Y)	WSE (m)
1621	356502	3196231	203.11
1622	356464	3196198	203.52
1623	356427	3196165	203.35
1624	356388	3196134	203.24
1625	356347	3196105	203.22
1626	356305	3196077	203.30
1627	356265	3196047	203.51
1628	356227	3196015	203.21
1629	356184	3195991	203.27
1630	356145	3195962	203.49
1631	356110	3195926	203.40
1632	356078	3195888	203.29
1633	356046	3195850	203.47
1634	356010	3195815	202.13
1635	355969	3195787	201.69
1636	355924	3195766	201.93
1637	355875	3195754	201.94
1638	355826	3195747	201.70
1639	355776	3195741	201.83
1640	355726	3195739	201.88
1641	355676	3195739	202.08
1642	355626	3195744	201.78
1643	355582	3195730	201.86
1644	355549	3195695	201.65
1645	355525	3195651	201.87
1646	355495	3195611	200.80
1647	355451	3195590	200.76
1648	355402	3195588	200.23
1649	355353	3195595	200.05
1650	355309	3195590	199.95
1651	355282	3195547	199.36
1652	355256	3195505	198.65
1653	355229	3195463	198.66
1654	355189	3195435	198.41
1655	355140	3195436	198.54
1656	355096	3195415	198.37
1657	355065	3195378	198.43
1658	355044	3195333	198.25
1659	355028	3195285	198.26
1660	355002	3195244	197.96
1661	354965	3195211	198.05
1662	354941	3195167	197.93
1663	354929	3195119	198.00
1664	354911	3195073	198.00
1665	354875	3195040	197.82
1666	354843	3195001	197.96
1667	354815	3194960	197.82
1668	354785	3194920	197.70
1669	354750	3194885	197.68
1670	354717	3194847	197.93
1671	354691	3194804	197.53
1672	354664	3194763	197.46
1673	354635	3194722	197.73
1674	354598	3194689	197.49
1675	354551	3194683	197.41
1676	354527	3194644	197.43
1677	354486	3194628	197.24
1678	354438	3194640	197.10
1679	354391	3194643	196.99
1680	354343	3194647	197.06
1681	354307	3194622	197.07
1682	354284	3194577	197.01
1683	354319	3194550	197.31
1684	354316	3194511	197.21
1685	354318	3194477	197.11
1686	354323	3194451	196.86
1687	354284	3194421	197.14
1688	354237	3194410	196.78
1689	354188	3194407	197.04
1690	354144	3194383	197.09
1691	354100	3194359	196.07
1692	354091	3194312	196.14
1693	354080	3194264	196.28
1694	354068	3194215	196.12
1695	354060	3194180	196.22

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GOVT. OF UTTARAKHAND (INDIA) NOTARY Dr. P. S. Bhakuni Advocate HQ-NAINITAL

ATTESTED 18/9/24
(Dr. Pooran Singh Bhakuni)
Advocate
Notery, HQ-NAINITAL
Distt. Nainital (U.K.)



Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND

31564


FLOOD PLAIN ZONES ALONG THE GOLA RIVER AFTER PINASHELA TO KICHHA REGION TILL UTTARAKHAND BORDER DEHRADUN, UTTARAKHAND
Legend
25YR_WSE
Gola_River
Locations
25yr Flood Extent
River Boundary
Scale
1:10,000

31565



Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND (INDIA)

31566



HQ-NAINITAL
GOVT. OF UTTARAKHAND

31567


FLOOD PLAIN ZONES ALONG THE GOLA RIVER AFTER PINASHELA TO KICHHA REGION TILL UTTARAKHAND BORDER DEHRADUN, UTTARAKHAND
Legend
Gola_River
Locations
River Boundary
Scale.
1:10,000
HQ-NAINITAL
GOVT. OF UTTARAKHAND INDIA

31568



HQ-NAINITAL
GOVT. OF UTTARAKHAND INDIA

31569



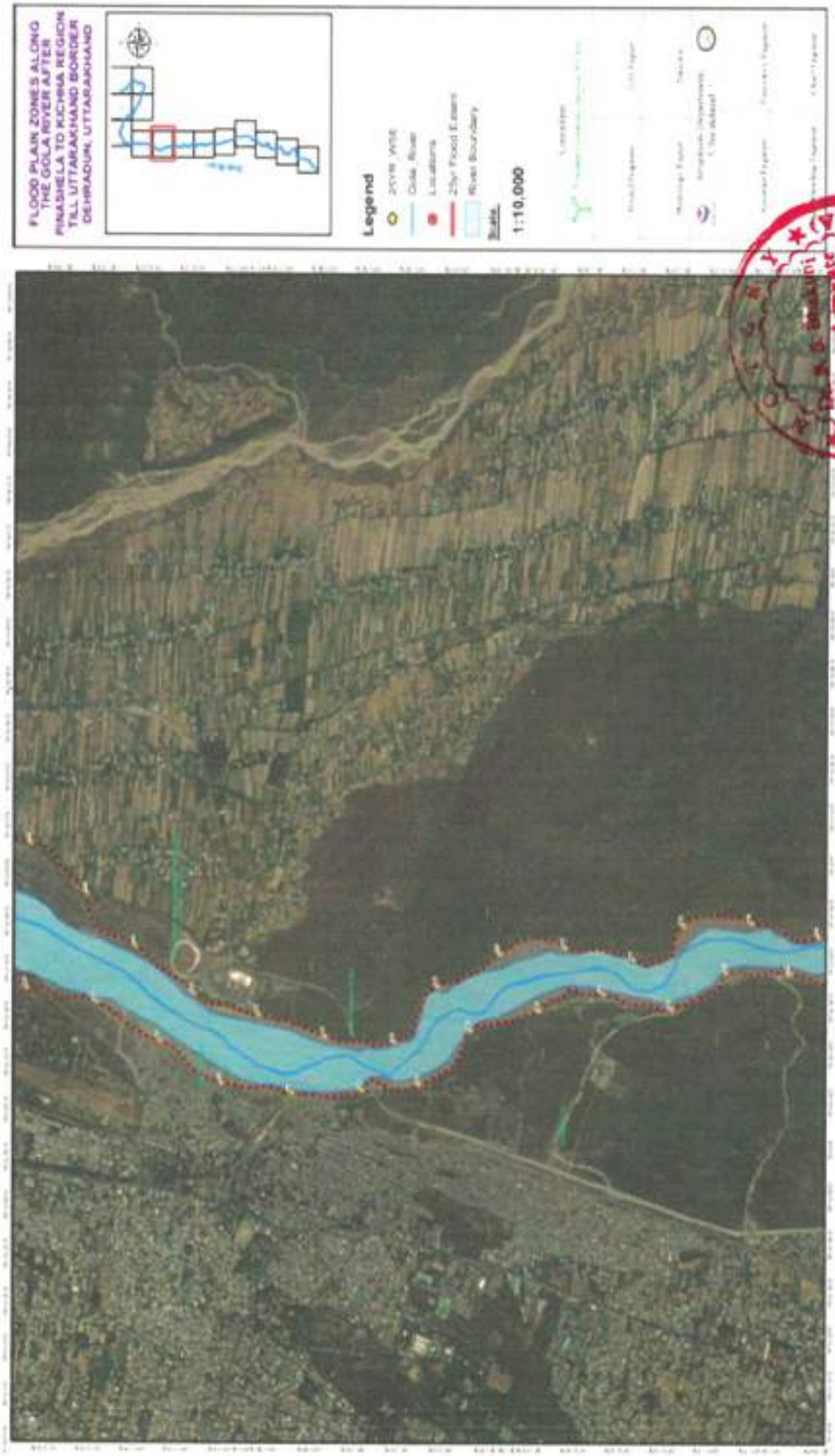
GOVT. OF UTTARAKHAND
HQ-NAINITAL
13 NOV 2021

31570



Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL

31571


FLOOD PLAIN ZONES ALONG THE GOLA RIVER AFTER PINASIMLA TO KICHHA REGION TILL UTTARAKHAND BORDER DEHRADUN, UTTARAKHAND
Legend
1:10,000
GOVT. OF UTTARAKHAND



31573

Advocate
HQ-NAINITAL
Govt. of Uttarakhand


FLOOD PLAIN ZONES ALONG THE GOLA RIVER AFTER PINASHELA TO KICHHA REGION TILL UTTARAKHAND BORDER DEHRADUN, UTTARAKHAND
Legend
25YR_WSE
Gola_River
Localities
25yr Flood Extent
River Boundary
Scale
1:10,000

31574


FLOOD PLAIN ZONES ALONG THE GOLA RIVER AFTER PINASHELA TO KICHHA REGION TILL UTTARAKHAND BORDER DEHRADUN, UTTARAKHAND
Legend
25YR_WSE
Gola_River
Locations
25yr Flood Extent
River Boundary
Scale
1:10,000

31575


FLOOD PLAIN ZONES ALONG THE GOLA RIVER AFTER PINASHELA TO KICHHA REGION TILL UTTARAKHAND BORDER DEHRADUN, UTTARAKHAND
Legend
2YR_WSE
Gola_River
Locations
25yr Flood Extent
River Boundary
Scale
1:10,000
HQ-NAINITAL
GOVT. OF UTTARAKHAND

31576



Advocate
HQ-NAINITAL
GOVT. OF UTTARAKHAND (INDIA)

31577



Dr. P. S. Bhakuni
Advocate
HQ-NAINITAL
Regd. No. 20 (UK) 2011

31578



Dr. P. S. Bhakuni
Adv. cate
HQ-NAINITAL
GOVT. OF INDIA

31579



Advocate
HQ-NAINITAL

31580



Dr. P. S. [illegible]
Advocate
HQ-NAINITAL
G. No. 38 OF 10/2011
GOVT. OF UTTARAKHAND (INDIA)

9/9/2024

31581


FLOOD PLAIN ZONES ALONG THE GOLA RIVER AFTER PINASHELA TO KICHHA REGION TILL UTTARAKHAND BORDER DEHRADUN, UTTARAKHAND
Legend
100YR. WSE
Gola_River
Locations
100yr Flood Extent
River Boundary
Scale
1:10,000
HQ-NAINITAL
GOVT. OF UTTARAKHAND

31582



HQ-NAINITAL
GOVT. OF UTTARAKHAND

31583


FLOOD PLAIN ZONES ALONG THE GOLA RIVER AFTER PINASHELA TO KICHHA REGION TILL UTTARAKHAND BORDER DEHRADUN, UTTARAKHAND
Legend
100YR_WSE
Gola_River
Localities
100yr Flood Extent
River Boundary
Scale.
1:10,000

31584



HQ-NAINITAL

31585



HQ-NAINITAL
GOVT. OF UTTARAKHAND INDIA

31586



GOVT. OF UTTARAKHAND (INDIA)
HQ-NAINITAL

31587


FLOOD PLAIN ZONES ALONG THE GOLA RIVER AFTER PINASHELA TO KICHHA REGION TILL UTTARAKHAND BORDER DEHRADUN, UTTARAKHAND
Legend
100YR WSE
Gola River
Locations
100yr Flood Extent
River Boundary
Scale
1:10,000
HQ-NAINITAL
GOVT. OF UTTARAKHAND

31588


FLOOD PLAIN ZONES ALONG THE GOLA RIVER AFTER PINASHELA TO KICHHA REGION TILL UTTARAKHAND BORDER DEHRADUN, UTTARAKHAND
Legend
100YR_WSE
Gola_River
Locations
100yr Flood Extent
River Boundary
Scale
1:10,000

31589



HQ-NAINITAL

31590



ATTESTED

(Dr. Pooran Singh Bhakuni)
Advocate
Notary, HQ-NAINITAL
Distt. Nainital (U.K.)

HQ-NAINITAL

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ANNEXURE-E

कार्यालय मुख्य चिकित्साधिकारी नैनीताल

पत्रांक:- जैव चिकित्सा अपशिष्ट 2023-24/ दिनांक:- 01 फरवरी 2024

सेवा में,

प्रभागी वन अधिकारी
तराईपूर्वी वन प्रभाग, हल्द्वानी।

विषय :- मा0 राष्ट्रीय हरित अधिकरण (एन.जी.टी.), प्रधान पीठ, नई दिल्ली द्वारा आवेदन पत्र (ओ.ए.)संख्या 200/2014 एम.सी. मेहता बनाम गंगा प्रदूषण एवं सफाई आदि के मामले गए पारित आदेश दिनांक 24.11.2023 के अनुपालन के सम्बन्ध में।

महोदय,

उपरोक्त विषयक आपके पत्रांक 4760/26-1 (हल्द्वानी) दिनांक 1 फरवरी 2024 के क्रम में मांगी गयी सूचना निम्न प्रकार है :-

6. Bio Medical Waste	(a) The Per day total generation of bio medical waste in the district	The total estimated daily production of bio medical waste in the district. Govt 433.54 Kg Private. 462 Kg
	(b) The manner of its treatment and disposal	1 In District hospital /Sub District Hospital/ Private Hospital, bio medical waste disposal is done by common bio medical waste treatment facility (Global Environmental solution, Gadarpur). In Sushila Tewari Hospital Haldwani bio medical waste disposal is done by common bio medical waste treatment facility (situated in STH Campus) 2. In community Health Centre, Primary Health Centre Type A, Primary Health Centre Type B, Health and Wellness centre, the bio medical waste disposal is done through Deep Burial Pit situated in facility. * The disposal of bio waste generate in the hospitals is completely treated as per the guideline, hence there is no gap of any kind.

8845
26-1
1/2/24

अतः सूचना प्राप्ति स्वीकार करें।

मुख्य चिकित्साधिकारी
नैनीताल।

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31592

Sr.No.	FACILITY TYPE	NO. OF FACILITY	Per Day Bio-Medical Waste generation (Category wise) in Kilograms				PER-DAY TOTAL QUANTITY (IN KG)	MODE OF DISPOSAL
			YELLOW	RED	BLUE	WHITE		
1	DISTRICT HOSPITAL	1	25	20	8	0.350	53.35	Common bio medical waste treatment facility (Global Enviromental Solution Gadarpur)
2	SUB DISTRICT HOSPITAL	3	65	18	4	0.750	87.75	
3	STH MEDICAL COLLAGE	1	260	20	0	0	280	Common bio medical waste treatment facility (situated in STH campus)
4	COMMUNITY HEALTH CENTRE	10	4	4.50	0.300	0.150	8.95	Deep Burial pit (situated in hospital campus)
5	PRIMARY HEALTH CENTRE TYPE-B	5	2	0.750	0.160	0.100	3.01	
4	PRIMARY HEALTH CENTRE TYPE-A	40	0.250	0.100	0.020	0.010	0.380	
5	HEALTH AND WELLNESS CENTRE	103	0.02	0	0.05	0.030	0.100	
6	PRIVATE	203	203	211	42	6	462	Common bio medical waste treatment facility (Global Enviromental Solution Gadarpur)
	TOTAL	366	559.27	274.35	54.53	7.390	895.54	

ATTESTED

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(GOVT. OF UTTARAKHAND (INDIA))

31593

F ANNEXURE-F

भूतत्व एवं खनिकर्म विभाग
जनपद नैनीताल स्थित हल्द्वानी

सेवा में,

प्रभागीय वनाधिकारी,
तराई पूर्वी वन प्रभाग,
हल्द्वानी।

पत्रांक: 1293 /भू0खनि0वि0/अवैध खनन–एन0जी0टी0/2023–24 दिनांक: 01 फरवरी, 2024

विषयः– मा0 राष्ट्रीय हरित अधिकरण(एन0जी0टी0) प्रधान पीठ, नई दिल्ली द्वारा आवेदन–पत्र (ओ0ए0) सं0 200/ 2014 एम0सी0 मेहता बनाम गंगा प्रदूषण एवं सफाई आदि के मामले में पारित आदेश दिनांक 24.11.2023 के अनुपालन के सम्बन्ध में।

महोदय,

कृपया उपरोक्त विषयक अपने कार्यालय के पत्रांक सं0 4760/26–1 हल्द्वानी दिनांक 01.02.2024 का सन्दर्भ ग्रहण करने का कष्ट करें।

उपरोक्त के अनुपालन में जनपद नैनीताल में दिनांक 01.01.2023 से 31.12.2023 तक नदी तल में हुए अवैध खनन के प्रकरणों का विवरण इस पत्र के साथ संलग्न कर महोदय के अवलोकनार्थ एवं आवश्यक अग्रेतर कार्यवाही हेतु संलग्न कर सादर प्रेषित किया जा रहा है। अवगत कराना है कि उक्त सूचना इस कार्यालय के पत्रांक सं0 1214/भू0खनि0वि0/अवैध खनन–एन0जी0टी0/2023–24 दिनांक 05 जनवरी, 2024 द्वारा पूर्व में भी प्रेषित की जा चुकी है।

तद्नुसार सादर सूचनार्थ प्रेषित।

संलग्नकः उपरोक्तानुसार

भवदीय,
01-02-2024
(ताजबर सिंह नेगी)
खान अधिकारी

कार्यालय तराई पूर्वी वन प्रभाग
हल्द्वानी
प्राप्ति सं० 8905
पत्रांक सं० 26-1
दिनांक 3/2/24

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UTTARAKHAND (INDIA)

जनपद नैनीताल में दिनांक 01.01.2023 से 31.12.2023 तक नदी तल में हुए अवैध खनन का विवरण

कम सं0	निरीक्षण का दिनांक	नदी/स्थल का नाम	अवैध खनन का विवरण	अवैध खनन की मात्रा	अर्थदण्ड धनराशि	वसूली की स्थिति
1.	21.04.2023	ग्राम ओडाडाडर, तह0 बेतालघाट जिला नैनीताल/कोसी नदी	श्री अमित अग्रवाल	466.2 घनमीटर (1025.64 टन)	रू0 1,43,590.00	जमा
2.	09.05.2023	ग्राम मल्ला बर्धो, तहसील बेतालघाट जिला नैनीताल/कोसी नदी	कु0म0वि0निगम लिमि0,	576 घनमीटर(12,672 कुण्टल)	रू0 1,77,408.00	जमा
3.	06.06.2023	ग्राम बर्धो, तह0 बेतालघाट/कोसी नदी	कु0म0वि0निगम लिमि0,	756 घननीटर (16,632 कुण्टल)	रू0 2,32,848.00	जमा
4.	07.06.2023	ग्राम अनिया तहसील व जिला नैनीताल/गौला नदी	कु0म0वि0निगम लिमि0,	1857 घनमीटर (33,426 कुण्टल)	रू0 4,67,964.00	जमा
5.	23.06.2023	तहसील कोश्याकुटौली के ग्राम छड़ा एवं डोबा/कोसी नदी	सुश्री शिल्पा नैनवाल,	570 घनमीटर (10,260 कुण्टल)	रू0 1,43,640.00	जमा
6.	24.06.2023	ग्राम मुरकुड़िया, तह0 व जनपद नैनीताल /गौला नदी	श्री संजय कुमार वर्मा,	610 घनमीटर (10,980 कुण्टल)	रू0 1,53,720.00	जमा
7.	27.06.2023	ग्राम घोड़ियाहल्सों व घिरौली तहसील बेतालघाट जिला नैनीताल/कोसी नदी	श्री इन्दर सिंह रावत पुत्र श्री हीरा सिंह,	630 घनमीटर (11,340 कुण्टल)	रू0 1,58,760.00	जमा
8.	27.06.2023	ग्राम मल्लीपाली, तहसील बेतालघाट जिला नैनीताल/कोसी नदी	श्री विशम्भर दत्त पलड़िया पुत्र श्री जयकिशन,	1680 घनमीटर (30240 कुण्टल)	रू0 4,23,360.00	जमा

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