OFFICE OF THE EXECUTIVE COMMITTEE (GHAGGAR RIVER)

Constituted by the Hon'ble National Green Tribunal under
Section 25 of National Green Tribunal Act, 2010
(for execution of order dated 7.8.2018 passed
In Original Application no.138 and 139 of 2016) titled
"Stench Grips Mansa's Sacred Ghaggar River (Suo-Moto case)

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No. CEC/2019/18 **Dated: 01.03.2019**

To

The Worthy Registrar,
National Green Tribunal,
Faridkot House, Copernicus Marg, Near India Gate,
New Delhi, Delhi 110001

Subject: **Report of the Executing Committee in Compliance of Orders dated 7.8.2018 passed by the Hon'ble NGT relating to River Ghaggar.**

Sir,

It is submitted that in compliance of the aforesaid orders passed in Original Application No. 138 and O.A. No. 139 of 2016 in the matter of Stench Grips Mansa's Sacred Ghaggar River (Suo-Moto case), finalized report of the Executing Committee in terms of the aforesaid orders has already been sent to Hon'ble NGT through email. However, a hard copy of the finalized report alongwith Action Plans received from 3 States (Punjab, Haryana, Himachal Pradesh) and Chandigarh UT Administration is being also sent through Sh. Ravi Chauhan, official of Executive Committee, which may kindly be placed before the Principal Bench of the Hon'ble NGT, New Delhi for kind consideration.

(Justice Pritam Pal)
Former Judge,
Punjab & Haryana High Court
Chairman
Executive Committee

Report of the Executing Committee Constittued by Hon'ble National Green Tribunal, Principal Bench, New Delhi

[Submitted in Compliance to Hon'ble National Green Tribunal (NGT) Order dated 07.08.2018 in the matter of Original Application No. 138 of 2016 (T_{NHRC}) & OA No. 139 of 2016 (T_{NHRC}) Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) and Yogender Kumar]

February 28, 2019

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Report of the Executing Committee Constituted by Hon'ble National Green Tribunal (NGT), Principal Bench, New Delhi vide Order dated 07.08.2018 in the matter of OA No. 138 Of 2016 (T_{NHRC}) & Oa No. 139 Of 2016 (T_{NHRC}) Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) and Yogender Kumar

1. Introduction

The National Human Rights Commission took suomotu on a news item published in 'The Tribune' on 12.5.2014 and sent the record to the Hon'ble National Green Tribunal, Principal Bench, New Delhi (NGT). Hon'ble NGT in its latest order dated 07/08/2018 had constituted an "Executing Committee" for executing the orders of Hon'ble NGT on the afore-said matter. The composition of the 'Executing Committee' Comprises the following:-

Justice Pritam Pal, Former Judge, Punjab and Haryana High Court	:	Chairman
Senior Scientist of Ministry of Environment, Forest & Climate Change (MoEF & CC)	:	Member
Senior Scientist of CPCB	:	Member

Central Pollution Control Board (CPCB) is the Nodal Agency.

1.1 Main directions of Hon'ble NGT Order dated 07.08.2018:-

Hon'ble NGT in its latest order dated 07/08/2018 directed as follows:-

- Chief Secretaries of the States of Himachal Pradesh, Haryana, Punjab and also the Administrator of UT Chandigarh, is required to constitute 'Special Task Force (STFs), ***within one month*** from the date of 07.08.2018, to identify persons responsible for violation of law so that action can be taken and the STF comprising of
    - *District Magistrate, Superintendent of Police, Regional Officer of the State Pollution Control Boards in concerned District and one*

person to be nominated by the District Judge in every District in his capacity of Head of the District Legal Services Authority.

- *At State Level, Chief Secretary, Environment Secretary, Urban Development Secretary of Urban Development and Secretary of Local Bodies shall be the members of the STF.*

- *The District Level STFs shall submit a monthly action taken report to the State STFs and the State STFs shall furnish a 3 monthly report or the action taken report to the Central Pollution Control Board*

- *Reports of STFs be uploaded on the websites of State Pollution Control Boards as well as the Environment Department of the States.*

- An action plan with firm timelines is required to be prepared for preventing discharge of untreated effluents in the river Ghaggar by setting up appropriate anti-pollution device such as STP/ETP/CETP or any other such instruments, for ensuring compliance to the laid down standards within the targeted time, by involving civil society.

- Wherever required polluting units have to be closed.

- Interim report in this regard will be submitted to NGT before 31/01/2019 by email at filing.ngt@gmail.com.

- The Committee may also consider need for getting organized health camps and need for providing clean drinking water for the affected inhabitants.

- The sampling of ground water may also be done apart from sampling of the river water periodically.

A copy of the Hon'ble NGT Order dated 07.08.2018 is annexed ***(Annexure-I).***

In pursuance to the Hon'ble NGT order dated 07.08.2018, Central Pollution Control Board (CPCB) has nominated *Shri J.Candra Babu, Presently Scientist 'E' as a member and Ministry of Environment, Forest and Climate Change (MoEF & CC) has nominated Dr.V.K.Hatwal, Scientist 'D' as a member.*

In compliance to the Hon'ble NGT order dated 07.08.2018, the Executig Committee under the Chairmanship of Justice Pritam Pal already submitted its interim report on 31.01.2019 and now it is hereby submitting its report based on the meetings and discussions held with the concerned Departments of State Government of Punjab, Haryana, Himachal Pradesh and Chandigarh Union Territory Administration, based on the analysis result of the samples collected from river Ghaggar and its tributaries, major drains contributing to river Ghaggar pollution as well as the information provided by the States to the Committee which include action plans prepared and submitted by all the concerned departments of the respective States covering actions that are required to be taken keeping in view the rejuvenation of river Ghaggar and its tributaries.

2. About the river Ghaggar and its tributaries

River Ghaggar is an intermittent river, originates in Sirmour District of Himachal Pradesh & flows through the State of Haryana, Punjab and Rajasthan. It enters the territory of Haryana in Panchkula District near Kalka. Then, it passes through the district Panchkula to Mohali in Punjab, then again it enters in Ambala and then re-enters into district Patiala in Punjab. It again enters in Haryana in Kaithal district and then crosses to Sangrur district. It again enters in Fatehabad district and crosses to Mansa district and re-enter in Haryana in Sirsa district and finally enter in Rajasthan at Talwara village of Tibbi Tehsil of Hanumangarh District. Normally, it gets lost near the Bhatner of Hanumangarh district. However, in the time of rainy season, it reaches Suratgarh & Anupgarh tehsils of Shri Ganganagar district.

Ghaggar-River flows in monsoon season only. It is known as Ghaggar before the Ottu barrage and as the Hakra downstream of the barrage. The total length of this Ghaggar Hakra River is 465KM. Main tributaries of the Ghaggar Hakra River are the Kaushalyariver, Markanda, Sarsuti, Tangri and Chautang. In Himachal Pradesh, River Kaushalya is one of the main tributaries of River

Ghaggar. River Markanda, the second major tributary of River Ghaggar joins River Ghaggar at Ismailabad downstream of Shahbad whereas main districts of Himachal Pradesh in Ghaggar basin are Solan and Sirmaur. The districts located in the Ghaggar basin are mainly; Kurukshetra, Karnal, Sirsa, Hissar, Jind in Haryana, Patiala, Ludhiana, Roper, Sangrur in Punjab, Ganganagar, Hanumangarh in Rajasthan and Union Territory of Chandigarh.

2.1 River Markanda-Tributary of River Ghaggar

It is a tributary of the River Ghaggar, which is a small river of Nahan area, in the Sirmaur District, Himachal Pradesh. River Markanda enters Kala Amb at Bikram Bag and leaves at Sadhora Bridge. It covers a distance of about 24 KM in Himachal Pradesh from Rukhri to Kala Amb, thereafter the river covers a distance of approximately 130 KM in Haryana before joining River Ghaggar at Ismailabad downstream of Shahbad.

2.2 Sukhna Nallah-Tributary of River Ghaggar

It is a tributary of the River Kaushalya and sub-tributary of River Ghagar. Sukhna Nallah originates in Kasauli hills and is a non-perennial intermittent Nallah which traverses through Parwanoo, Kalka and Pinjore before meeting Ghaggar River in Panchkula and also forms a boundary between Kalka and Parwanoo. Sukhna Nallah traverses a stretch of about 2.4 km in the state of Himachal Pradesh before entering Haryana at Kalka town. Satellite map of River Ghaggar is given in **Figure 1.**

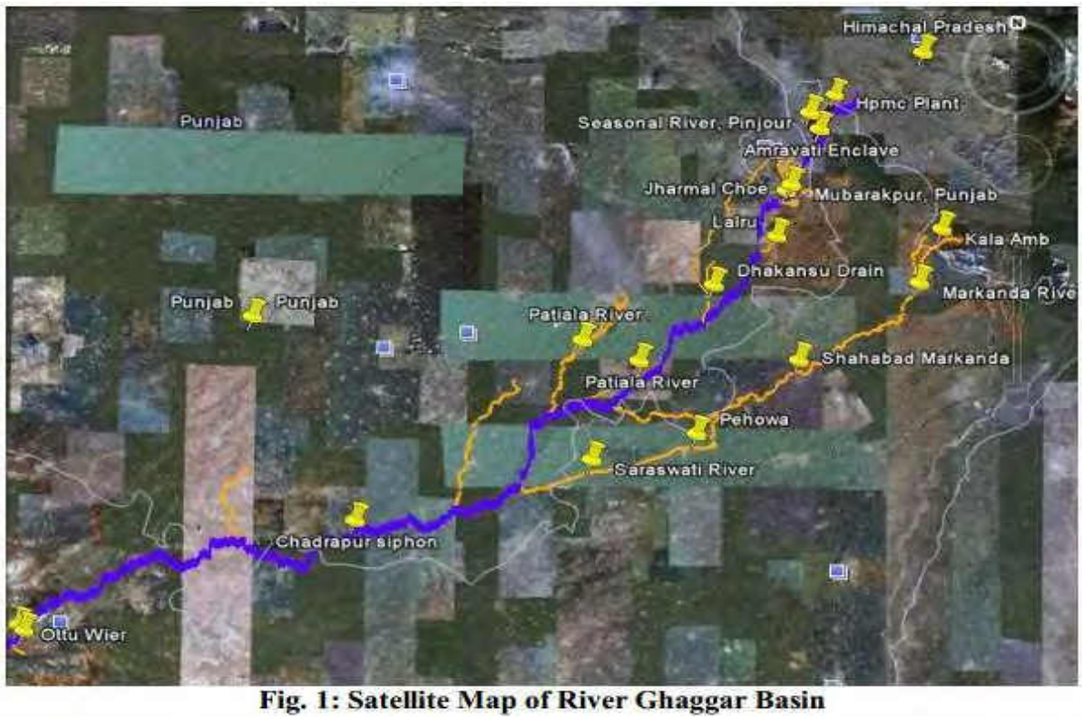

Fig. 1: Satellite Map of River Ghaggar Basin

3. Sources of Water Pollution

River Ghaggar receives municipal sewage and industrial effluents from Parwanoo in Himachal Pradesh (H.P), Pinjore and Panchkula in Haryana and Chandigarh in the upper stretch whereas in the lower stretch river Ghaggar receive waste water from indusrial areas especially from Patiala, Sardulgarh and Dera Bassi in Punjab State, as well as Ambala and Hanumangarh in Haryana before its entry in Rajasthan. Main sources contributing to the pollution load in the river Ghaggar are:

(i) Domestic Sources i.e., sewage, solid waste etc.,

(ii) Industrial Sources i.e., industrial effluent, improper disposal of industrial hazardous waste, waste from health care hospitals etc.,

3.1 Drains discharging wastewater into River Ghaggar

Drains are the channels which are either man made or available in system naturally to carry storm water to its disposal point which can be either a river or a lake or sea. However, in the absence of sewerage systems or storm water drains, drains turn into open channels to carry storm water, sewage and untreated industrial effluent. Details of main sources of effluent and sewage discharging into river Ghaggar are given in the **Table 1** given below:-

Table1: Sources of Effluent and Sewage discharging in River Ghaggar

Left Side	Right Side
Jharmal Choe a combined source of Sewage & industrial Effluent of Derabassi, Lalru and Zirakpur	Sukhna Nalla (Parwanoo)
Markanda River a combined source of Sewage and Industrial Effluent of Jatawala Nalla.	Seasonal Rivulet in Pinjore Kalka
Samsabad Drain a combined source of Domestic & Industrial Effluent of Sirsa	Baltana Drain a combine drain of Mohali Zirakpur, Chandigarh and Attawala Nala
	Dhakansu Drain a combined drain of Mohali, Chandigarh and Rajpura Industrial waste.
	Patiala River carrying waste from Jacob Drain and a drain carrying sewage known as Patiala Ki Rao

Details of main drains contributing to river Ghaggar pollution, state-wise are as follows:-

a) Major Drains contributing to Pollution in River Ghaggar: Himchal Pradesh

The main source of pollution in River Markanda includes Municipal, Commercial and Industrial waste from various industries and Kala Amb area. The Jattan Wala Drain is the major contributor in degrading the water quality of River Markanda. Jattan Wala Drain receives municipal waste water from Kala Amb area as well as treated effluent from various industries. The drainage map along the stretch of River Markanda in the State of Himachal Pradesh is given in **Figure 2**.

Figure 2. GIS-based Map showing the various drains and Nallahs along the stretch of River Markanda

As per the information provided by Himachal Pradesh State Pollution Control Board, Sukna Nallah forms a part of the catchment of River Ghaggar. The Sukna Nallah is a non perennial, intermittent nallah with respect to natural flow. It originates from upstream of Parwanoo town in the foot hills and drains through Parwanoo area i.e. Village Ambota, Sector-05 and further through Kalka and Pinjore towns, Surajpur village, flows adjoining to Amravati Enclave and finally meets river Ghaggar near village Chandimandir. The lean period flow of the nallah especially in the summer season is

attributed to out flow from various septic tanks attached to public sewer lines in the area. Individual households, squatter settlements in the area etc also contribute to some minimal discharge to the nallah. The drainage map or Sukna Nallah in the State of Himachal Pradesh is given in **Figure 3.**

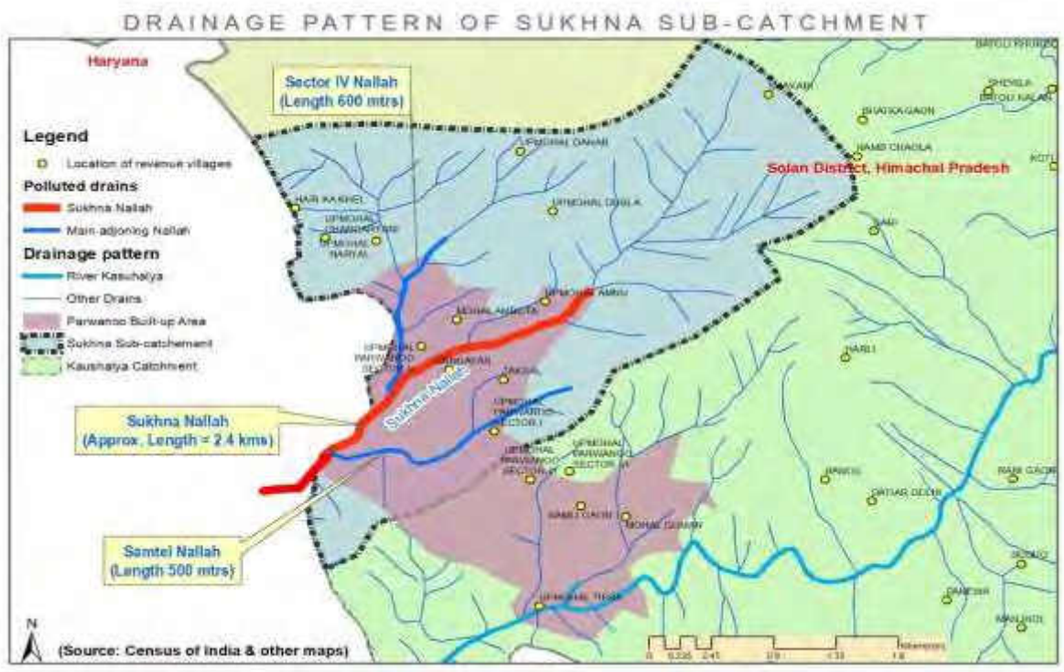

Figure 3. GIS-based drainage Map showing the Major Drain along the stretch of Sukhna Nallah

Drainage map showing catchment area of river Ghaggar in Himachal Pradesh is shown in **Figure 4.**

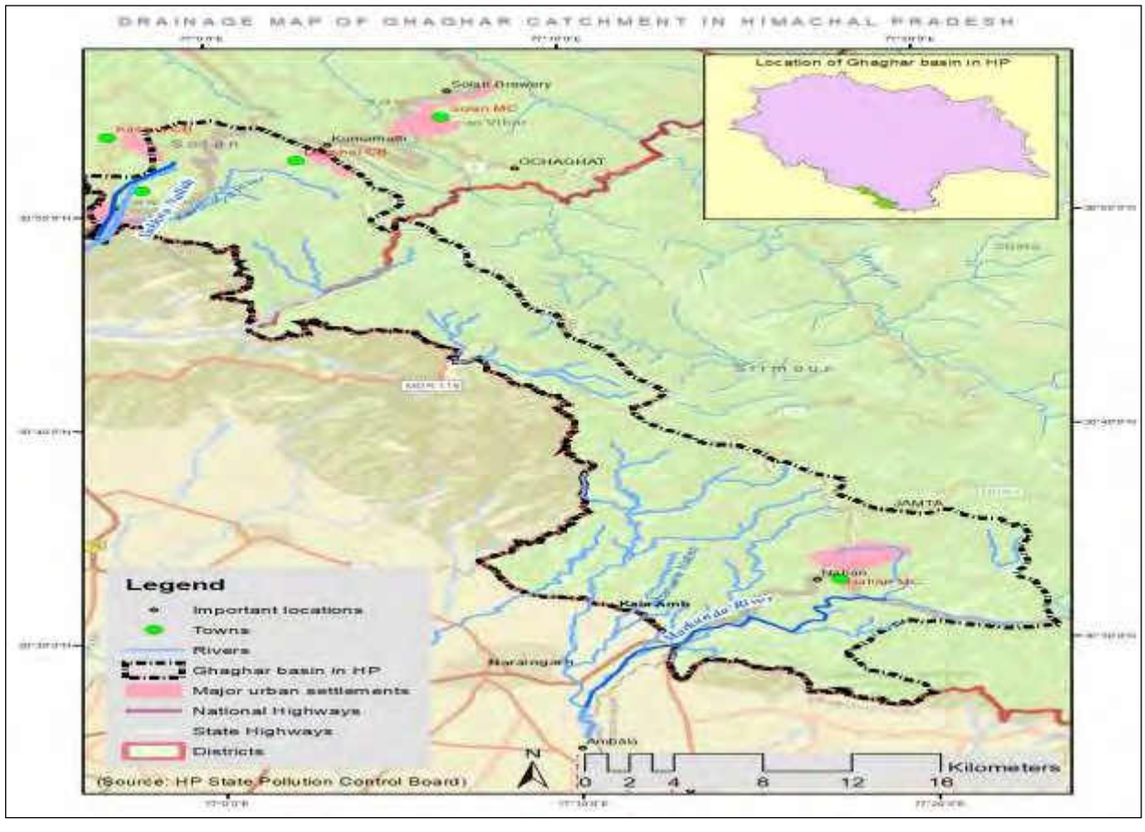

Figure 4. Drainage map of catchment area of river Ghaggar in Himachal Pradesh

Flow and pollution load of drain and the catchment, KalaAmb area is given in **Table.2.**

Table 2. Flow and Average BOD levels of Drains in Kala Amb and Parawanoo area

S.No.	Drain/Catchment	Flow in KLD	Average BOD in mg/l
A	**Drains in Kala Amb Area**		
1.	Left and Right Bank of River Markanda Moginand to Kala Amb		
	(i) Moginand area	172	40
	(ii)Ogli Area	50	20
	(iii) Suketi Area	34	30
2.	Jattawala Drain/Nala	7586	90
3.	Kheri	400	20
4.	Sadhora Road	183	15
B	**Parawanoo Area**		
1.	Sukhna Nallah	2592	12.4
2.	Sector 4 nallah	86.4	20
3.	Samtel Nallah	86.4	15

b) Major Drains contributing to Pollution in River Ghaggar: Chandigarh

River Ghaggar is passing at around 7 Kms. distances from Chandigarh and there are two main sources of discharge from Chandigarh which contribute to River Ghaggar. They are Sukhna Choe and N-Choe. Major drains contrinuring to pollution in river Ghaggar which flows adjacent to Chandigarh Union Territory Administration is given in **Figure 5.**

Figure 5. Major drains contrinuring to river Ghaggar pollution from the Chandigarh Union Territory Administration

c) Major Drains contributing to Pollution in River Ghaggar: Punjab

There are 13 major drains/ choes/ nallahs which are directly discharging into the river Ghaggar within the jurisdiction of Punjab State. There are 29 creeks which are discharging into 13 major drains. List of 13 major drains directly discharging into river Ghaggar in **Table 3.**

Table 3. List of 13 Major Drains Directly Discharging into River Ghaggar, Punjab

S. No.	Name of the Drain	Location at which it meets river Ghaggar	Approximate Discharge in rainy season (MLD)	Approx. Actual Discharge of Towns / Cities / rural areas in MLD
1.	Sukhna Choe	450 m upstream of Bhankhapur Bridge	105	1.230
2.	Dera Bassi Choe	Near upstream of Village Satabgarh	17.5	3.832
3.	Jharmal Choe	Near Village Tiwana	17.5	4.532
4.	Basauli Drain	Near Village Sadhanpur	12.5	0.50
5.	Bagna Drain	Village Nanheri, Rajpura	-	1.26
6.	Pachisdara Drain (Dakansu Choe)	Near Village Sarala-Khurd	125	55.054
7.	Patiala Nadi	Village Ratanheri	150	94.520
8.	Sagarpara Drain	Village Sagara	180	0.028
9.	Kaithal Drain	Near Khanauri Bridge	15	2.641
10.	Jhambowali choe	Village Chandu, Tehsil Moonak	32.5	33.385
11.	Lehragagga Main	Near Village Bakshiwala, Distt. Sangrur	82.5	9.016
12.	Sirhind Choe	Near Village Kheri, Haryana	245	102.862
13.	Miranpur Choe	Near Village Khambera, Haryana	125	2.753

13 major drains directly discharging wastewater into river Ghaggar within the Jurisdiction of the Punjab State is given in **Figure 6.**

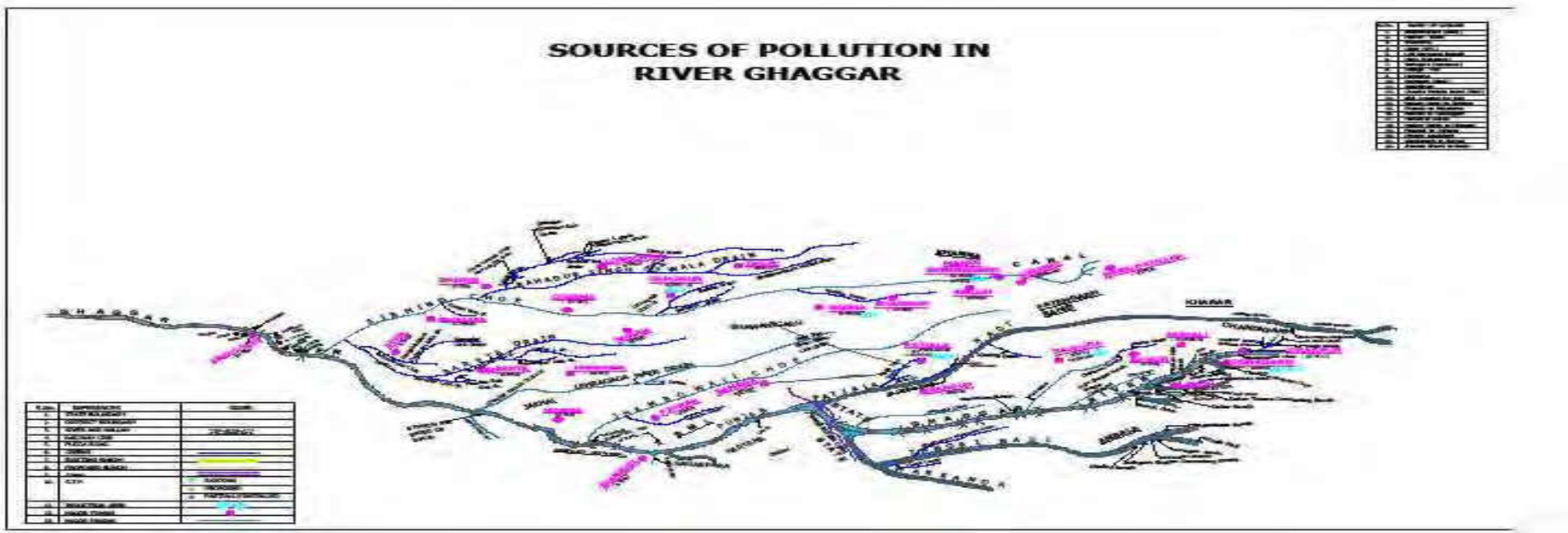

Figure 6. Major drains (13 nos) directly discharging wastewater into river Ghaggar within the Jurisdiction of the Punjab State

d) Major Drains contributing to Pollution in River Ghaggar: Haryana

In Haryana, there are 11 major drains, i.e., STP Panchkula, Drain of Panchkula, Sukhna Choe, Ambala Drain, Ghail drain, Markanda River, Sagarpara (Saraswati) Drain, Kaithal Drain, Ratia Drain and Sukhana Nalllah falling out in River Ghaggar in the State of Haryana. Drainage map of river Ghaggar is shownin **Figure 7.**

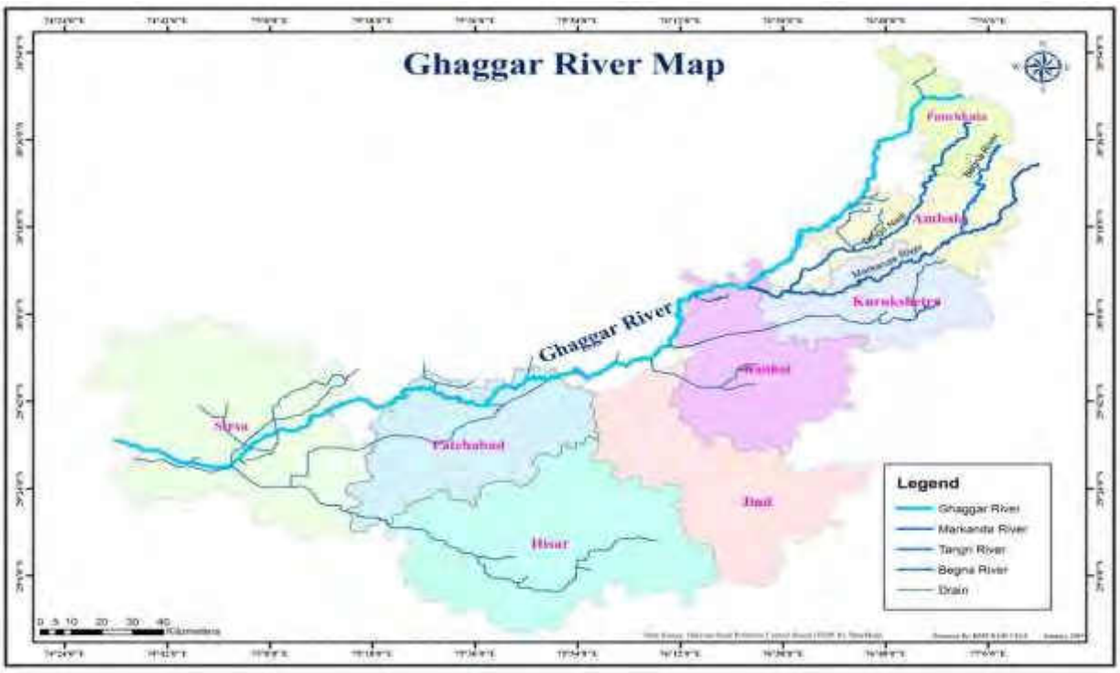

Figure 7. Drainage map of river Ghaggar covering Haryana State

3.2 Sewage Management in the catchment of river Ghaggar-Gap Analysis

Details as reported by the respective State/UT are given in subsequent paras:-

a) Sewage generation and the existing management scenario in Himachal Pradesh State-Parawanoo and Kala Amb areas- Gap Analysis

As per Census 2011, the population of Parwanoo area is 8758 persons and the present population including the floating population for employment and non-permanent residents is around 20,000 persons. At present all the rural water supply schemes has been designed on the water requirement of 70 liters per capita per day demand (norm set for rural water supply system). As per Census 2011, the population of Kala Amb & Moginand area

in 2011 was 6,695 and the present population of the area is 7,280. The projected population after 20 years will be 10,010 by considering the present growth rate of area. In addition to this, considering a floating population of around 10,000 in Kala Amb, sewage generation as per water demand of 45 liters per capita will be around 360 KLD. Details of water consumption and sewage generation and the existing infrastructure for treatment of sewage is given in the following **Table 4.**

Table 4. Sewage Generation and Gaps Sewage Management in the catchment area of river Ghaggar

S. No.	Area	Population		Water Consum -ption, KLD	Sewage Generation, KLD		No of STPs	Existing Treatment Capacity, KLD	Gaps in KLD
		Residing	Floating		Residing	Floating			
1.	Parwanoo	8758	11432	2270	945.864	411.55	29 Captive STPs 16 Common Septic Tanks, 20 Community Toilets	But 06 Septic Tanks are non-functional; hence actual Treatment is 788.0 KLD. No Common Treatment Facility..	569.414
					Total = 1357.414				
2.	Kala Amb	7280	10000	1432	786.24	360	06 Captive STPs Septic Tanks by Individual Household	100 KLD by 06 captive STPs, and Household have inadequate capacity/im proper design of septic tank/soak pits Provided. No Common Treatment Facility.	1046.24
					Total = 1146.24				

b) Wastewater generation and the existing management scenario in Chandigarh UT- Gap Analysis

Total population of Chandigarh is about 10.54 Lakhs (as per 2011 Census) and water consumption is about 304 MLD (inclusive of industrial & other consumption) and total wastewater generation (both municipal & industrial) is about 245 MLD. At present in Chandigarh UT, there are 05 STPs with total capacity of 221.775 MLD and *having a gap in existing wastewater treatment is about* ***23.225*** *MLD.*

c) Sewage generation and the existing management scenario in Punjab State:-

There are 30 urban bodies, water consumption is about 276.36 MLD and indulged in discharging generated wastewater either directly or indirectly into river Ghaggar about 238.76 MLD. There are 20 STPs having total

sewage treatment capacity of about 221.4 MLD in the catchment of river Ghaggar. But the actual sewage treatment gap is about **75.92 MLD**. Details of water consumption, sewage generation, existing STPs treatment capacity and the gap analysis in Urban areas is given in **Table 5.**

In addition to the above, 389 villages have been identified which are discharging wastewater about 100 MLD through various creeks and drains into river Ghaggar and entire sewage from rural areas is being discharged into River Ghaggar without any treatment. *Therefore, total gap in total sewage treatment in the catchment of river Ghaggar within Punjab is about 175.92 MLD.*

Table 5. Status of Sewage Treatment in Urban Areas in the Catchment of River Ghaggar in Punjab

S. No.	Name of the Town	Population in year 2018	Water Consumption (MLD)	Wastewater Generation (MLD)	Existing capacity of STP (MLD)	Balance quantity yet to be treated (MLD)
1.	Banur	22052	2.98	2.53	4.0	0.0
2.	Baretta	18533	2.50	2.13	3.0	0.0
3.	Bhikhi	21937	2.96	2.52	3.0	0.0
4.	Budhlada	47953	6.47	5.50	6.5	0.0
5.	Khanauri	15882	2.14	1.82	3.0	0.0
6.	Lehragaga	25457	3.44	2.92	4.0	0.0
7.	Mandi Gobindgarh	87323	11.79	10.02	25.0	0.0
8.	Moonak	20431	2.76	2.34	3.0	0.0
9.	Mohali	212242	28.65	24.35	45.4	0.0
10.	Patiala	506012	82.35	70.00	46	14.0
					10	
				6.0	13	
11.	Pattran	32255	4.35	3.70	4.0	0.0
12.	Rajpura	124821	16.85	14.32	7.0	7.32
13.	Samana	60591	8.18	6.95	10.0	0.0
14.	Sardulgarh	23417	3.16	2.69	4.0	0.0
15.	Sunam	72963	9.85	7.00	8.0	0.0
16.	Zirakpur	120867	16.32	13.87	17.0	0.0
17.	Bassi Pathana	22090	2.98	2.53	-	2.53
18.	Boha	14206	1.92	1.63	-	1.63
19.	Lalru	41330	5.58	4.74	1.5	3.24
20.	Dera Bassi	50277	6.79	5.77	4.0	1.77
21.	Sirhind	65706	8.87	7.54	-	7.54
22.	Amloh	19837	2.7	2.28	-	2.28
23.	Cheema	13087	1.8	1.50	-	1.5
24.	Dhuri	62614	8.6	7.19	-	7.19
25.	Sangrur	98671	13.6	11.32	-	11.32
26.	Nabha	68031	9.4	7.81	-	7.81
27.	Longowal	28418	3.9	3.26	-	3.26
28.	Sanaur	24390	3.36	2.80	-	2.80
29.	Bhadson	8063	1.11	0.93	-	0.93
30.	Ghanour	7500	1.0	0.8	-	0.8
	Sub-TOTAL	**1936954**	**276.36**	**238.76**	**221.4**	**75.92**

d) Sewage generation and the existing management scenario in Haryana State- Gap Analysis

As per the information provided by Haryana State, in Haryana State, there are 27 major towns in the catchment of river Ghaggar having total

estimated population in 2040 is about 27.5 Lakhs, total water consumption is about 371 MLD and total sewage generation is about 297 MLD and the existing sewage treatment capacity of 53 STPs is about 435 MLD. ***Though mathematically there is no gap in sewage treatment, however, area-wise gap exists with regard to the sewage treatment (about 42.9 MLD). As per the gap analysis carriedout by Haryana State, there is only a gap in sewage treatment capacity of 20.3 MLD in Ambala, 0.9 MLD in Jakhal Mandi and 18.8 MLD in Thanesar and 2.9 MLD in Sirsa Town as in Year 2019. But the STPs in these towns are already under construction or at proposal stage. There is no gap in treatment capacity of sewage in rest of the towns. However, sewage treatment gap does exist in Ambala, Narwana, Kalka Towns taking into account the expected population in 2040.***

3.3 Sources of Industrial wastewater generation in the Catchment of River Ghaggar:-

Following industrial sources were identified, which are located on the banks / catchment area of river Ghaggar, as detailed below:-

A) Industrial Effluent Management in the catchment of river Ghaggar in H.P- Gap Analysis

In the catchment of river Ghaggar, there are 142 water polluting industries located in Kala Amb (94) and Parawanoo (48), total water consumption is about 10.03 MLD and generating industrial effluent of about 6.02 MLD. As informed by Himachal Pradesh Pollution Control Board (HPPCB), most of the industries are having captive ETPs with total treatment capacity of 8.62 MLD. ***Although there is no any gap in the treatment capacity, discharge of untreated effluent and the sewage by the industrial units and STPs cannot be ruled out, due to lack of adequate mechanism in SPCBs to check the industrial discharges or improper operation of the STPs as such scenario is evident from physical observations of the Committee.***

Sector-wise no. of industries located both in the Parwanoo Area in the Catchment of Sukhna Nallah as well as in Kala Amb in the Catchment of River Markanda, their total water consumption, wastewater generation, captive ETPs and their treatment capacities are tabulated in the **Table 6 and Table 7,** as given below:-

Table 6. Sector-wise no. of industries, total water consumption, wastewater generation, captive ETPs and their treatment capacities-In Parawanoo Area in the catchment of Sukhna Nallah

S. No.	Type of Unit (Parawanoo)	No. of Industires	Total Water Consumption (in KLD)	Total Waste Water Generation (in KLD)	Treatment Capacity of Captive ETPs Operated by the industries (in KLD)
1	Pharmaceutical Formulation	14	53	31.2	81.3
2	Cosmetics	2	5.7	3	15.0
3	Electroplating	6	229.5	153	158.0
4	Phosphating	5	10.5	10.5	16.0
5	Engineering	9	171	221.2	141.0
6	Electrical &Electronics	6	23	28.5	0.0
7	Ink Printing	1	3	3.3	5.0
8	Confectionary	1	9	9	3.0
9	Pesticide Formulation	1	0.5	0.1	1.0
10	LPG Stoves	1	5	5	0.0
11	Fruit Processing	1	18	15	1000.0
12	Iron & Steel	1	14	0	0
Total		**48**	**542.2 KLD**	**479.8 KLD**	**1420.3 KLD**

Table 7. Sector-wise no. of industries, total water consumption, wastewater generation, captive ETPs and their treatment capacities- in Kala Amb in the Catchment of River Markanda

S. No.	Type of unit (Kala Amb)	Total No. of Indusatrisl Units	Total Water Consumption in KLD	Total Industrial Effluent Generation in KLD	Treatment Capcity of Captive ETP in KLD
1	Cosmetic	4	15.5	7	28
2	Food Products	3	179	70	165
3	Glass unit	3	13	2.5	10
4	Katha Factory	1	20	5	10
5	Lime and Chemicals	2	160	35	45
6	Metal Finishing	18	112	50	163.25
7	Miscellaneous Chemical	5	283	31	112
8	Pharmaceutical Formulation only	49	275.5	89.9	262.75
9	Pulp & Paper	2	8030	5000	6000
10	Spinning & Dying Products	1	300	200	300
11	Captive STPs of the Industrial units	6	103	50	100
Total		**94**	**9491 KLD**	**5540.4 KLD**	**7196**

B) Wastewater Management in Chandigarh UT- Gap Analysis

As informed by Chandigarh Pollution Control Committee, Chandigarh is neither having 17 categories of highly polluting industry nor there are any grossly polluting industries. 3336 of industries are operational in Chandigarh which comprise of 192 Red, 575 Orange, 577 Green and 1625 White category industries. Red category industries includes 98 small scale electroplating unit, 5 sewage treatment plants, 48 pickling plants, 01 Slaughter house (abattoir) run by Municipal Corporation Chandigarh, 11 microbreweries and 4 zinc processing units. Orange category industries includes 229 small scale Hotels and Restaurants, 10 bottling plants, 44 hospitals, 7 wire drawing unit without pickling, 91 service stations. Total water consumption by 581 industries is about 230.93 MLD and wastewater generation is about 222.703 MLD (including discharges of STPs). Details of sector-wise no. of industries, water consumption and waste water generation is given in **Table 8**.

Table 8. Details w.r.to sector-wise no. of industries, water consumption and waste water generation by the industries in Chandigarh

S. No	Type of Industry	No. of Industries	Water Consumption in MLD	Wastewater Generation in MLD
1	Electroplating	98	0.371	0.161
2	Foundries	33	0.053	0.001
3	Hotel & Restaurants	229	5.498	0.176
4	Sewage Treatment Plants*	05*	221.78*	221.78*
5	Potable Alcohol's bottling plants	10	0.352	0.022
6	Automobile Service Stations	91	0.479	0.127
7	Hospitals	44	1.212	0.387
8	Wire Drawing with Pickling	48	-	-
9	Wire Drawing without Pickling	07	-	-
10	Slaughter House (Abattoir)	01	0.048	0.001
11	Zinc processing units	04	-	-
12	Microbreweries	11	0.3	0.048
	Total	**581**	**230.93**	**222.703**

**Note: total industrial wastewater generation is 222.703 - 221.78 = 0.923 MLD*

Chandigarh has notified Industrial Area and most of the industries are either in Industrial Area Phase-I or Industrial Area Phase-II except Hotel/Restaurant/Hospitals etc. All the units are required to treat wastewater through captive ETPs except Restaurants (only O & G trap). At present, there is no any CETP in Chandigarh. In Chandigarh, no industrial wastewater is being discharged directly into River Ghaggar and all the water polluting industries are reported to be having adequate captive effluent treatment plants and only after treatment industrial effluent is allowed to discharge into the sewerage system for further treatment through terminal sewage treatment plants (STPs). In Chandigarh, at present there are five STPs having capacity of 221.78 MLD.

Therefore, total gap in wastewater treatment is 23.225 MLD. Presently, the industrial inspection mechanism of CPCC for verification of compliance to the discharge norms is not upto remark due to lack of adequate technical skilled manpower and as the industries are allowed to discharge into public sewerage system. Inorder to avoid interference of the existing STPs working and operations, the efficiency of captive ETPs installed by the industries needs thorough verification for which a mechanism needs to be evolved by CPCC for ensuring compliance to the discharge standards prescribed under Schedule –VI of the Environment (Protection) Rules, 1986.

C) Industrial Effluent Management in the catchment of river Ghaggar in Punjab-Gap Analysis

There are 48 water polluting industries in the catchment area of river Ghaggar mainly comprising of pharmaceutical and formulations (14), Dyeing (03), Pulp & Paper (6), Electroplating (5), Pesticide (1), Distillaries (2), Brewery (1), Organic Chemical (1) and others mainly at Dera Bassi, Patiala Nadi and adjoining areas. At present 38 industries are in operation. As per records available with PPCB, total water consumption by these industries is about 28.69 MLD, total wastewater generation is about 23.8 MLD and 41 indsutries have installed captive ETPs with total installed treatment capacity of 36849.28 MLD and 8 industries are discharging their effluent through CETPs located at Ludhiana. Brief detail

about the sector-wise no. of industries, total waster consumption, total wastewater generation, no. of industries installed captive ETPs, total treatment capacity is given in **Table 9** as under:

Table 9. Industries having ETPs and installed online continuous effluent monitoring system in the catchment of river Ghaggar in Punjab

S. No	Type of industry	No. of units	Total Water Conumsption in KLD	Total Wastewater Generation in KLD	No. of industries installed ETPs	Total installed capapcity of the Captive ETPs or CETPs
1)	Pharmaceutical	11	940.9	431.27	11	809
2)	Pharmaceutical (Formulation)	3	11.6	0.36	3	0.88
3)	Dyeing	8	12840	10375	8	14100
4)	Pulp & Paper mills	6	4459	3340	6	13225
5)	Electroplating	5	12.475	8.39	CETP, Ludhiana	CETP
6)	Engineering Goods	3	503.2	293.85	CETP (2), ETP (1)	576
7)	Pesticide Manufacturing	1	193	21	1	100
8)	Distilleries	2	6500	5310	2	3080
9)	Brewery	1	800	700	1	700
10)	Meat Plants	2	2010	1695	2	2450
11)	Gelatine manufacturing	1	4810	1615	1	1800
12)	Organic Chemical Manufacturing	2	13	8	2	8
13)	Resin Manufacturing	1	5	0.3	1	0.4
14)	Board Mills	2	39	0	2	Recirculation
	Total	**48**	**28678.175**	**23798.17**	**41**	**36849.28 KLD**

Note: - 14 out of 48 units have installed OCEMS.

D) Industrial Effluent Management in the catchment of river Ghaggar in Haryana State-Gap Analysis

As reported by Haryana Pollution Control Board, in Haryana, there are 197 water polluting industries located in three distrcits namely Ambbala, Panchkula and Kurukshetra and consuming water about 5.9 MLD and generating industrial effluent at about 4.1 MLD. 107 out of 197 industries are having captive ETPs (having total installed treatment capacity is about 4.8 MLD) and 12 industries are disposing of the generated industrial effluent through 2 CETPs having total treatment capacityof 1 MLD. In Haryana, 04 CETPs are operational and total treatment capacity of 04 CETPs (located at Panchakula, Ambala Cantt, Saha and Jind) is about 6.1 MLD. Sector-wise details w.r.to the total water consumption, total wastewater generation and no. of industries installed captive ETPs and their treatment capacity is given in **Table 10.**

Table 10. Sector-wise details w.r.to the total water consumption, total wastewater generation and no. of industries installed captive ETPs and their treatment capacities in Haryana State

S. No	Sector wise	No. of Units	Water Consum-ption in KLD	Industrial Effluent generation in KLD	No. of Industries having ETPs	No. of industry disposin g in CETP	ETP Treatment capacity (in KLD)
1	Food and Food Processing	2	30	20	2	1	24
2	Dairy Firm (Milk Product)	3	456	261	3	0	313.2
3	Service Station	28	176	146	28	1	175.2
4	Electoplating	35	626	176	35	4	211.2
5	Pharmaceutical (Formulation- R &D)	6	49	29	6	2	34.8
6	Fermentation (yeast, beer)	5	14	8.9	5	0	10.68
7	Printing Press	2	23	19	2	0	22.8
8	Bakery and confectionary	2	23	20	2	0	24
9	Phosphating & Powder coating	7	11	8	7	4	9.6
10	Paper Mills	1	4000	3350	1	0	4020
11	Lead/Copper ingot	1	2.2	2	1	0	2.4
12	Hotel Industry	13	159	4	13	0	4.8
13	Tanneries (Semi finish to finshed leather)	1	30	28	1	0	33.6
14	B & C Project	1	80	0	1	0	0
15	Hospitals	90	289	55	0	0	0
		197	**5968.2**	**4126.9**	**107**	**12**	**4886.28**

Note: - ** No industry discharges effluent directly into river Ghaggar in Jind and Hissar Districts in Haryana State.*

3.3 Solid Waste Management Scenario in the catchment area of river Ghaggar

Solid waste management scenario in the catchment area of river Ghaggar is given in subsequent paras:-

A) Solid waste management scenario in Himachal Pradesh:-

Total solid waste generation of Kala Amb area is approx. 3 to 4 Metric Tons per day whereas Parawanoo generates about 7 to 8 Metric Tonnnes per day. State Area Development Authority (SADA), Trilokpur (Under District Administration) is involved in collection and disposal of solid waste at Solid Waste Dumping Site of Municipal Council, Nahan. In Parawanoo,

the generated solid waste is collected by Municipal Council, Parawanoo and presently dumping solid waste waste at sector -5, Parawanoo. Presently, in the catchment area of river Ghaggar, there is no any sanitary landfill in Himachal Pradesh.

B) Solid waste management scenario in Chandigarh:-

As per Census of 2011, total population of Chandigarh is 10.54 Lakhs and at present total population is approximately 11.5 Lakhs and generating solid waste at about 450 TPD. Municipal Corporation, Chandigarh is collecting daily around 450 Tonnes of municipal waste from house to house through cycle carts and transferred to Sahaj Safai Kendra (SSK)/Municipal Bin and it is then transported to RDF plant of 500 TPD located at Dadu Majra, Compost Plant of 300 TPD and Bio-Methanation Plant of 5 TPD. Waste from mandi and hotels go directly to Dumping Ground. In the Processing Plant (which is operated by Jai Parkash Associates Ltd.) municipal waste is processed and converted into RDF (Refuse Derived Fuel) which is further used in kilns and other furnaces as fuel additive. Old Dumping site has been capped and covered and sanitary landfill site has been developed under the CPCB project in which around 50 % funding was done by CPCB. Out of 45 Acres total area of Dumping Ground, 25 Acres has been reclaimed by capping of 16.72 Acres and 8.28 Acres sanitary land fill site has been developed in a scientific manner.

C) Solid waste management scenario in Punjab:-

As per assessment made by Punjab State, total solid waste generation in 30 Urban areas is about 651 TPD and urban area-wise total solid waste generation is given in **Table 11**. Further, in compliance to the orders of the Hon'ble Punjab and Haryana High Court in CWP No. 7039 of 2010, a Common Action Plan containing 10 points was prepared in 2012 for viable alternative measures for disposal of garbage till setting up of Solid Waste Management Plants. The Directorate of Local Government is the implementing agency for this Action Plan and PPCB is monitoring the status of compliance.

Table 11. Urban Area-wise Municipal Solid Waste Generation in TPD

S. No.	Name of ULB	District	Municipal Solid Waste Generation (TPD)
1	Mohali	SAS Nagar	67
2	Zirakpur	SAS Nagar	38
3	Lalru	SAS Nagar	9
4	Dera Bassi	SAS Nagar	11
5	Banur	SAS Nagar	8
6	Patiala	Patiala	178
7	Rajpura	Patiala	37
8	Samana	Patiala	22
9	Sanour	Patiala	8
10	Patran	Patiala	11
11	Ghanour	Patiala	3
12	Nabha	Patiala	27
13	Bhadson	Patiala	3
14	Mandi Gobindgarh	Fatehgarh Sahib	33
15	Sirhind	Fatehgarh Sahib	23
16	Amloh	Fatehgarh Sahib	6
17	Bassi Pathana	Fatehgarh Sahib	8
18	Sangrur	Sangrur	35
19	Sunam	Sangrur	28
20	Dhuri	Sangrur	22
21	Lehragaga	Sangrur	9
22	Longowal	Sangrur	10
23	Moonak	Sangrur	7
24	Khanauri	Sangrur	6
25	Cheema	Sangrur	5
26	Bareta	Mansa	7
27	Budhlada	Mansa	10
28	Bhikhi	Mansa	7
29	Sardulgarh	Mansa	8
30	Boha	Mansa	5
	Total		**651 TPD**

D) Solid waste management scenario in Haryana: -

Total solid waste generation in the catchment of river Ghaggar in Six districts is about 2290 TPD. Details with regard to the cluster-wise soild waste generation and the current status is given in **Table 12**.

Table 12. Details with regard to the cluster-wise soild waste generation and the current status

S. No	Cluster	Solid Waste Generation (in TPD/ Proposed Technology)	Current status
1	Panchkula **ULBs:** Panchkula Naraingarh	186 Compost+RDF	Conditional LOI Issued, project awarding under process. EC awarded for the MSW site at Jhuriwala.
2	Fatehabad - Bhuna **ULBs:** Fatehabad, Bhuna, Ratia, Tohana, Uklana Mandi	120 Compost + RDF	Technical Evaluation if bid received under process. EC approval under process. ToR approved.
3	Ambala - Karnal **ULBs:** Ambala, Thanesar, Shahabad, Pehowa, Cheeka, Karnal, Gharaunda, Indri, Nilokheri , Nissing, Pundri , Tarori	1275 Waste to Energy	Tender documents have been prepared and will be floated in February 2019. EC approval under process. ToR application submitted. EDS reply on ToR to be submitted for approval.
4	Hisar **ULBs:** Hisar, Barwala, Hansi , Narnaul , Siwani	262 Compost + RDF	Tender documents have been prepared and will be floated in February 2019. EC approval under process. ToR approved.
5	Dabwali - Sirsa **ULBs:** rsa, Dabwali, Ellenabad, Kalanwali Rania	177 Compost+RDF	Tender documents have been prepared and will be floated in June 2019. ToR application to be submitted for approval.
6	Jind **ULBs:** Jind, Kaithal Kalayat , Narwana Rajound, Uchana Assandh	270 Compost+RDF	Tender documents have been prepared and will be floated in June 2019. ToR application to be submitted for approval.

3.4 Management of Bio-Medical Waste scenario in the catchment of river Ghaggar

Bio-medical waste management scenario in the catchment of river Ghaggar as reported by the three States namely Himachal Pradesh, Punjab

and Haryana as well as Chandigarh UTf are given in the subsequent paras:-

A) Bio-medical waste management scenario in the catchment of river Ghaggar in Himachal Pradesh:-

There are only six Health Care Facilities (HCFs) in Kala Amb and Parawanoo areas and generating bio-medical waste at 23 Kg/day. It is reported by the H.P. State Pollution Control Board that all the health care facilities (HCFs) have been covered under Bio Medical Waste Management Rules, 2016 and further amendments made thereof. The bio medical waste generated is disposed of through a Common Bio-Medical Waste Treatment and Disposal Facility located at Solan, H.P. which is having incinerator capacity of 100 kg/hour.

B) Bio-medical waste management scenario in Chandigarh:-

In Chandigarh, there are total 788 Health Care Facilities (HCFs) which include 49 bedded hospitals, 583 small clinics/dispensaries, 13 veterinary institutions, 3 animal houses, 4 blood banks, 118 pathological laboratories, 4 research institutes and 14 ayush hospitals/dispensaries. Total bed strength of the 788 HCFs is about 4413. On an average, 2503 kg of daily generated biomedical waste is treated and disposed of on daily basis through three treatment facilities installed at PGIMER, Sector 12, GMSH, Sector 16 and a new CBWTF with incinerator capacities of 200 kg/hr, 100 kg/hr and 200 Kg/hour respectively.

C) Bio-medical waste management scenario in the catchment of river Ghaggar in Punjab:-

There are 1241 HCFs in the catchment of river Ghaggar. 1105 out of 1241 are disposing generated bio-medical waste through CBWTF *whereas 136 HCFs either not having valid membership or in the process of obtaining membership of CBWTF and however, these HCFs are disposing the generated bio-medical waste through CBWTF in accordance with the Bio-medical Waste Management Rules, 2016 as amended.*

D) Bio-medical waste management scenario in the catchment of river Ghaggar in Haryana:-

There are 3412 number of Health Care Facilities (HCFs) in the State which include 2410 Bedded HCFs (having bed strength of 48,357) and 1061 Non-Bedded HCFs. Total Bio Medical Waste (BMW) generated by all HCFs is about 11662.91 Kg/day (i.e. 213.12 gram per bed per day). 11 no. of authorized Common Bio Medical Waste Treatment and Disposal Facilities (CBWTDF) having total installed capacity of 1650 Kg/hour are involved in collection, transportation, treatment and disposal of bio-medical waste in the entire Punjab State.

3.5 Management of Hazardous Waste in the catchment of river Ghaggar

Hazardous waste management scenario in the catchment of river Ghaggar, as informed by the 3 States namely Himachal Pradesh, Punjab and Haryana as well as Chandigarh UT is given in subsequent paras:-

A) Hazardous waste management scenario in the catchment of river Ghaggar in Himachal Pradesh:-

In Parawanoo area, there are 48 industries generating 97 MTPA of hazardous waste whereas in KalaAmb area, there are 94 industries generating 165 MTPA of hazardous waste. The generated hazardous waste in the H.P including industries located in the catchment area of river Ghaggar are disposed of through a Common Hazardous Waste Treatment Storage and Disposal Facilitiy located at Dhabota, Nalagarh, District – Solan (H.P) having Secured Landfill Capacity of 10 Lakh MT.

B) Hazardous waste management scenario in the catchment of river Ghaggar in Chandigarh:-

Generated hazardous waste (about 2848.25 MT in F.Y. 2016-2017) in Chandigarh UT, is transported and disposed off in the nearby states. For disposal of landfillable waste (70 MT), Chandigarh Pollution Control Committee (CPCC) has made formal agreement with Punjab Pollution Control Board for disposal of such waste in a TSDF facility operated by

M/s Ramky Enviro Engineers Ltd. (Unit: Punjab Waste Management Project). CPCC has authorised M/s Ramky Enviro Engineer Ltd. for collection and transportation of landfillable hazardous waste from various units located in Chandigarh to their TSDF located at Village Nimbua, Derabassi, Punjab. For disposal of incinerable waste (11.25 MT), CPCC has authorised M/s Bharat Oil and Waste Management Ltd. Sahibabad, Industrial Area, Ghaziabad, U.P. for collection and transportation of incinerable hazardous waste from various units located in Chandigarh. For disposal of recyclable waste i.e. used oil, spent acid, acid residue (2767 MT), CPCC has authorised 08 units (5 Used/waste oil recycling facilities, 02 acid residue recycling facilities and a Ramky TSDF) located in Punjab, Haryana and UP for collection and transportation of recyclable waste from various units located in Chandigarh to the respective facilities.

C) Hazardous waste management scenario in the catchement area of river Ghaggar in Punjab

Hazardous Waste generated by the industries in the catchment area of River Ghaggar is handled and managed through the Common Hazardous Waste Treatment, Storage & Disposal Facility at Vill. Nimbuan, Tehsil Dera Bassi, Distt. SAS Nagar. Data w.r.to the quantity of hazardous waste generated during the period January, 2018 to December, 2018 is given in **Table 13** as under.

Table 13. District-wise hazardous waste generation quantities in the catchment of river Ghaggar

S. No	Name of District	No. of HW Generating Units	Quantity of hazardous waste generated (in TPA)		
			Incinerable	Disposable	Recyclable
1	Sangrur	89	72.53	664.176	332.426
2.	Mansa	09	92.08	2.2	170.33 & 8400 drums
3.	SAS Nagar	138	1453.148	7263.23	120
4.	Patiala	101	243.18	1053.39	5355.75
	Total	**337**	**1860.938**	**8982.996**	**5978.5 & 8400 drums**

D) Hazardous waste management scenario in the catchment of river Ghaggar in Haryana:-

Currently, there are around 3941 industries generating hazardous waste of the order of approximately 58829.43 Tonnes per annum. All these

industries have been given authorization under HOWM Rules, 2016, as amended. At present, there are 117 recyclers of non-ferrous metal wastes/used oil/ waste oil registered/authorized under the Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016 as amended. The capacity registered/authorized for re-refining/ recycling of used oil & waste oil is 127882.5 MTA; that for non-ferrous metal wastes other than lead is 229022 Tonnes per annum and for lead based waste is 207822 Tonnes per annum. Registrations/Authorization have been granted to 117 no. of recycling units based on their processing facilities for environmentally sound re-processing technologies.

A Common Hazardous Waste Treatment Storage & Disposal Facility has been developed at Pali (Faridabad) by Haryana Environment Management Society with the assistance of State Govt. and HSPCB, which is being operated by M/s Gujarat Enviro Protection and Infrastructure (Haryana) Pvt. Ltd. Waste processing capacity of the facility is 25000 MT/per annum including incineration (incinerator of capacity 12 to 14 tons per day).

Estimated life of of the secured landfill facility is 30 years. The facility has also developed the preprocessing arrangements for the incinerable wastes which is further sent for co-processing in the cement kilns. The facility has its own effluent treatment plant based on zero liquid discharge and also air pollution control measures installed with the incinerator with online monitoring devices. The industries of the State are disposing the generated hazardous waste other than recycling waste, to the facility in accordance with the agreement and following the manifest as per HOWMTM Rules, 2016 as amended. The collection and transportation of the Hazardous Waste is done by the operator of the facility itself and for its treatment and safe disposal in an environmentally sound manner.

4 Hon'ble National Green Tribunal (NGT), Principal Bench, New Delhi Vide Its Order Dated 07.08.2018 In The Matter Of Oa No. 138 Of 2016 (T_{nhrc}) & OA No. 139 Of 2016 (T_{nhrc}) Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) and Yogender Kumar.

Direction-wise and state-wise status of compliance to the directions

of Hon'ble NGT dated 07.08.2018 are given in the subsequent paras:-

4.1 Chief Secretaries of the States of Himachal Pradesh, Haryana, Punjab and also the Administrator of UT Chandigarh, is required to constitute 'Special Task Force (STFs), <u>within one month</u>

State-wise status of constitution of the 'Special Task Force' is given in the following **Table 14.**

Table 14. State-wise Status of Constitution of the 'Special Task Force'

S. No	**Name of the State/UT**	**Date of constitution of the State Level 'Special Task Force' (SLSTF)**	**Date of constitution of the District Level Special Task Force**	
			No. of District Level 'STF' constituted	**Date of Constitution**
1	**Himachal Pradesh**	Vide notification No. STE-E (3)-22/2018 dated 07.09.2018	02	Vide notification No. STE-E (3)-22/2018 dated 07.09.2018
2	**Punjab**	14.11.2018	04	14.11.2018
3	**Haryana**	29.08.2018	08	29.08.2018
4	**Chandigarh**	07.09.2018	01	07.09.2018

4.2 Submission of Reports District Level STFs and State STFs or action taken report to CPCB and Upoloading Reports of STFs in websites of SPCBs as well as State Environment Department.

Status w.r.to the submission of monthly action taken report to the State Level Special Task Force by the District Level Special Task Forces and furnishing of the quarterly action taken report to the CPCB and uploading of the reports of STFs on the websites of SPCBs as well as the Environment Department of the States are given in **Table 15.**

Table 15. ***Status w.r.to the submission of monthly action taken report to the State Level Special Task Force by the District Level Special Task Forces and furnishing of quarterly action taken report to the CPCB and uploading of the reports of STFs on the websites of SPCBs as well as the Environment Department of the States***

S. No	**Name of the State/UT**	**No. of Monthly reports submitted by District Level STFs to SLSTF**	**No. of Quarterly reports submitted by SLSTF to CPCB**	***Uploading of STF on the websites of SPCBs as well as the Environment Department of the States***
1	Himachal Pradesh	Held 07 Meetings (Till Jan 2019)	01	https://hppcb.nic.in

S. No	Name of the State/UT	No. of Monthly reports submitted by District Level STFs to SLSTF	No. of Quarterly reports submitted by SLSTF to CPCB	*Uploading of STF on the websites of SPCBs as well as the Environment Department of the States*
2	Chandigarh	03	01	www.chandigarhenvis.gov.in
3	Punjab	02	01	www://ppcb.gov.in/ExeCommitteeGhaggar.aspx
4	Haryana	12	01	www.hspcb.gov.in

4.3 *Status of follow-up actions taken by the States on Hon'ble NGT Directions dated 07.08.2018 in the matter of OA No. 138 OF 2016 (T_{NHRC}) & OA NO. 139 Of 2016 (T_{nhrc}) Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) and Yogender Kumar*

Follow-up action taken by the States (viz., Punjab, Haryana and Himachal Pradesh) and Chandigarh UT on the Hon'ble NGT order dated 07.08.2018 are given the **Table 16.**

Table 16: Status of follow-up actions taken by the States
(as on 15.02.2019 and as reported by the 03 States and Chandigarh UT)

S. No.	Hon'ble NGT Directions	Name of the State			
		H.P.	Chandigarh	Punjab	Haryana
I.	Closure of Industries which are violating norms during 7.8.2018 to till date	07 out of 142 disconnected	04 units non-complying. File under process	9 prosecuted, Issued directions to 11 Units	Closed 05 out of 197 total industries
II.	Constitution District Level Special Task Force (Nos.)	02	01	04	08
III.	Constitution State Level Special Task Force (Nos.)	01	01	01	01
IV.	**Number of monthly reports** submitted by STF				
	District Level STF	7 meetings	03 meetings	08 meetings	12 meetings
	Quarterly report State Level STF	01	01	08	01
V.	Number of industries not having ETP	Nil	Nil	Nil	Nil
VI.	Number of industries inspected since 7.8.2018 and status of compliance	142 Inspected. Effluent Samples collected from 118 Units i.e., Kala Amb -82, Parawanoo-36. Non-complying: 7. Power disconnected	129 inspected. Wastewater effluent collected only from 26 out of 124 Units. 22 out of 26 units are complying and 04 are not complying. File under process for closure	32 out of 48 inspected. 19 out of 32 complying and 13 non-complying. Closed: 10 (as per NGT Order). Action under process	29 out of 53 units inspected Complying and 24 units non-complying and 05 out of 24 have already been closed. Remaining action under process

S. No.	Hon'ble NGT Directions	Name of the State			
		H.P.	Chandigarh	Punjab	Haryana
VII.	Uploading of information in websites	Yes	Yes	Yes	Yes
VIII.	Organized Health Camps	04	02	09	05
IX.	Ground water samples collected since 7.8.2018	57	07 Sample (Not allowed for drinking purposes)	79 (71 conforming to the Drinking water norms)	17 Samples (3 samples non-conforming to the Drinking water norms)
X.	River water samples collection and analysis frequency	Monthly	Monthly	Monthly	Monthly
XI.	Amount to Learned Amicus paid or not (Rs. 2.00 lac.)	-	-	Paid 1 Lakh	Paid 1 Lakh

5 Actions taken by the Executing Committee for ensuring compliance to the Hon'ble NGT Order dated 07.08.2018

Actions taken by the executing committee are given in the subsequent paras:-

5.1 Organized nine Executing Committee meetings during August 07, 2018 to January 08, 2019

Central Pollution Control Board (CPCB) being nodal agency in the matter co-ordinated with the concerned States and Chandigarh UT Administration in organizing eleven meetings of the Executing Committee with the support of Punjab Pollution Control Board. The Executing Committee has guided all the authorities for preparation of the action plans by conducting the assessment w.r.to the existing scenario, gaps identification, measures required to be taken for restoration of water quality of river Ghaggar and to such measures in the form of action plans with time lines for ensuring proper management of industrial pollution control, sewage management in rural and urban areas, waste management in an environmentally sound manner which include hazardous waste, municipal solid waste, bio-medical waste so that no waste will become a part of the river bodies. Upon approval of Chairman, Executing Committee, minutes of the meetings were also circulated to all the three States namely Himachal Pradesh, Haryana and Punjab and Chandigarh UT Administration for taking further necessary action at their end. Details of meetings held with the concerned authorities are given in **Table 17** below:-

Table 17: Details of meetings held with the concerned officials by the Executing Committee

S. No.	Meeting	Date	Venue
1.	First	31.8.2018	Haryana Niwas, Sector 3, Chandigarh
2.	Second	11.9.2018	MGISPAP, Sector-26, Chandigarh
3.	Third	21.9.2018	Haryana Pollution Control Board, Panchkula
4.	Fourth	09.10.2018	Conference Hall, Hotel Peter Hof, Shimla (H.P.)
5.	Fifth	22.10.2018	Conference Hall, U.T. Secretariat, Sector-9 Chandigarh
6.	Sixth	15.11.2018	MGISPAP, Sec. 26, Chandigarh.
7.	Seventh	06.12.2018	O/o Chairman, Executive Committee, Forest Complex, Sec. 68, Mohali
8.	Eighth	22.12.2018	MGISPAP, Sec. 26, Chandigarh
9.	Ninth	08.01.2019	O/o Chairman, Executive Committee, Forest Complex, Sec. 68, Mohali
10	-	22.01.2019	O/o Chairman, Executive Committee, Forest Complex, Sec. 68, Mohali (Formal meeting with the State Nodal Officers)
11	-	15.02.2019	O/o Chairman, Executive Committee, Forest Complex, Sec. 68, Mohali (Formal meeting with the Nodal Officers)
12	-	28.02.2019	Formal meeting of the Executing Committee for finalisation of the committee report

The minutes of nine meetings of the Executing Committee are annexed **(Annexure-II)**

5.2 Assessment of Water Quality of River Ghaggar and its tributaries as well as major drains constituting to pollution load in River Ghaggar carried out jointly by the Executing Committee and the officials of CPCB and PPCB during 22 to 30 October, 2018

The Executing Committee also carried out joint monitoring of River Ghaggar and its tributaries as well as major drains contributing to the pollution in River Ghaggar during 22 to 23 October 2018 and 29 to 30 October 2018 along with the representatives of CPCB as well as H.P. State Pollution Control Board, Chandigarh Pollution Control Committee, Punjab Pollution Control Board, Haryana State Pollution Control Board in the respective jurisdiction of the State/UT. The joint team also collected samples (Total about 103 samples) of river Ghaggar at 15 river locations, 14 drain samples and one ground water sample.

The river water samples are analysed for the parameters such as pH, DO, Conductivity, TDS, COD, BOD, Total Alkalinity as $CaCO_3$, Total Hardness as $CaCO_3$, Calcium as Ca, Magnesium as Mg, Chloride, Sulfate, NO_2-N, PO_4 – P, NH_3- N, Fecal Coliform, Total Coliform.

Drain samples were analysed for parameters such as pH, TSS, TDS, COD, BOD, NH_3-N, heavy metals such as Arsenic, Cadmium, Chromium (Total), Copper, Iron, Manganese, Nickel, Lead and Zinc.

Water Quality Monitoring Results of river Ghaggar and major drains contributing to pollution in the river Ghaggar are given in **Annexure-III Annexure-IV and Annexure-V.** Photographs taken during the sampling (23 to 24.10.2018) are given in **Figures 08 to 18.**

Figure 8. River Markanda at Narayanpur (22.10.2018)

Figure 9. Jattawalah Nallah

Figure 10. Jattawalah Nallah

Figure 11. River Markanda (U/s Kala Amb)

Figure 12. River Ghaggar (After Confluence of River Kaushalya)

Figure 13. Derabassi Drain, Saini Mohalla, Mohan Nagar, Punjab

Figure 14 River Ghaggar, Alamgir, Confluence Point of Jhermal Choe, Punjab

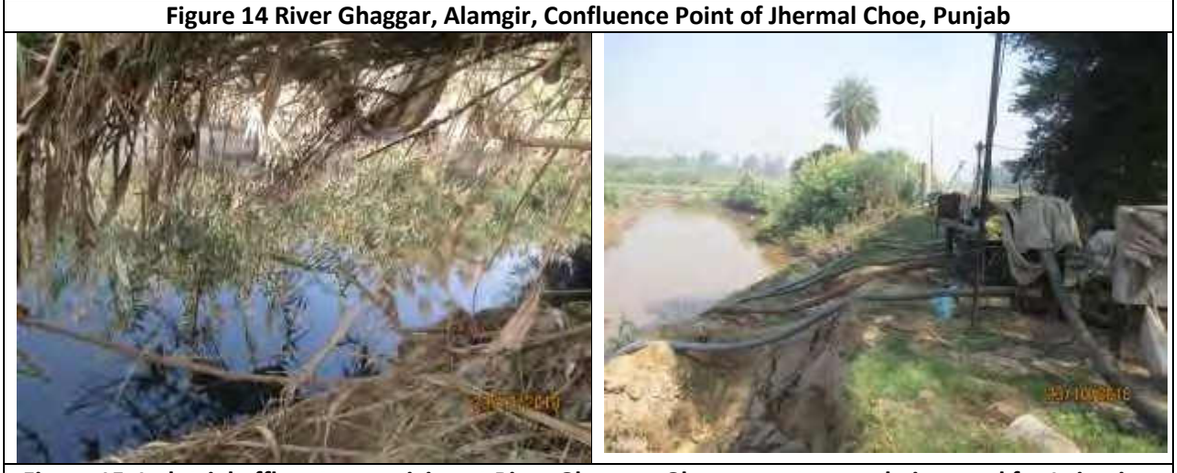

Figure 15. Indutrial effluent was mixing at River Ghaggar. Ghaggar water was being used for Irrigation at Alamgir Village

Figure 16. Bassouli Drain, Sadanpura, Punjab

Figure 17. River Ghaggar, After Confluence of Ghil Drain

Figure 18. Ghil Drain (Before Confluence of River Ghaggar)

Figure 18 (a). Coloured river Ghaggar water at Pachhis Dhara, Punjab

Figure 18 (b) River Ghaggar, Chandrapur Syphon (29°45'57" N 75°44'37" E) -29.10.2018

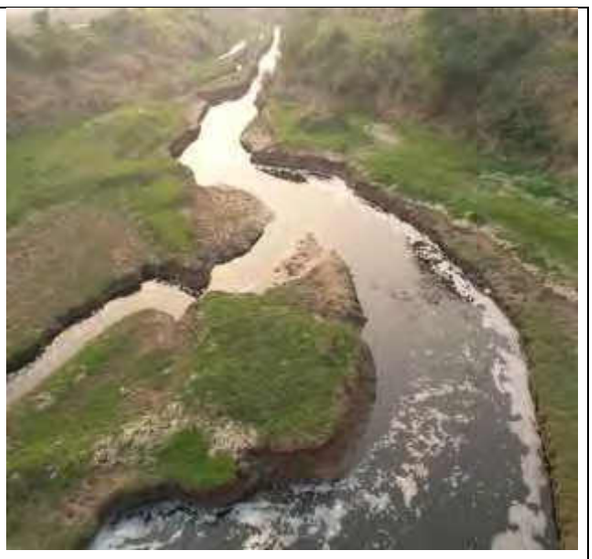

Fig 18 (c) Sagar Para Drain at Chicharwala (29°52'58" N 76°11'15" E) – 29.10.2018

Figure 18 (d) Patiala Drain B/c of River Ghaggar (30°06'05" N 76°15'06" E)- 29.10.2019

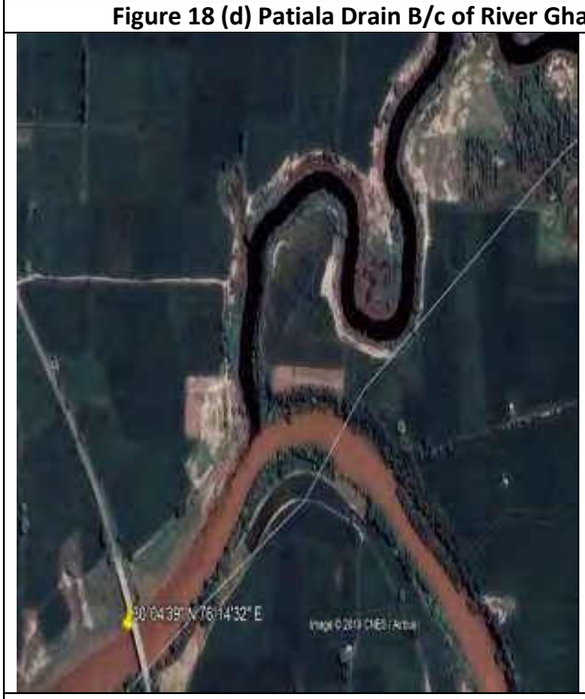

Figure 18 (e) Confluence of Patiala Drain with River Ghaggar at Ratanhaeri (30°04'39" N 76°14'32" E)- 29.10.2019

The analysis results (CPCB) of the collected river water samples of Ghaggar, River Kaushalya and River Markanda are given in subsequent paras:-

Water quality of river Markanda are observed at the monitoring locations in the order of pH (6.9 to 7.4), DO (8 to 12 mg/l), EC (400 -825 µmhos/cm), TDS (252-522 mg/l), COD (9 to 18 mg/l), BOD (1 to 3 mg/l), Total Hardness (190 to 332 mg/l), Total Alkalinity (117 to 173 mg/l), Ca (7 to 53 mg/l), Mg (41 to 48 mg/l), Chlorides (17 to 137 mg/l), SO_4 (26 to 63 mg/l), NO_2-N (0.01 to 0.03 mg/l), PO_4-P (0.04 to 0.05 mg/l), NH3-N (0.4 to 1.3 mg/l), As, Cd, Cr, Ni & Cu- 'BDL', Fe (0.19 to 2.35 mg/l), Mn (0.15 to 0.73 mg/l), Pb (BDL to 0.03 mg/l), Zn (BDL to 0.13 mg/l), Total Coliform (46000 to 70000 MPN/100 ml) and FC (33000 to 70000 MPN/100 ml).

Water quality of river Kaushalya at the village Kambli, HP is observed as pH (7.6), DO (7.8 mg/l), EC (338 µmhos/cm), TDS (196 mg/l), COD (9 mg/l), BOD (2 mg/l), Total Hardness (162 mg/l), Total Alkalinity (145 mg/l), Ca (10 mg/l), Mg (33 mg/l), Chlorides (13 mg/l), SO_4 (18 mg/l), NO_2-N (0.01 mg/l), PO_4-P (0.06 mg/l), NH_3-N (BDL), As, Cd, Cu, Pb and Zn ('BDL'), Cr (0.01 mg/l), Fe (7.21 mg/l), Mn (0.21 mg/l), Ni (0.01 mg/l), Total Coliform (33000 MPN/100 ml) and Faecal Coliform (FC) (11000 MPN/100 ml).

Water quality of river Ghaggar at the monitored locations are observed in the order of pH (7 to 7.9), DO (0.3 to 7.6 mg/l), (EC (436 to 1128 µmhos/cm), BOD (2 to 94 mg/l), COD (10 to 338 mg/l), Total Hardness (207 to 317 mg/l), Total Alkalinity (192 to 373 mg/l), Ca (26 to to 104 mg/l), Mg (11 to 51 mg/l), Chlorides (18 to 100 mg/l), SO_4 (14 to 180 mg/l), NO_2-N (0.01 to 0.1 mg/l), PO_4-P (0.08 to 1.44 mg/l), NH_3-N (0.1 to 25.3 mg/l), TDS (300 to 680 mg/l), As, Pb, Cd – BDL, Cr (BDL to 0.07 mg/l), Cu (BDL to 0.04 mg/l), Fe (BDL to 74.29 mg/l), Mn (0.14 to 1.44 mg/l), Ni (BDL to 0.08 mg/l), Zn (BDL to 0.15 mg/l), Total Coliform (200 to 24,00,000 MPN/100 ml) and Faecal Coliform (FC) (200 to 3,40,000 MPN/100 ml).

The analysis results of the drain samples for analysed parameters are observed as pH (6.37 to 8.53), TSS (30 to 612 mg/l), TDS (120 to 6060 mg/l), COD (30 to 674 mg/l), BOD (6 to 2000 mg/l), PO_4-P (0.89 to 49

mg/l), NH3-N (3 to 89 mg/l), As & Cd, Cr as BDL, Fe (0.35 to 6.7 mg/l), Cr (BDL to 0.28 mg/l), Cu (BDL to 0.34 mg/l), Mn (0.01 to 0.82 mg/l), Pb (BDL to 0.02 mg/l), Zn (BDL to 0.41 mg/l)

Observations as per analysis results of the samples collected by the Executing Committee during 22-23.10.2018 and 29-30.10.2018 from river Markanda, Kaushalya and Ghaggar are given in the subsequent paras:-

River Markanda:

- *Dissolved Oxygen which is in the order of 8-12 mg/l and complying to the water quality criteria for bathing at the monitored locations.*
- *BOD is in the order of 1-3 mg/l and is complying with the water quality criteria for bathing at the monitored locations.*
- *Faecal Coliform is in the order of 33000 to 70000 MPN/100ml and is not complying with the water quality criteria for bathing at the monitored locations.*

Therefore, based on the measured values at the sampling locations, river Markanda is not complying to the water quality criteria for bathing

River Kaushalaya

- *Dissolved Oxygen concentration at the monitored location is observed as 7.8 mg/l and complying to the water quality criteria for bathing at the monitored location.*
- *BOD is observed as 2 mg/l and is complying with the water quality criteria for bathing at the monitored location.*
- *Faecal Coliform is observed as 11000 MPN/100ml and is not complying with the water quality criteria for bathing at the monitored locations.*

Therefore, based on the measured values at the sampling location, river Kaushalya is not complying to the water quality criteria for bathing

River Ghaggar

- *Dissolved Oxygen content is in the order of 0.3 to 7.6 at all the 14 sampling locations. 11 out of 14 sampling locations are not complying to the water quality criteria for bathing.*

- *BOD is in the order of 2-94 mg/l and 13 out of 14 sampling locations are not complying with the water quality criteria for bathing. Highest BOD of 94 mg/l is observed after confluence of Patiala drain/nadi.*

- *Faecal Coliform is in the order of 200 to 3,40,000 MPN/100ml and is not complying with the water quality criteria for bathing at 9 out of 13 monitored locations.*

Therefore, based on the measured values at the sampling locations, river Ghaggar is not complying to the water quality criteria for bathing.

Drain Samples

The analysis results of the drain samples for analysed parameters reveal that

- *TSS is in the order of 30-612 mg/l whereas TDS is observed as 120 to 6060 mg/l and highest TSS and TDS observed at Patiala drain and Derabassi drain respectively.*

- *COD is in the order of 30- 6741 mg/l and highest COD is observed at Derabassi Drain;*

- *BOD is in the order of 6-2000 mg/l and highest BOD is observed Derabassi Drain*

- *NH_3-N is in the order of 3-89 mg/l and highest Ammonical Nitrogen is observed at Patiala drain.*

5.3 Uploading of information on compliance relating to the Hon'ble NGT directions dated 07.08.2018

Information relating to the activities of the Executing Committee is regularly being uploaded in CPCB website (http://cpcb.nic.in/ngt-committee/)

6 Directions issued to the 3 States and Chandigarh UT Administration by the Executing Committee and the Implementation Status

Executing Committee meetings in its meetings held with the officials of H.P., Haryana, Punjab States and Chandigarh, directed to take following actions:-

a) Organised health camps in association with the State Health Departments.

b) Compliance verification of the industry with respect to the effluent discharge norms

c) Performance assessment of STPs in the State by the concerned SPCBs/PCC.

d) Sludge characteristics and its management.

e) Assessment of groundwater quality in the catchment areas of river Ghaggar.

State-wise assessment reports are detailed in the subsequent paras:-

6.1 Organised health camps in association with the State Health Departments:-

Health camps organized in the catchment of river Ghaggar are given in the subsequent paras:

A. Himachal Pradesh

Health camps organized by Himachal Pradesh State is given in **Figure 19 to Figure 20.**

Figure 19. Photographs of Health camps organised at Parwanoo –Sukhna Nallah Stretch on 30.11.2018 and 11.01.2019

Figure 20. Photographs of Health camps organised at Kala Amb –River Markanda Stretch on 07.12.2018 and 15.01.2019

B. Chandigarh

Health department, Chandigarh UT Administration organized two health camps as on 30.01.2019. Health Camps organised by Health Department of Chandigarh U.T Administration is given in **Figure 21.**

Figure 21. Health Camp (30.01.2019)

C. Punjab

As per the information provided by Punjab Pollution Control Board, Health Department, Punjab State Government has organized 9 Health camps during the period 27.12.2018 to 10.01.2019. The details health camps organized by the Health Department, Government of Punjab in the Catchment Area of River Ghaggar is given in **Table.18** and the photographs are given in **Figure 23 to Figure 24.**

Table.18. Health Camps organized by the Health Department, Government of Punjab in the Catchment Area of River Ghaggar

S. No.	Location of the camp	Date on which Health Camp was organized	Name of the Doctors & the Organizations	No. of people examined	No. of people found effected with water borne disease
1.	Dashmesh Colony, Mandi Gobindgarh	27.12.2018	Dr Rajinder Kaur, Sub Divisional Hospital, Mandi Gobindgarh	187	14
2.	Village Mandvi	02.01.2019	Dr Vishvajeet Singh MO SDH Moonak	53	Nil
3.	Village Makored Sahib	03.01.2019	Dr Maninderpal Singh MO,SDH,Moonak	37	Nil
4.	Village Chandu and Taheri	04.01.2019	Dr. Pavel Malwa MO, SDH, Moonak	21 & 22	Nil
5.	Village Bhundar Bhaini	05.01.2019	Dr. Jagroop Singh MO, SDH, Moonak	36	Nil
6.	Village Phulad	07.01.2019	Dr. Asim Mehta, MO, SDH, Moonak	26	Nil
7.	Village Salemgarh	08.01.2019	Dr. Loveraj Pawar MO, SDH, Moonak	25	Nil
8.	Village Hameergarh	09.01.2019	Dr. Vishavjeet Singh MO, SDH, Moonak	35	Nil
9.	Village Banarasi	10.01.2019	Dr. Vishavjeet Singh MO, SDH, Moonak	46	Nil

Figure 23. Medical Camp held at Village Lachru Kalan, Harpalpur, Tehsil Rajpura, Distt. Patiala on 10/1/2019

Figure 24. Health Camp Organized in the premises of the Industry namely M/s Rana Polycot Ltd, M/s Allengers P Ltd and M/s Rajasthan Liquors, Derabassi on 03.01.2019

5.2 Compliance verification of the industry with respect to the effluent discharge norms

Executing Committee directed all the 3 SPCBs and the Chandigarh Pollution Control Committee to inspect at least 30 % of the industries located in the catchment of river Ghaggar for verification of compliance to the effluent discharge norms. Accordingly, Himachal Pradesh State Pollution Control Board, Haryana State Pollution Control Board, Punjab Pollution Control Board and Chandigarh Pollution Control Committees have inspected total 356 industries located within the respective State/Union Territory, as detailed in **Table 19.**

Table 19. Status of no. of industries inspected and the actions taken by the States/CPCC

Actions	Himachal Pradesh	Chandigarh	Punjab	Haryana
Number of industries inspected since 7.8.2018 and status of compliance	142 Inspected 118 Samples collected from the industries. Non-complying: 7. Power disconnected	129 inspected. Wastewater effluent samples collected from 26 Units. 124 complying and 04 are non-complying. in process	32 out of 48 inspected. 19 out of 32 complying and 13 non-complying Closed: 10 (as per NGT Order). O1 Unit visited by the Committee. Action under process	Inspected 53 Industries. 29 out of 53 Complying and 24 Units are Non-complying. 05 out of 24 units have already been closed. Remaining action under process
Closure of Industries which are violating norms during 7.8.2018 to till date	07 out of 142 power supply disconnected	01 out of 129 closed. 04 Under process	9 prosecuted, 11 out of 48 directions issued	05 out of 53 closed

The State-wise compliance status based on the verification made by the SPCBs (Punjab, Haryana and H.P) and Chandigarh PCC are given in the subsequent paras:-

A) Himachal Pradesh:-

The HP State Pollution Control Board carried out inspection of 142 industries as per inspection format provided by the Executing Committee. Samples have been collected from 118 industries and dry visits were made in case of remaining 34 industries. As per HPSPCB, The samples collected

have been analysed in HPSPCB Regional Laboratory and 7 samples have been found above the prescribed limit and Second sampling has been done and results are now complying. 01 unit has been recently found above prescribed limit and Notices under the provisions of Water (Prevention and Control of Pollution) Act, 1974 have been issued for disconnection of power supply. The industry-wise analysis results of the industrial effluents are given in **Annexure VI.**

Figure 25-26.Photographs Depicting the Sampling and Insection of River Stretch and Industries along the Sukhna at Parwanoo and River Markanda at kala Amb

B) Chandigarh

Further, as per the directions of Executing Committee on 08.01.2019, samples were collected from 26 industries by CPCC in January 2019. Based on the analysis results, 22 units are complying and 04 units are non-complying. List of Industries inspected and the status of complying and non-complying units is given in **Annexure-VII.**

C) Punjab

In compliance to orders passed by the Hon'ble NGT, New Delhi in OA No. 30 and 33 of 2013 on 25.10.2018, the Board has issued directions u/s 33-A of the Water (Prevention and Control of Pollution) Act, 1974 for closure of 57 units, out of which 11 are water polluting industries of Dera Bassi area. The Board has also filed complaints under the Water (Prevention and Control of Pollution) Act, 1974 in the Hon'ble Court of law against 51 industries, out of which 09 are located in the catchment area of river

Ghaggar.

As per directions of the Executing Committee, the PPCB has visited all the 32 out of 48 major water polluting industries located in the catchment area of river Ghaggar during August – December 2018, 13 industries are observed to be non-complying, 10 industries lying closed on their own or in compliance to Hon'ble NGT Order and 5 no. of industries are being visited by CPCB in compliance to Hon'ble NGT Order once in two weeks. One unit was inspected by the Executing Committee in compliance to the Hon'ble NGT order. Industry-wise observations and the analysis results of the collected samples as well as compliance to the effluent discharge norms is given in **Annexure-VIII.**

D) Haryana

As per directions of the Executing Committee, the Haryana Pollution Control Board officials have visited 53 out of 197 total water polluting industries located in the catchment area of river Ghaggar within the jurisdiction of the Haryana State during 26.11.18 to 13.02.19. Samples were collected by the inspection teams of Haryana PCB from 28 industries. Industry-wise observations and the analysis results of the collected samples as well as compliance to the industrial effluent discharge norms as well as the performance of the CETPs located in Haryana within the catchment area of river Ghaggar is given in **Annexure-IX.**

5.3 Compliance verification of STPs with respect to the treated wastewater discharge norms

In Himachal Pradesh, at present, there are no STPs/CETPs and most of the STPs in operation are captive STPs operated by the industries or community toilets connected with the septic tanks.

In Chandigarh there are 05 STPs having total treatment capacity of 221.775 MLD and in Punjab, there are 20 **STPs** with total treatment capacity of 221.4 MLD whereas in Haryana, there are 53 STPs with total installed sewage treatment capacity of about 435 MLD.

Executing Committee directed PPCB, HPCB and Chandigarh Pollution Control Committee to inspect STPs located within jurisdiction of the respective State/UT in the catchment of river Ghaggar for verification of compliance to the treated sewage discharge norms. Accordingly, Haryana State Pollution Control Board, Punjab Pollution Control Board and Chandigarh Pollution Control Committee have inspected 78 STPs (i.e., Chandigarh (5 STPs), Punjab (20 STPs) and Haryana (53 STPs). The State-wise performance of the STPs are given in the subsequent paras: -

A) Chandigarh

There are five STPs operational in U.T. Chandigarh which are being operated and maintained by Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration as per details given in **Table 20** below:-

Table 20. Status of Operation of the STPs in Operation

S. No.	Name of STP	Technology	Capacity in MLD	Consent Granted Status	Validity	Operated by
1.	Diggian	MBBR	136.2	Yes	-	MC, Chd.
2.	3 BRD	SBR	49.94	Yes	30.06.19	MC, Chd.
3.	Raipur Kalan	UASB	22.7	Yes	31.12.21	MC, Chd.
4.	Raipur Khurd	ASP	5.675	Yes	30.06.25	Engg. Deptt., Chd. Admn.
5.	Dhanas	SBR	7.26	Yes	31.03.22	Engg. Deptt., Chd. Admn.

Chandigarh Pollution Control Committee monitored the performance of STPs and the performance of the 5 STPs carried out in January 2019 is given in **Annexure-X.**

The analysis results of the treated sewage from the sewage treatment plants for the period January 2019 reveals that the observed values of the 3 out of 5 STPs located at Khurd, Diggian and Raipur Kalan are observed in the order of 59-69 mg/l, 51-58 mg/l, 59-70 mg/l and the measured values w.r.to BOD is not complying to the prescribed parameter. Also, all the treated sewage is having Faecal Coliform more than 1000 MPN/100 ml which may be due to improper disinfection. Therefore, all the existing STPs require upgradation.

B) Punjab:-

Monitoring of 20 STPs has been carried out during 27.11.2018 and 20.12.2018 by the Nodal Officer, PPCB. 2 STPs are not in operation. STP-wise compliance status of STPs is given in the **Table 21.** *Main observations on the performance assessment of STPs made by PPCB are as follows:-*

- ***As observed during the visit, 02 out of the 20 STPs are not in operation.***
- ***Treated sewage from all the 18 STPs is complying with the parameters viz., pH and TSS.***
- ***09 out of 18 STPs inspected are not complying to the Faecal Coliform, which may be due to improper disinfection.***
- ***In 18 STPs, BOD content in the treated sewage was observed to be in the order of 7 to 61 mg/l and 05 STPs located at Bhikhi, Budhlada, SAS Nagar, Sardulgarh and Patiala are not complying to the treated sewage discharge norms with respect to BOD.***
- ***Faecal Coliform content in all the 18 inspected STPs was observed to be in the order of 780 to330 MPN/100 ml and 09 STPs are not complying to the norm w.r.to Faecal Coliform.***
- ***STPs located at Bhikhi, Budhlada, SAS Nagar, Sardulgarh and Patiala are not complying to both the paremeters such as BOD and Faecal Coliform.***
- ***Total STPs Complying = 09; Total STPs Non Complying = 09***

Table 21. Compliance status of 20 STPs Monitored by PPCB
(during 27.11.2018 to 20.12.2018)

S. No.	Name of Town	Date of Sampling	Concentration of pollutants				Whether conforming to the prescribed standards or not ? (Yes / No)
			pH	BOD (mg/l)	TSS (mg/l)	F.Coli (MPN/ 100 ml)	
1.	Banur	01.12.2018	7.1	18	34	930	Yes
2.	Baretta	20.12.2018	8.9	22	78	3100	No
3.	Bhikhi	20.12.2018	7.71	33	26	2600	No
4.	Budhlada	20.12.2018	7.88	52	36	2100	No
5.	Khanauri	09.12.2018	7.35	9	49	600	Yes
6.	Lehragaga	09.12.2018	7.81	8	5	780	Yes
7.	Moonak	09.12.2018	STP was not in operation during the visit. As such, wastewater sample could not be collected.				
8.	SAS Nagar	30.11.2018	6.5	61	22	1400	No
9.	Pattran	08.12.2018	7.3	10	12	930	Yes
10.	Samana	08.12.2018	STP was not in operation during the visit. As such, wastewater sample could not be collected.				
11.	Sardulgarh	20.12.2018	7.76	41	88	4300	No
12.	Sunam	09.12.2018	7.54	8	8	820	Yes
13.	Zirakpur	30.11.2018	7.5	26	82	2100	No
14.	Mandi Gobindgarh	08.12.2018	7.5	11	10	780	Yes
15.	Dera Bassi	06.12.2018	7.1	10	22	1300	No
16.	Lalru	15.12.2018	8.2	11	08	820	Yes
17.	Rajpura	15.12.2018	7.33	09	37	780	Yes
18.	Patiala 46 MLD	1.12.2018	7.4	12	14	1100	No
19.	Patiala 10 MLD	27.11.2018	7.43	7	8	820	Yes
20.	Patiala 13 MLD	01.12.2018	7.5	34	64	3300	No
Prescribed standards as per MoEF notification dated 13.10.2017			**6.5 - 9.0**	**30 (in mg/l)**	**100 (in mg/l)**	**1000 (MPN/ 100 ml**	**Complying = 09 Non Complying = 09 and STPs not in operation = 2**

c) Haryana:-

The STPs in Haryana are montiored on quarterly basis and the samples from STPs are collected and analysed for relevant parameters. Location details of the STPs and the analysis results of the treated sewage samples as reported by Haryana PCB are annexed (**Annexure-XI and Annexure XII).** Main observations on the assessment reports submitted by Haryana State Pollution Control Board are as follows:-

- ***BOD content is observed in treated sewage samples of STP, Urban Estate, Ambala Cant (52 mg/l); STP, Baldevnagar, Ambala Citty (56 mg/l); STP, Devinagar, Ambala (64 mg/l); STP, PHED Industrial Area, Jind (110 mg/l), STP at Debwali, Sirsa (36 mg/l) and STP, Vill, Amani, Fatehbad (56 mg/l) i.e., 06 out of 53 STPs monitored are having BOD more than 30 mg/l and afore-said STPs are not complying to the treated sewage discharge norms which may be due to improper operation of these STPs.***

5.4 STP Sludge Characteristics and its management

A) Chandigarh:-

Chandigarh Pollution Control Committee collected 05 STP sludge samples in the month of January 2019 and the analysis results of the STP sludge samples are given in **Table 22.**

Table 22. Analysis Results of the sludge samples collected from 05 STPs in Chandigarh

S. No	Parameter	**Permissible Limits as per SWM Rules, 2016**	STP				
			Raipur Khurd STP	Raipur Kalan STP	3 BRD STP	Diggian STP	Dhanas STP
1	pH	**6.5 to 7.5**	7.79	6.46	7.30	7.76	7.18
2	% Solids	**-**	26.6	52.2	35.8	22	22
3	Phosphorous in mg/kg	**-**	139	159	51	114	155
4	TKN in %	**0.8 %**	0.63	0.89	0.39	0.79	0.77
5	NH3-N (in mg/kg)	**-**	1324	1566	1996	4152	4262
6	Potassium (in mg/kg)	**-**	127.45	118	130.49	136.9	132
7	NO3-N (in mg/kg)	**-**	26.4	544	BDL	BDL	11.7
8	Cadmium in mg/kg	**5**	BDL	3.8	0.79	0.39	0.27
9	Chromium in mg/kg	**50**	6.7	10.34	34.2	3.83	2.26
10	Copper in mg/kg	**300**	39	63	32.3	19.3	11.3
11	Lead in mg/kg	**100**	5.2	27	7.8	4.8	3.7
12	Nickel in mg/kg	**50**	5.9	10	15	3.2	1.6
13	Zinc (in mg/kg)	**1000**	242	367	262	121	103

The analysis results of the sludge samples reveals as follows:-

- The analysis results of the STP sludge samples for pH value is observed as 6.46 to 7.79 and the sludge samples pertaining to STP located at Raipur Khurd and Diggian are not complying to the permissible limits prescribed in Schedule II of the Solid Waste Management Rules, 2016, for its use as manure. All the sludge samples collected from 5 STPs are within the limits as per SMW Rules, 2016 for the paremeters such as Cadmium, Chromium, Copper, Lead, Nickel and Zinc.

B) Haryana

Informed that the manure from STPs is used as manure. No details provided by Haryana with regard to the STP-wise sludge generation and the existing practices of generated sludges from the STPs in Haryana located in the catchment of river Ghaggar.

C) Punjab:-

Samples of sludge from the STPs installed at Khanauri, Sunam, Patiala (10 MLD), Patiala (46 MLD), Patiala (13 MLD), Patran and Rajpura were collected to ascertain as to whether the sludge is fit for use as manure in the agricultural purpose. Information with regard to the sludge generation and its disposal aspects (STP-wise) as provided by PPCB is given in **Table 23**. The analysis results of the collected sludge samples is given in **Table24**.

Table 23. Sludge Generation in STPs located in the catchment of river Ghaggar

S. No	Name of Town where STP located	Sludge Generated (kg/day)	Mode of Disposal	Remarks
1.	Banur	100	Used by the farmers as manure	_
2.	Baretta	Nil	Not applicable	Plant based on WSP technology, as such, no sludge is generated
3.	Bhikhi	Nil	_	-do-
4.	Budhlada	40	used by the farmers as manure.	_
5.	Khanauri	25	used by the farmers as manure	_
6.	Lehragaga	15	used by the farmers as manure	_
7.	Moonak	30	used by the farmers as manure	_
8.	SAS Nagar	Nil	_	_
9.	Pattran	20-25	used by the farmers as manure	_
10.	Samana	50-60	used by the farmers as manure	_
11.	Sardulgarh	Nil	_	Plant based on WSP technology, as such, no sludge is generated
12.	Sunam	87	_	_
13.	Zirakpur	2000	used by the farmers as manure	_
14.	Mandi Gobindgarh	120-130	used by the farmers as manure	_
15.	Dera Bassi	Nil	_	STP is under stabilization
16.	Lalru	44	_	_
17.	Rajpura	90	used by the farmers as manure	STP under stabilization.
18.	Patiala 46 MLD	12500	In Agricultural usage and dump site filling	_
19.	Patiala 10 MLD	2700	In Agricultural usage and dump site filling	_
20.	Patiala 13 MLD	40-50	used by the farmers as manure	_

Table 24. Analysis results of samples of the STPs sludge collected on 20.12.2018

S. No	Parameters	Name of Town							Prescribed Limits as mentioned in Schedule II of Solid Waste Management Rules, 2016
		Khanauri	Sunam	Patiala (10 MLD)	Patiala (46 MLD)	Patiala (13 MLD)	Patran	Rajpura	
1	Bulk Density (g/cm^3)	**3.3**	**1.2**	**6.2**	**7.3**	**1.5**	**3.6**	**1.9**	<1.0
2	pH	**7.99**	**7.82**	6.74	**5.69**	**7.63**	**7.78**	**8.06**	6.5 to 7.5
3	Conductivity microS/cm	0.85	0.77	**4.62**	2.98	02	0.583	0.76	4.0
4	Zinc (mg/kg)	76	78	529	802	166	82	308	1000
5	Copper(mg/ kg)	17	20	73	101	50	28	299	300
6	Chromium (mg/kg)	11	8.8	23	29	28	6.9	28	50
7	Cadmium (mg/kg)	BDL	BDL	0.80	0.97	BDL	0.76	BDL	05
8	Nickel (mg/kg)	8.5	3.8	16	19	18	4.6	7.3	50
9	Lead (mg/kg)	22	7.5	40	42	15	16	15	100
10	Moisture(%)	**48.4**	**60.3**	23.9	22.6	**32.9**	**60.5**	**76.2**	15.0 – 25.0
11	Total Phosphate (mg/kg)	**527**	**702**	**220**	**899**	**283**	**160**	**572**	0.4
12	Total Organic Carbon(%)	**31.5**	**46.8**	**31.1**	**32.1**	**29.8**	**39.2**	**49**	12.0
13	TKN (%)	0.31	0.71	0.13	1.86	0.64	0.52	0.69	-
14	Potassium (mg/kg)	**471**	**894**	**829**	**259**	**161**	**415**	**287**	0.4
15	C : N	**103**	**66**	**245**	17.23	**47**	**76**	**72**	< 20
16	Arsenic (mg/kg)	1.1	0.8	2.4	2.5	2.1	1	2.2	10.0
17	Mercury (mg/kg)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.15

The analysis results of the sludge samples reveals as follows: -

- The analysis results of the STP sludge samples reveal that the values are observed as Bulk density (1.2 to 7.3 g/cm^3), pH (5.69 to 8.06), Conductivity (0.58 to 4.62 mhos/cm), Zinc (76 to 802 mg/kg), Copper (17 to 299 mg/kg), Chromium (6.9 to 29 mg/kg), Cadmium (BDL to 0.97 mg/kg), Ni (3.8 to 19 mg/kg), Lead (7.5 to 42 mg/kg), Moisture (22.6 to 76.2 % by weight), Total Phosphate (160-899 mg/kg), Total Organic Carbon (29.8 to 49 mg/kg), Potassium (161-894 mg/kg), C : N Ratio (47 to 245), Arsenic (0.8 to 2.5 mg/kg), Mercury (BDL).

- Total phosphate, total organic carbon and potassium is observed to be beyond the permissible limits prescribed in Schedule II of the Solid Waste Management Rules, 2016.

- pH value of the sludge sample is not complying to permissible limits prescribed in Schedule II of the Solid Waste Management Rules, 2016 except sludge samples collected from STP at Patiala (10 MLD)

- Collected sludge samples are complying to the permissible limits w.r.to the conductivity except sludge samples collected from STP at Patiala (10 MLD)

- Carbon: Nitrogen (C: N) ratio in the sludge samples of the STPs installed at Khanauri, Sunam, Patiala (10 MLD), Patiala (13 MLD), Patran and Rajpura are also beyond the prescribed limits. However, analysed heavy metals are within the permissible limits.

Based on the analysis results of the sludge samples collected from 07 STPs in the catchment of river Ghaggar concluded that the sludge of all the said STPs is not fit for use as manure especially for food based crops and may be used for greenery.

5.5 Assessment of groundwater quality in the catchment areas of river Ghaggar

Executing Committee directed all the concerned States for monitoring of ground water quality in the catchment of river Ghaggar. Details of ground water samples collected by the states are given **Table 25** below: -

Table 25. Details of ground water samples collected in the catchment areas of river Ghaggar

Item	Himachal Pradesh	Chandigarh	Punjab	Haryana
Ground water samples collected since 7.8.2018	57 Samples collected	07 Sample (Not allowed for drinking purposes)	79 (71 conforming to the Drinking water norms)	17 Samples (3 samples non-conforming to the Drinking water norms)

A) Himachal Pradesh:-

Himachal Pradesh Pollution Control Board along with the Irrigation and Public Health Department collected 57 samples of ground water in the catchment of Sukhna Nallah, River Markanda during November-December, 2018 Analysis results of the ground water samples are given in **Annexure-XIII.**

The analysis results of the collected 57 water samples reveals that 05 out of 57 samples are not complying with respect to TDS (> 500 mg/l), 18 out of 57 samples w.r.to Total Alkalinity (200 mg/l), 2 out of 57 samples w.r.to Fluoride (> 1 mg/l), 05 out of 57 samples w.r.to Total Hardness (> 200 mg/l) as well as Iron content(> 0.3 mg/l) when compared with the drinking water standards prescribed under IS10500-2012.

B) Chandigarh: -

Chandigarh PCC has collected 07 samples in Chandigarh and the analysis results of the ground water samples collected in the year 2018 (both pre and post-monsoon) are given in **Annexure-XIV.**

The analysis results of the collected 7 water samples reveal that

- ***Pre-monsoon samples are not complying when compared with the drinking water standards prescribed under IS10500-2012 with respect to***
  - ***NH3-N at ground water samplings locations located at Sector-15, Village Palsora;***
  - ***Turbidity at ground water samplings locations at Dadu Majra, Sector-25, Sector-22, Village Palsora, Dhanas and Sector-35;***
  - ***Total Alkalinity at ground water samplings locations at Dadu Majra, Sector-25, Sector-22, Village Palsora, Dhanas, Sector-20 and Sector-35***
  - ***TDS at at ground water samplings locations Sector-15 and Village Palsora;***
  - ***Faecal Coliform at ground water samplings locations at Dadu Majra and Dhanas.***

- ***Post-monsoon samples are not complying when compared with the drinking water standards prescrined under IS10500-2012 with respect to***

  - ***NH3-N at ground water samplings locations located at at Dadu Majra, Sector-21, Village Palsora, Dhanas, Sector-20 and Sector-35;***
  - ***Turbidity at ground water samplings locations at Dadu Majra, Sector-15, Village Palsora, Dhanas, Sector-20 and Sector-35;***
  - ***Total Alkalinity at ground water samplings locations at Dadu Majra, Sector-15, Village Palsora, Dhanas, Sector-20 and Sector-35***
  - ***TDS at at ground water samplings locations Dadu Majra, Sector-15, Sector-35 and Village Palsora;***
  - ***Faecal Coliform at ground water samplings locations at Sector-22 and Village Palsora.***

c) Punjab:-

As per directions of Executing Committee, the Punjab Pollution Control Board has carried out ground water sampling at 79 locations in and around 62 industries (in some industries, more than one sample was drawn) to ascertain the quality of ground water in respect of parameters such as fluoride, sulphate, cadmium, copper, lead, nickel, zinc, arsenic, mercury and oil & grease. Out of these, 71 samples were found conforming to the prescribed standards as laid down in IS: 10500 – 2012. In 8 samples, the concentration of either fluoride or sulphate or both was found beyond the prescribed standards. The Board will take necessary action and monitor the quality of ground water regularly and the same will be reviewed at the district and state level. The analysis results of the 79 ground water samples collected and get analysed through Punjab Biotechnology Incubator Laboratory is enclosed as **Annexure-XV.**

D) Haryana:-

Haryana SPCB has collected 17 ground water samples in Haryana in the catchment area of river Ghaggar and the analysis results of the ground

water samples are given in **Annexure-XVI.** HPCB also informed that all the task force has been mandated to prevent the exposure of ground water with industrial effluent. The industries found indulged in reverse pumping are closed and power of closure has already been delegated to the Regional Officers of HSPCB. Further, the STFs have also been directed to close down the contaminated sources of drinking water and also place sign boards nearby the respective contaminated source regarding "Water is not fit for Drinking purpose". The monthly action taken reports are being sought in this regard from District Level Task Forces constituted in this matter by the State Government.

7. Observations and Recommendations of the Executing Committee

In fact, the Committee held its first meeting on 31st August, 2018 with all the concerned officers of four States (Punjab, Haryana, Himachal Pradesh and Chandigarh). At the initial stage and as well as during the course of observation of the working on the directions of the Hon'ble National Green Tribunal, it was felt that there was total lack of sensitivity and lack of will on the part of concerned officers to do their job for restoration of quality of water of river Ghaggar to the prescribed norms/quality. During this period, under observation from 31st of August till January, 2019, the members of the Executive Committee had visited 13 places.

Executive Committee has also participated in nine Health Camps organised by the State of Himachal Pradesh, Punjab, Haryana and Chandigarh. In the health camps, it was observed that people living in the catchment area of Ghaggar River had actively participated and not only that other members of the civil socies as well as allocated members of the members of the Municipalities/Panchayats also actively played their respectively role in the 'Cleanliness Drive of Tributaries/ Drains especially in Himachal Pardseh. On the query put to the medical officers by the Chairman of the Committee, after examination of the patients, it was found that there was no common water borne disease observed amongst the patients in the camps organised at Kala Amb, Parwanoo (H.P.) and Derabassi (Punjab).

Many times directions issued by the Committee for ensuring compliance of orders of Hon'ble NGT were not acted upon in letter and spirit. However,

when this fact was brought to the notice of the Chief Secretaries of the four States regarding non-compliance of directions, thereupon concerned officers and members of Special Task Forces (STF) at District Level started taking the directions seriously and now reports regarding Action Taken at the spot are being received on the email *cecghaggar@gmail.com* of the Executive Committee as well as websites of State Pollution Control Boards (SPCBs) and Environment Department of the respective State.

Now, taking an overall view, we hope and trust from the actions being taken as well as constant monitoring of their work by the Committee, that there will be a big improvement/upgradation in the standard/quality of water flowing in the Ghaggar in the days to come.

- ***During the water sample collection by the Executing Committee, at most of the places river Ghaggar is having highly coloured wastewater might be due to discharge of industrial effluent likely from Paper & Pulp Industries, Sugar and Distilleries as these inudstries have not been insisted for removal of 'colour' under Consent mechanism by the respective States and not having strict vigilance by the respective State Pollution Control Boards.***

- On the visual observations and on the basis of appearance of water in Ghaggar River Stretch as observed during the sampling, drains namely Patiala Drain, Derabassi, Jhermal Choe, Twenty-Five Dhara, Shambhu Border have been identified as major hot spots and contributing to river Ghaggar pollution.

- During the field sampling of river Ghaggar and the drains by the Executing Committee with the respective SPCBs, it was observed that Dissolved Oxygen level is less than the aquatic life supporting requirement in river Ghaggar.

- It appears that lot of stone/sand screening units located on the banks of the river Ghaggar are discharging their effluent without imparting any treatment into River Ghaggar, such industries should be insisted upon for having primary treatment system.

- During the presentation by all State Government, it was observed that more than 95 % environmental related cases are ending in acquittal whereas hardly less than 5% end in conviction, this may be for want of sufficient evidence, or lack of awareness of procedures in the staff while collecting the legal samples.

- **On Ground Water Abstraction: -**

  - Unregulated abstraction of groundwater by the general public as well as the industry and thereby causing sewage generation and also leading to depletion of groundwater resources.

  - *Considering depletion of groundwater resources, Government of Punjab should take a policy decision with regard to the supply of meter water to the public as per the demand or supply prescribed under the guidelines issued by Ministry of Urban Development.*

  - *Also, policy with regard to the utilization of treated sewage for beneficial use which include agriculture, construction activity and green development so as to reduce abstraction and consumption of the ground water resources should be implemented and promoted.*

  - *Also, all the industries located in the catchment of river Ghaggar should be allowed to use ground water abstraction for commercial use only with the approval of the Central Ground Water Authority and such industries also be suggested to explore alternate water supply sources (including adoption of low water consuming technologies) without depending on the natural ground water resources.*

  - Any industry indulged in discharge of industrial effluent into sub-surface, such industry should be levied heavy penalty and should be closed after ensuring necessary remedial measures.

  - Wherever, ground water which is used for drinking water purpose such contaminated ground water resources need to be capped and display board should be provided indicating 'unfit for drinking' and

alternate drinking water supply should be made by the concerned State authorities.

- Where there is a ground water depletion in such areas, the abstraction of ground water resources should be banned in consultation with the Central Ground Water Authority.

➢ **On Sewage Treatment Plants**

- Lack of sewerage systems for collection and conveyance of sewage (at present, open storm water drains carry city/town sewage in most of the cities/towns located in the catchment areas of river Ghaggar and also non-availability of adequate capacity STPs especially in the State of Himachal Pradesh, Haryana and Punjab States.

- Non-prioritization of wastewater treatment (focus has been on supply of drinking water rather than wastewater treatment).

- Water is not considered as valuable resources and the concept of Reuse, Recycle & Recovery not implanted while designing the project.

- In the catchment of river Ghaggar, most of the existing Sewage Treatment Plants (STPs) have not obtained Consent under the Water (Prevention and Control of Pollution) Act, 1974 from the Punjab Pollution Control Board (especially in Punjab State). *All the existing STPs should be insisted upon to obtain Consent under Water (Prevention and Control of Pollution) Act, 1974 from the Punjab Pollution Control Board, with immediate effect.*

- Presently, STPs are under the control of the different organizations and different organizations especially in Punjab State (such as Punjab Water Supply & Sewerage Board (PWS & SB); Department of Water Supply & Sanitation (DWSS); Department of Housing & Urban Development etc.,) are planning in their own way and there is no proper co-ordination. *Therefore, Punjab Government should bring all the STPs under one authority so that it becomes easy for planning, commissioning and for ensuring proper operation and maintenance of the existing or upcoming STPs.*

- STP's which have already been installed at different places in Punjab are neither working properly nor operating at all. As a result, the sewage of Towns and Cities especially located along the banks of river Ghaggar is either not treated or partially treated and are discharged directly into natural water resources which is mainly due to the lack of training to the personnel operating the STPs and also may be due to lack of adequate funds especially in Punjab State. *Government should allocate adequate budget for management of sewage in the State and this allocated budget should be released as and when required. Periodic training of all the officials i.e., O & M Staff, field staff or supervisors of the concerned departments involved in operation of the STPs should be organized by PPCB in association with the reputed organizations such as NEERI, Nagpur or NPC, Delhi or IITs.*

- Presently, proper records are not maintained by the existing STPs in the catchment of river Ghaggar to know the total sewage inflows and outflows. *All the existing STPs should also be connected with electromagnetic flow meters at all the salient points (i.e., inflow, at the bye-pass arrangement, after treatment and before discharge of treated water within the STPs) and proper records maintained. Also, STPs also be connected with continuous online effluent monitoring system for monitoring of prescribed parameters including discharges with a provisions of CC Cameras and real time data also be displayed at the entrance of the STPs and also transferred to the servers of PPCB and CPCB.*

- Auxiliary power back-up facility is not provided at all the intermediate (IPS) & main pumping stations (MPS) of all the STPs. *Therefore, all the STPs should have a provision of uninterrupted power supply or DG Set of adequate capacity for ensuring proper treatment of sewage during power failures.*

- Most of the STPs are not having a laboratory facility for analysis of STP treated effluent for routine parameters as prescribed by the PPCB under Consent. *All the parameters of the treated sewage may*

be get analyzed as per the frequency prescribed by the States through any laboratory approved under the E (P) Act, 1986 or NABL approved laboratory.

- All the drains earlier used to be natural streams and presently carrying sewage generated from the towns and cities located in the catchment of river Ghaggar. *All such drains should be restored by properly designed sewerage network connectivity (including interception and diversion of sewage from the drains to the existing STPs or upcoming STPs), for ensuring proper treatment of generated sewage to comply with the discharge norms and thereafter only such treated sewage may be discharged into the drains as a part of maintaining the E-flows.*

- Existing STPs, if found any not complying to the treated sewage discharge norms, *all such existing STPs should be upgraded for ensuring compliance to the effluent discharge norms notified under the Environment (Protection) Act, 1986.*

- As the industrial effluent is also mixing up with the municipal sewage and is treated through STPs in some of the areas, the sludges generated from such STPs may likely to have toxic constituents. Therefore, STP sludge presently generated from the STPs should be get analyzed once in six months through a laboratory approved under Environment (Protection) Act, 1986 or NABL approved Laboratory for relevant parameters and depending on the quality of sludge disposal options may be decided by the STPs only in consultation with the SPCB/PCC. *Also, the option of 'Sludge Digester' as a part of STP be created for methane recovery and such generated sludge from the sludge digester may be used as manure and STPs shall ensure that at any instance the generated STP sludge should not be disposed of in river system.*

- Presently, all the STPs are not having standby arrangements in STPs and during maintenance; STPs are indulged in bye-passing untreated sewage intentionally into the nearby drains. Therefore, all the STPs should take prior permission from Pollution Control Boards for carrying out any such maintenance activity. Also, all the STPs

should have adequate capacity of holding tank (s) or standby arrangements for storage of untreated sewage during maintenance or shut down if any. *All upcoming STPs preferably should have standby arrangements atleast for two days as a part of the upcoming STPs.*

- Any STP indulged in Bye-passing of untreated sewage, action against concerned officers should be taken by the Pollution Control Boards which include levying of fine under the Environment (Protection) Act, 1986.

- In rural areas, generated sewage may be treated either by anaerobic system followed by constructed wet lands or Oxidation Ponds with preliminary treatment provision and treated sewage may be used for any beneficial use such as irrigation etc., by providing suitable irrigation channels.

➢ **On Industrial effluent management**

- At present, Pollution Control Boards have not prescribed any PETP Standards for the industries discharging their effluent through CETP. *Therefore,* Pollution Control Boards are *required to prescribe PETP Standards for all the CETPs located in the catchment of river Ghaggar and in the respective States.*

- In every industrial area located in the catchment of river Ghaggar, CETP of suitable capacity and based on state-of-the-technology should be established as a part of rejuvenation of river Ghaggar with the financial support of State Government as well as contribution by all the concerned industry.

- All the industries should be insisted to provide electromagnetic flow meters to measure the discharges and its records maintenance and its submission to PCBs periodically. All the member industries of CETPs should be directed to have a flow measuring devices at all the outlet of the individual industries and records should be maintained with regard to the total wastewater generated from each industry and disposing through CETPs.

- The tankers used by the CETPs for collection and transportation of the industrial effluent from the member industries should have a provision of closed type of tanks of adequate capacity with proper label. The Vehicle used for transporation should be fitted with GPS as well as safety instructions to take actions in case of any uneventuality.

- ETPs and CETPs should be operated by trained/ skilled professionals having diploma in engineering or certificate course from ITI in relevant field and must be supervised by Environmental Engineers.

- Each industry having captive ETP as well as each CETP, there should be a laboratory facility for analysis of basic parameters essential for ascertaining proper operation of treatment plants to ensure compliance to the discharge norms prescribed by PPCB.

- Pollution Control Boards should regularly conduct/organise training programmes/ refresher courses for upgrading skills of operators of treatment plants. Later on it may be made mandatory for all industry associations/ operators of CETPs to engage professionals for such training programmes/ refresher course.

- The knowledge of promoters of CETPs with regard to new technologies/ changes in laws/ rules needs to be upgraded regularly through seminars / workshops, which may be conducted by SPCBs.

- The need of the hour is that the treated effluent is reused/ recycled to the maximum extent and discharge in rivers is minimised. This can be achieved by hiking price of raw water and supplying treated water free of cost to users. It may be worked out, if treated water can be used by some other type of industry.

- All the Pollution Control Board in the catchment of river Ghaggar should constitute a task team comprising of PPCB officials, Department of Industries, NGO, representative of an Expert Institution for carrying out random inspections of CETPs or industries and any industry found violating the norms should be closed under the Environment (Protection) Act, 1986 or levied penalty as per the E (P) Act, 1986. All the 3 SPCBs and Chandigarh PCC also should take action against the industry which are found to be violating the effluent discharge norms based on the recent visits as per directions of the executing committee.

- If any industry intends to enhance its capacity, it should be ensured granting permission inline with the availability of the adequate treatment capacity of CETP. Otherwise, no new industry should be permitted till adequate capacity in CETP is created following the provisions notified under the Environment (Protection) Act, 1986.

- *The Committee is also of the view that the technology available, can also be used for the surveillance of the industries located in the catchment area of river Ghaggar by all the concerned States in order to assess illegal discharge by the industries.*

8. Action plans for rejuvenation of Ghaggar –Additional Recommendation of the Executing Committee: -

Executing Committee has guided Himachal Pradesh Government, Punjab and Haryana States as well as Chandigarh Union Territory Administration in preparing the action plans and the *Action Plans proposed by the Himachal Pradesh Government, Punjab and Haryana State Governments as well as Chandigarh Union Territory Administration as a part of rejuvenation of river Ghaggar are enclosed as* ***Annexure – XVII to XX. In addition to the action plans prepared by the respective Governments, following action plans also need to be included with timelines: -***

- Development of Bio-deviersity parks in the catchment of river Ghaggar.

- Watershed management and maintaining E-flows in the river Ghaggar and its tributaries for maintaining biological system of the water body.

- Evolving and Effective Implementation of Sand Mining Policy of the Governments.

- Dredging and maintenance of all the drains contributing to river Ghaggar pollution and proper disposal of the sludge generated from the dredging and maintenance of the drains;

- Restoration of all the drains as natural drains for carrying only storm water;

- Provision of measurement of flows in all the drains before its outfalls in to the river Ghaggaror its tributaries in all the States to know the contribution of discharges into the river Ghaggar or its tributaries and records shall be maintained by the concerned departments inorder to evolve further strategies if required.

- Installation of real time water quality of monitoring stations at all the outfalls of the drains and at the salient points of the river Ghaggar or its tributaries and display of such data in public domain, by all the concerned State Governments.

- Interception or diversion of wastewater from the drains (not meeting to the water quality criteria), to the near by STPs or CETPs for ensuring further treatment to comply with the discharge norms.

- Septage management in the catechment areas of river Ghaggar and its tributaries for beneficial use including irrigation, conntruction activities.

This Executing Committee would abide by any order passed by the Hon'ble National Green Tribunal, Principal Bench, New Delhi.

(Justice Pritam Pal)
Chairman, Executing Committee

(J.Chandra Babu)
Sci 'E', CPCB & Member

(Dr.V.K.Hatwal)
Sci. 'D', MoEF & CC, Member

ANNEXURE - I

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No.138 of 2016 (T_{NHRC})
(Case No. 559/19/11/14)
And
Original Application No. 139 of 2016 (T_{NHRC})
(Case No. 600/19/11/14)

IN THE MATTER OF:

Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case)
And
Yogender Kumar

CORAM : HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE DR. JUSTICE JAWAD RAHIM, JUDICIAL MEMBER
HON'BLE MR. JUSTICE S.P. WANGDI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Present: Amicus Curiae **Ms. Katyayni, Adv. (Amicus Curae)**

Respondents: **Mr. Anil Grover, AAG and Mr. Rahul Khurana Adv. for State of Haryana and HSPCB**
Mr. Rajkumar, Adv.for Central Pollution Control Board
Mr. Shiv Mangal, Sharma, AAG alongwith Mr. Saurabh Rajpal, Adv., Mr. Adhiraj Singh, Adv. for State of Rajasthan.
Mr. Gaurav M. Liberhan, AAG, Punjab
Mr. Ashish Negi and Ms. Richa Kapoor, Advs. for PPCB
Mr. Shubham Bhalla and Mr. Roopam Rai, Advs.
Mr. Manish Kumar, Adv. for State of HP

	Date and Remarks	**Orders of the Tribunal**
	Item Nos. 07& 08 **August 07, 2018** **R & A**	1. Proceedings in this matter were initiated before this Tribunal on a reference received from the National Human Rights Commission (NHRC). The NHRC took Suo-Motu action on the basis of a news item appearing in 'The Tribute' dated 12.05.2014 under the caption "*Stench Grips Mansa's Sacred Ghaggar River*" to the effect that the river Ghaggar had turned into a polluted water body on account of discharge of effluents - industrial as well as municipal. 2. The NHRC considered the matter in the light of reports from the States of Punjab and Haryana as well as the State of Himachal Pradesh. Vide letter dated 17.03.2016, the NHRC sent the record of the matter to this Tribunal.

	Item Nos. 07 & 08 **August 07, 2018** **R & A**	3. Pursuant to the order of this Tribunal dated 09.12.2016, a joint inspection has been carried out by the representatives of the Central Pollution Control Board, Punjab State Pollution Control Board, Haryana Pollution Control Board, Himachal Pradesh State Pollution Control Board.Officials of Union Territory, Chandigarh also joined the said inspection team. Ms. Katyani, Advocate was appointed as Amicus Curiae to assist the Tribunal. We record our appreciation for the assistance rendered by Ld. Amicus Curiae. Ld. Amicus has also undertaken personal visit to some of the affected areas and filed her report dated 08.05.2017. 4. We have perused the reports submitted by the concerned Pollution Control Boards to the NHRC as well as Minutes of the meetings on various dates in which the respective States participated. The joint analysis report of the joint monitoring of river Ghaggar samples has also been filed. 5. The Environment (Protection) Rules, 1986 provides for standards for the emission for the discharge of the pollutants. For different industries, the standards are laid down in Schedule I. The findings of the joint inspection report are that values of various parameters such as BOD, TSS, Feacal Coliform, Lead and Iron were beyond permissible limits at most of the locations in Himachal Pradesh, Haryana, Punjab and Chandigarh. It is, thus, fully established that there is failure on the part of the statutory authorities specially the Pollution Control Boards to perform their duties. Under the statutory scheme, the Pollution Control Boards are required to

	Item Nos. 07 & 08 **August 07, 2018** **R & A**	prosecute all those who may be responsible for discharging effluents beyond standards and also to close all commercial establishments which are discharging such effluents apart from other penal measures required to be taken. They have,failed to uphold the rule of law in spite of adequate powers given to them. It is high time that their composition and manning is considered by the higher Authorities and their accountability fixed by taking civil and criminal action against not only violations of law but all those responsible for failure of their duties in taking action or shielding the culprits and thereby adversely affecting the environment and health of the inhabitants. 6. In view of above disappointing scenario and utter failure of the Authorities in spite of pendency of these proceedings for the last 4 years and clean violation of law, there is no evidence of action taken against persons for responsible for the violation of law at large scale,we accordingly direct the Chief Secretaries of the States of Himachal Pradesh, Haryana, Punjab and also the Administrator of UT Chandigarh to constitute Special Task Force (STFs) comprising of District Magistrate, Superintendent of Police, Regional Officer of the State Pollution Control Boards in concerned District and one person to be nominated by the District Judge in every District in his capacity of Head of the District Legal Services Authority. Such STF may identify persons responsible for violation of law so that action can be taken. At the State level, the STF will comprise of the Chief Secretary, the Environment Secretary, the Secretary

	Item Nos. 07 & 08 **August 07, 2018** **R & A**	of Urban Development and Secretary of Local Bodies. The District level STFs will submit a monthly action taken report to the State STFs and the State STFs will furnish a 3 monthly report or the action taken to the Central Pollution Control Board. Such reports be uploaded on the websites of State Pollution Control Boards as well as the Environment Department of the States. Such STFs may be constituted within one month from today. 7. Having regard to the alarming situation depicted in the joint inspection report apart from perusal action as above, an action plan with firm timelines is required to be prepared for preventing discharge of untreated effluents in the river by setting up appropriate anti-pollution device such as STP/ETP/CETP or any other such instruments. Wherever required polluting units have to be closed. The action plan must be realistic and provide for speedy mechanism. The funds can be generated as per applicable schemes for STP/CETP. The objective of the action plan must be to ensure that the testing of the sample of the water is found to be consistent with the laid down standards within the targeted time. We are also of the view that it is necessary to involve civil society and not to leave the matter to be dealt with by the concerned officers alone. 8. With view to ensure execution of our order, we constitute following committee as "Executing Committee" for executing the orders of this Tribunal under Section 25 of the National Green Tribunal Act, 2010: 1) Justice Pritam Pal, Former Judge, Punjab and Haryana High Court. (Phone No. 09463122333) –

	Item Nos. 07 & 08 **August 07, 2018** **R & A**	Chairman. 2) Senior Scientist from Ministry of Environment, Forest and Climate Change. 3) Senior Engineer/Scientist from Central Pollution Control Board. 9. The Committee will be entitled to issue appropriate directions to concerned authorities for ensuring compliance with the order of the Tribunal. The target of the Committee will be to restore the standard of water quality in the river to the prescribed level. The CPCB will be the Nodal agency for this project. The Committee may carry out personal visits, if necessary or call for information or reports. It may set up its website to furnish and receive information. All logistic support may be provided by the Chief Secretary, Punjab. 10. The said oversight body to execute the order of this Tribunal constituted hereinabove will constantly monitor the progress in the matter at least on fortnightly basis and give an interim report to this Tribunal on or before 31.01.2019 by e-mail at *filing.ngt@gmail.com*. The said oversight body will be paid such remuneration as may be determined by the Chief Secretary, Punjab in consultation with the Chief Secretaries Haryana, Himachal Pradesh and also in consultation with the Chairman of the said oversight body constituted by the Tribunal. The said oversight body may start working within one month. 11. The Committee may also consider need for getting organised health camps and need for providing clean drinking water for the affected inhabitants. The sampling of ground water may also be done apart from the sampling

	Item Nos. 07 & 08 **August 07, 2018** **R & A**	of the river water periodically. Copy of this order be sent to all concerned by E-mail. 12. We also direct that Learned Amicus may be paid Rs. 2 Lakhs as honorarium of the services rendered to this Tribunal to be shared equally by the Punjab State Pollution Control Board and Haryana Pollution Control Board. The payment will be made within one month from today. 13. All Authorities concerned with the matter in the States of Himachal Pradesh, Haryana, Punjab and UT Chandigarh will cooperate and co-ordinate with "Executing Committee". The "Executing Committee" can seek any scientific and technical assistance as may be required from any relevant authority. 14. The Registry is directed to send a copy of this order to the Chief Secretaries of Himachal Pradesh, Punjab, Haryana and Administrator UT Chandigarh and the Members of the "Executing Committee" by E-mail. 15. With the above directions, the application is disposed of. List for consideration of the report of the Committee on 05th March, 2019. ……., CP (Adarsh Kumar Goel) ……., JM (Dr. Jawad Rahim) ……,JM (S.P. Wangdi)

	Item Nos. 07 & 08 **August 07, 2018** **R & A**	.....,EM (Dr. Nagin Nanda) 07.08.2018

ANNEXURE - II

CENTRAL POLLUTION CONTROL BOARD
(Water Quality Management Division-I)
"Parivesh Bhawan", East Arjun Nagar,
Delhi-110032
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Minutes of First meeting of the Executing Committee held on 31.08.2018 at 'Haryana Niwas, Sector-3, Chandigarh' under the Chairmanship of Justice Pritam Pal, Former Judge, Punjab & Haryana Court, in compliance to the Hon'ble NGT order dated 07.08.2018 in matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) And Yogender Kumar

First Meeting of the Executing Committee was held on 31.08.2018 at 11.30 AM at 'Haryana Niwas, Sector-3, Chandigarh' under the Chairmanship of *Justice Pritam Pal Former Judge, Punjab & Haryana Court.* Shri S. Narayanan, Member Secretary, Haryana State Pollution Control Board (HSPCB) welcomed the Chairman and Members of the Executing Committee as well as Officials of CPCB, State Governments and Pollution Control Boards of Punjab, Haryana, Himachal Pradesh and Chandigarh Union Territory Administration. The List of Officials attended the meeting is enclosed as **Annexure-I**.

After a brief introduction of the Officials of CPCB, Haryana, Punjab, Himachal Pradesh States and Chandigarh Union Territory Administration, the Chairman of the Executing Committee requested CPCB representative (s) to brief about main content of the Hon'ble NGT order dated 07.08,2018 and also the action to be taken by the Chief Secretaries of the above States/UT to ensure compliance to the Hon'ble NGT order dated 07.08.2018 .

Shri. A. Sudhakar, Additional Director, Water Quality Management Division in Central Pollution Control Board (CPCB) readout main content of the order and the actions to be taken by the State Governments of Punjab, Haryana, Himachal Pradesh and

Chandigarh UT for control of river Ghaggar pollution. Thereafter, he stated that the Punjab, Haryana, Himachal Pradesh States and Chandigarh UT are required to constitute Special Task Forces (STFs) at the State Level as well as District Level in the respective States and UT to identify the persons violating the norms. STFs at District Level are required to submit the monthly action taken reports to State Level STF and State Level in STF in turn have to submit quarterly reports to CPCB. He also emphasized that the action plans to be prepared with time targets for restoration of Ghaggar river water quality upto the level of Class B classification i.e., bathing criteria, by also involving the civil societies. He also informed that Executing Committee has been empowered by Hon'ble NGT to issue directions to any authority or local body, if required to ensure compliance to the Hon'ble NGT Order. CPCB will be the nodal agency. The Committee shall also make personal visits to sites related to river Ghaggar and polluting sources, if necessary or call for information or reports from the concerned departments. All logistics etc., are required to be provided by the Chief Secretary, Punjab State Government. Thereafter, he also stated that the executing committee will review the progress on fortnightly basis and shall file the interim report on or before 31.01.2019. The remuneration for the oversight body shall be determined by the Chief Secretary, Punjab in consultation with the Chief Secretaries of Haryana, H.P and Chandigarh Governments and in consultation with the Chairman of the Executing Committee. He also stated that organizations such as State Ground Water Board (s) may also be involved for assessment of ground water quality and State Health Departments for assessment of health of the public, for providing treatment services if required. If any ground water is found unfit for human consumption then such ground sources should be dismantled or capped or sealed to prevent consumption. He also informed that any industry found violating the prescribed norms should be closed down and prosecuted.

Thereafter, Chairman of the Executing Committee requested the representative of the State Governments to present actions taken by them subsequent to the Order of the Hon'ble NGT dated 07.08.2018.

Shri. S. Narayanan, Member Secretary, Haryana State Pollution Control Board (HSPCB) has apprised Executing Committee that HSPCB already constituted STFs at State Level as well as District Level and also informed that the proposals for development of adequate capacity of STPs and CETPs are under progress. Thereafter, he requested Shri. JP Singh, EE, HSPCB to make a brief Power Point Presentation on River Ghaggar and the actions being taken by the State of Haryana.

Shri J.P.Singh, in his presentation stated that State of Haryana has already constituted State Level and District Level Task Forces in compliance to the orders of Hon'ble NGT. STF at State Level and also constituted 08 DSTFs in Haryana State and STFs are expected to submit their first report by September 2018. The order regarding constitution of Task Forces at State and District Level has already been uploaded on website of HSPCB and Environment Department, Haryana. He also stated that there are 12 towns namely Kalka, Pinjore, Panchkula, Ambala, Kurukshetra, Shahbad, Pehowa, Kaithal, Cheeka, Ratia, Tohana and Sirsa located on the catchment of River Ghaggar and 06 out of 16 drains contributing to River Ghaggar Pollution from Haryana State and minimum BOD of 12 mg/l was observed in Kaithal drain at Vill. Khanauri whereas Sagar Para Drain at Vill. Sagra contribute BOD level of 90 mg/l. As regards Sewage Treatment Plants (STPs) and Common Effluent Treatment Plants (CETPs), he informed that 46 STPs of 400 MLD are operational at present and 8 STPs of 70.5 MLD are under construction and 19 STPs of 83 MLD are proposed and 3 CETPs of 6 MLD are operational and 1 CETP of 1.5 MLD has been proposed. Other measures or initiatives taken by Haryana as informed are (i) sewerage is being laid in towns in the catchment of river Ghaggar; (ii) Plan to recycle treated effluent of STPs so that no sewage is discharged in river Ghaggar; (iii) Installation of Real Time Online Monitoring Devices for all STPs and CETPs; (iv) Conducting surveys to identify remaining point sources of river Ghaggar pollution

Shri Krunesh Garg, Member Secretary, Punjab Pollution Control Board (PPCB) informed that the proposal regarding constitution of State Level and District Level Task Forces has already been under submission for approval of the Chief Secretary, Punjab State Government. He also stated that there are 22 towns in the catchment of river Ghaggar and generating about 273 MLD of sewage and 17 out of 31 STPs covering 15 towns have already been provided with 208 MLD sewage treatment capacity. In pursuance to the Hon'ble NGT order dated 07.08.2018, payment of Rs. 2 Lakhs to Ms. Katyayni, Amicus Curiae has already been sanctioned by Chairman, PPCB and same would be released by 06.09.2018

The representative of H.P. State Pollution Control Board (HSPCB) informed that STFs at District Level will be constituted and further actions would be initiated in compliance to the order of Hon’ble NGT dated 07.08.2018.

The Member Secretary, Chandigarh UT Administration informed that the STF at State Level and District Level in compliance to the Hon'ble NGT order dated 07.08.2018 will be constituted by 06.09.2018.

Thereafter, Chairman, Executing Committee enquired about the conviction rate of the prosecution cases being filed for Environmental violations in States. It was informed by all the State Pollution Control Boards that the conviction rate is less than 1%.

As regards to the logistics to be provided to the Executing Committee, Shri A Sudhakar, Addl. Director, CPCB made it clear that all logistics regarding office, staff etc. are to be provided by Chief Secretary, Punjab State Government as directed by Hon'ble NGT.

Shri J.Chandra Babu, Sc. D, CPCB and member of the Executing Committee requested all the State Government representatives and Chandigarh UT administration who are yet to constitute Special Task Forces in pursuance to the Hon'ble NGT order dated 07.08.2018 to take action for constitution of the special task forces before 06.09.2018 and also to forward a copy of the order to the executing committee as well as CPCB. He also requested to provide preliminary information as per the formats circulated during the meeting before the next meeting of the executing committee along with the draft action plans for ensuring compliance to the Hon'ble NGT Order dated 07.09.2018. He also requested the Punjab, Haryana and H.P. SPCBs and Chandigarh UT Administration to identify the industries indulged in discharge of industrial effluent into the river Ghaggar and to initiate action against such violators for closure in compliance to the Hon'ble NGT order dated 07.08.2018 part from providing preliminary information relating to area-wise sewage and industrial effluent management as per the formats circulated in the meeting.

Upon deliberations following decisions were taken as detailed below:-

- Punjab Govt. has to provide all the necessary logistics and an adequate office space in Chandigarh so that smooth functioning of the Executing Committee is started at the earliest.

- A dedicated web portal also be provided by the Punjab State Government for uploading information regarding action taken and also for receiving feedback from the public or stakeholders.

- All the concerned departments are required to identify the nodal officer to co-ordinate with the executing committee as and when required.

- Punjab, Haryana and H.P. SPCBs and Chandigarh PCC are required to identify all the industries indulged in direct/ indirect discharge of industrial effluent and other pollution into river Ghaggar, be identified and such information be provided to the Committee to verify further by it.

- Information relating to the area-wise quantum of sewage and industrial effluent generation, existing treatment capacities and the proposed treatment capacities to control pollution of River Ghaggar, as per the formats circulated during the first meeting (annexed as **Annexure-II**) also be provided to the Executing Committee and CPCB.

- The Chief Secretaries of the State Governments (Punjab, Haryana, H.P and Chandigarh UT) have to review the proposed draft Action Plan with all the concerned departments and the Chief Secretary or his representative has to be present to apprise the Executing Committee in the next meeting about the draft proposed actions with time targets in compliance to the Hon'ble NGT order dated 07.08.2018.

- Meeting with District Attorney of the State Boards and also the presiding officers of the Environment Courts will be held at the earliest under the Chairmanship of the Chairman, Executing Committee so that lacunas if any in the prosecutions be removed.

- All the Chief Secretaries of State Governments (Punjab, Haryana and H,.P) and Chandigarh UT Administration are required to ensure submission of Action Taken Reports (ATRs) in compliance to the Hon'ble NGT order dated 07.08.2018 to the Executing Committee and CPCB, voluntarily on fortnightly basis.

- Next meeting of the Executing Committee will be held on 11.09.2018 at 11.30 AM at 'Chandigarh' and same will be organized by Punjab State Government.

The Chairman of the Executing Committee thanked 'Member Secretary, Haryana Pollution Control Board' for excellent arrangements and for organizing first meeting of the Executing Committee.

First meeting of the Executing Committee ended with vote of thanks to the Chair.

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Annexure-I

List of Participants of the First meeting of the Executing Committee held on 31.08.2018 at 'Haryana Niwas, Sector-3, Chandigarh' under the Chairmanship of Justice Pritam Pal Former Judge, Punjab & Haryana Court for ensuring compliance to Hon'ble NGT vide order Dated 07-08-2018 in the matte of OA No. 138/2016 (T_{NHRC}) and OA No. 139 of 2016 (T_{NHRC}) .

S. No.	Name of the Official, Designation/Department
1.	Justice Pritam Pal, Chairman, Executing Committee
2.	Sh. J. Chandra Babu Sc. 'D' and Member, Executing Committee
3.	Sh. A. Sudhakar, AD & Divisional Head, WQM-I, CPCB
4.	Sh. S. Narayanan, MS, HSPCB
5.	Sh. Krunesh Garg, MS, PPCB
6.	Sh. T.C. Nautiyal, MS, CPCC
7.	Dr. Vimal K. Hatwal, Joint Director, Regional Office, MoEF&CC, Chandigarh
8.	Sh. T. S. Dhaliwal, Spl Secretary, Dept. of Science & Technology, Govt. of Punjab.
9.	Sh. M. Mohit, Spl-Secretary, , Local Government
10.	Dr. R. K. Chauhan JD (Envi.), Haryana
11.	Sh. Parveen Kumar, Sc.'D', WQ
12.	Sh. Sanjeer Kaul, S.E. HPIPH Deptt.
13.	Sh.J.P.Singh, EE, HSPCB, Haryana
14.	Sh. S. S. Rathi, Sr. EE, HSPCB
15.	Sh. V.S. Kochhar , Water Supply and Sanitation, Punjab.
16.	Sh. Tejinder Kumar, SEE,PPCB
17.	Sh. A.K. Sharda, EE, HPPCB
18.	Dr. Radhe Shyam, Scientist, Gr-I, Environment Department, Haryana
19.	Sh. K.P. Goyel, CE(E), PTA
20.	Sh. Shashi Bhushan Garg
21.	Sh. Ramesh Kumar Gupta, SE, PTA Org.
22.	Sh. Sushil Dugra, Scientist, CPCC
23.	Sh. Nishant Garg, Drainage (PTA)
24.	Sh. Gaurav Kakkar, A.E.E., HSPCB
25.	Dr. Raj Kumar, Sc.'B', HSPCB, Haryana

Annexure-II

Formats for providing preliminary information on sewage and industrial effluent management by the States of Punjab, Haryana, Himachal Pradesh and Chandigarh UT

A. Sewage contributing to River Ghaggar and its tributaries by all the Towns and Cities in the State of H.P/ Haryana/Punjab and Chandigarh UT

Name of the Town or City and District	Population in Lakhs		Water Consumption in MLD		Total Sewage Generation in MLD		Total Sewage presently treated and disposed in MLD	No. of STPs			STPs Capacity in MLD		Discharge Standards prescribed by PPCB to the STPs presently	Final mode of disposal of sewage in Drains/River nearby In MLD		Map indicating with all the details
	Existing	Expected (in 2040)	Existing	Expected (in 2040)	Existing	Expected in 2040		Existing	Proposed	Under Commi-ssioning	In Operation	Proposed		Treated	Untreated	
																Please attach as attachment

B. Industrial Effluent contributing to Pollution in River Ghaggar and its tributaries by all the Industrial Towns and Cities located in the State of H.P. /Haryana/Punjab and Chandigarh

Name of the Town or City and District	Industrial Sector		Industrial Effluent Generation in MLD		Total Industrial Effluent presently treated and disposed in MLD		No. of CETPs		CETPs Capacity in MLD			Discharge Standards prescribed by PPCB to the CETPs presently	Final mode of disposal of Industrial Effluent in Drains/River nearby In MLD		Map indicating with all the details
	Type of industrial sector	No of industries	Type of industrial sector	Total industrial Waste water generation	Captive	Through CETP	Existing	Proposed	Existing	Proposed	Under commissioning		Treated	Untreated	
															Pl. attach as enclosure

CENTRAL POLLUTION CONTROL BOARD
(Water Quality Management Division-I)
"Parivesh Bhawan", East Arjun Nagar,
Delhi-110032
*****

Minutes of 2nd meeting of the Executing Committee held on 11/9/2018 at 'Conference Hall, Punjab State Council for Science and Technology, Mahatma Gandhi State Institute of Public Administration (MGSIPA) Complex, Sector-26, Chandigarh' under the Chairmanship of Justice Pritam Pal, Former Judge, Punjab & Haryana Court, for ensuring compliance to the Hon'ble NGT order dated 7/8/2018 in matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) And Yogender Kumar

2nd Meeting of the Executing Committee was held on 11/9/2018 at 'Conference Hall, Punjab State Council for Science and Technology, MGSIPA Complex, Sector-26, Chandigarh under the Chairmanship of Justice Pritam Pal, Former Judge, Punjab & Haryana Court. The List of Officials attended the meeting is enclosed as **Annexure-I**.

Shri Krunesh Garg, Member Secretary, Punjab Pollution Control Board (PPCB) welcomed the Chairman and Members of the Executing Committee as well as Officials of State Governments and Pollution Control Boards of Punjab, Haryana, Himachal Pradesh and Union Territory of Chandigarh Administration. Thereafter, agenda-wise issues discussed are given in the subsequent paras:-

1) Presentation made by Punjab Pollution Control Board:-

Shri K. Garg gave a detailed presentation on the course of River Ghaggar starting from Shivalik Hills in Himachal Pradesh to Otto Weir in Haryana and various sources of sewage and industrial effluent contributing to the pollution load in River Ghaggar in the jurisdiction of State of Himachal Pradesh, Chandigarh UT, Punjab and Haryana through 'Googlepro Images'. Further, he

also apprised the committee on the measures taken for restoration of River Ghaggar and its tributaries as detailed below:-

(a) **Water quality of River Ghaggar :-** PPCB informed that the samples of River Ghaggar are collected from 12 locations (i.e., Mubarkpur, Ghaggar Near Bhankarpur, Dera Bassi, D/S Chattbir, U/S Jharmal Nadi, D/S Jharmal Nadi, U/S Dhakansu Nallah, D/S Dhakansu Nallah, Ghaggar at Rattanheri, D/S of Patiala Nadi after confluence, Ghaggar at 100 mtr. D/S confluence with River at Khanauri, Ghaggar at Moonak, U/S Sardulgarh and D/S Sardulgarh) of River Ghaggar within the jurisdiction of State of Punjab. Based on the analysis results of collected samples (with respect to DO, COD, BOD, T.Coliform) it was apprised to the executing committee that the quality of water in River Ghaggar is of category D as per 'designated best use criteria' prescribed by Central Pollution Control Board, when it enters the jurisdiction of Punjab i.e. at Mubarikpur. When the river Ghaggar leaves the State of Punjab after traversing Districts Mohali, Patiala, Sangrur and Mansa, the river water quality becomes category 'E' at Village Sandulgarh.

(b) **Status of Control of Industrial Pollution in River Ghaggar:-** As regards to the measures taken for control of river pollution in river Ghaggar and its tributaries, MS, PPCB informed that (i) PPCB has not allowed any industry to discharge its wastewater directly/ indirectly into River Ghaggar and its tributaries; (ii) In Dera Bassi and adjoining areas, 10 pharmaceutical units and one distillery unit which are having 'zero liquid discharge based treatment systems'. (iii) In catchment area of Patiala Nadi, main water polluting industries are 04 paper mills which are having captive effluent treatment plants and discharging their effluent onto land for irrigation/plantation. One distillery is having captive effluent treatment plant and is presently discharging treated effluent onto land for irrigation/ plantation and the unit is in the process of installing ZLD based treatment system which is likely to be commissioned by 31/12/2018.

(c) **Status of towns where STP have been installed:-** 22 towns are located in the catchment of River Ghaggar, which are impacting water quality of River Ghaggar. In these town, 32 STPs are required to be installed. Out of which, as of now 17 STPs

have already been commissioned in 12 towns under the Ghaggar Action Plan (with capacity 273 MLD) and presently 208 MLD of sewage is treated. In 3 towns namely Lalru, Rajpura and Mandi Govind Garh, 2 STPs at each town is required to be installed and presently 33.5 MLD capacity of STPs installed. However, 14.5 MLD of additional capacity of STPs is required to be installed in the afore-said three towns. In the remaining 7 towns i.e., Dera Bassi- 2 STPs of total capacity 6 MLD (one STP of capacity 4 MLD construction work completed), Lalru- 1 STP of Capacity 1.5 MLD, Rajpura-1 STP of 10 MLD capacity (civil work completed), Sirhind-3 STPs of 11 MLD Capacity, Mandi Govind Garh-1 STP of 3 MLD capacity, Bassi Pathana- 2 STPs of capacity 3,2 MLD, Longowol-1 STP of 3 MLD yet to be installed and proposals are under different stages. PPCB informed that at present, infrastructure for treatment of approx. 76% of total sewage generated from these towns located in the catchment of river Ghaggar is in place.

(d) **Action plan proposed:-** In order to improve the water quality of River Ghaggar, PPCB proposed that

- Punjab Water Supply and Sanitation Board (PWSSB) / Local Govt. of Punjab State are required to install the remaining STPs or upgrade the existing STPs, wherever required, in a time bound manner.
- Department of Rural Development and Panchayats are required to install suitable treatment technology to treat the wastewater of all the villages which are discharging their wastewater directly / indirectly into River Ghaggar.
- Department of Soil and Water Conservation is required to laid down distribution network of pipelines for utilization of treated wastewater for irrigation of agricultural land area instead of discharging the treated wastewater into drains which will also help to reduce the thrust on groundwater due to usage of fresh water for agricultural purposes.
- State of Haryana is required to restrain the discharge of wastewater into Sukhna Choe, natural drain passing near K-Area of Zirakpur, Singh Nallah, Ghail Drain through which the wastewater of Ambala city is discharged and Sagarpara Drain etc.

- State of Himachal Pradesh is required to restrain the discharge of various sources entering into river Ghaggar directly or indirectly.

2) Presentation made by Himachal Pradesh State Pollution Control Board:-

Dr. Sharawan Kumar, Sr. Environmental Engineer, HPSPCB, Paonta Sahib representing Himachal Pradesh State Pollution Control Board (H.P.SPCB) made a presentation covering status of water polluting Industries / civic bodies in the catchment of Sukhna Nallah and catchment of Markanda River. Main highlight of his presentation are detailed below :-

(a) **Status of Water Polluting Industries / Civic Bodies in the Catchment of Sukhna Nallah:-** Parwanoo Town in Himachal Pradesh is having 9 Sq.KM, which is a residential, small industrial as well as commercial area. Main river/drain in Parwanoo area are River Kaushalya and Sukhana Nallah. In Parawanoo area, there are total 324 industries i.e., 14 Red, 27 Orange and 283 Green category. 41 out of 324 industries are water polluting in nature. The total effluent generation in Parwanoo area is 0.76 MLD and all the water polluting industries have installed captive ETPs for treatment of waste water.

In the River Kaushalya catchment area, total industrial effluent treatment capacity is about 52.5 KLD and STP capacity is about 15 KLD whereas total effluent generation in Sukhana Nallah catchment is about 693.3 KLD. There are 32 water polluting industries in Sukhana Nallah catchment. As per analysis results of the samples collected from Sukhana Nallah during the years 2015 to 2018 w.r.to pH, DO, BOD and Total Coliform reveals that the Water Quality of Sukhana Nallah is bad primarily due to Sewage Load. Water Quality of Kaushalya River is meeting the Class A of CPCB “Best Designated Use”.

As regards to the sewage generation and treatment of sewage in Parawanoo, he stated that Parwanoo town has 2286 households and the town is divided into 9 wards and as per the Census India 2011, the population of Parwanoo city is about 8,758. At present, there is no CETP or STP is available in Parawanoo area and sewage generated from Parawanoo city is treated in individual septic tanks

and trade effluent generated is treated in captive ETPs. *Proposed action plan by H.P. SPCB for Parawanoo area are as follows:-*

- HP Govt. has already taken initiative for the installation of CETP and Common STP for Parwanoo Area.
- Common STP of 1 MLD proposed.
- CETP of 1 MLD Proposed.
- Land identification work is under process.

(b) **Status of Water Polluting Industries / Civic Bodies in the Catchment of Markanda River:-** Dr. Sharawan Kumar, Sr. Environmental Engineer, HPSPCB representative of H.P. SPCB informed that Kala Amb is a small industrial cluster falling under the catchment of River Markanda. There are total 419 industries i.e., 54 Red, 215 Orange and 133 Green and 17 industries are White category. He also informed that 93 Out of 419 industries are water polluting and total flow of Kala Amb industrial cluster is approx. 5.975 MLD and existing treatment capacity of ETPs is 7.28 MLD. All the water polluting industries have installed their respective ETP's/STP's for treatment of waste water. He also stated that River Markanda enters Kala Amb at Bikram Bag and leaves at Sadhora Bridge. It covers a distance of almost 130 km in Haryana before mixing with River Ghaggar in rainy season. Main drains at Kala Amb are (i) Jattan Wala Nallah; (ii) Roon Nallah; (iii) Sukdo Nallah and (iv) Salani Nallah which ultimately mixing in the River Markanda at Kala Amb. As per joint sampling of CPCB and HPSPCB, 14 km downstream Kala Amb, River Markanda has been found dry most of the times.

In the catchment of River Markanda, sub-catchment of Jattan Wala Nallah is the area of concern whose water quality has been found most of the times below the standard due to the discharge of un-treated sewage from various drains into it and Coliform is found more than 1600 MPN/100 ml. 03 sub streams i.e. (1) Near M/s Ruchira Paper Mill, where total 4 no. of industries i.e., 2 Paper Mills, Katha Unit and 2 Metal Finishing Units) (2) Near M/s Saboo Tor, where total 13 no. of industries i.e., Pharma-4, Glass toughening-3, manufacturing-3, metal finishing-3 and Cosmetic-1) and (3) Near M/s Jay Aay Alloys, where total 12 no. of units (Pharma-6, scrap melting-3, Food processing-1, AC Assembly-1 and

manufacturing-1) are contributing industrial effluent. He also stated that in addition to above, the sewage / sullage of Kala Amb which is partially in Himachal and partially in Haryana discharged into Jattan Wala Nallah.

In Jattan Wala Sub-Catchment, there are total 60 industries. 29 Out of 60 industries are water polluting and having total maximum pollution load of 6473.5 KLD. All the 29 industries have provided ETPs for treatment of industrial effluent generated from the respective unit. As per the estimation, the population of Jattan wala sub catchment is around 1000 and floating population is approx. 5000 and total sewage generation is about 236 KLD. Apart from this residential and industrial units situated in Himachal and Haryana are also contributing BOD load in Jattan Wala Nallah. He also stated that at present, there is no Common STP in Kala Amb Area. Untreated domestic sewage and sullage of civic population of Himachal and Haryana is carried by Jattan Wala Nallah which in turn is degrading the water quality of River Markanda.

Proposed action plan of H.P. State Government for Kala Amb area are as follows:-

- HP Govt. has already taken initiative for installation of CETP-cum-STP of appx.10 MLD capacity at Kala Amb for ensuring treatment of waste water generated from industries and domestic sewage.
- M/s Kala Amb Infrastructure Company has already been registered under Company Act as SPV for setting up CETP in Kala Amb.
- M/s Kala Amb Infrastructure Company has undertaken the work of preparing DPR through M/s Shivalik Solid Waste Management Ltd. The land for the project has been identified by the committee comprising 'DC, Sirmaur; EE, HPSPCB, Paonta Sahib and GM, DIC Nahan'. The proposal has been sent to the H.P. State Govt. for final approval.
- The survey of the area will be conducted to identify the remaining point sources.

3) Presentation made by Chandigarh Pollution Control Committee:-

Shri T.C. Nautiyal, MS, Chandigarh Pollution Control Committee (CPCC) made a presentation on the initiatives taken by CPCC for ensuring compliance to the Hon'ble NGT Order dated 07.08.2018 as detailed below:-

Shri Nautiyal in his presentation informed that as per the census 2011, total population of Chandigarh is 10.54 Lacs and 67 MGD of water is supplied from surface water (Bhakhra Main Line) and 20 MGD of ground water and total domestic and industrial effluent generated from Chandigarh UT is about 57 MGD. At present 06 STPs of each capacity 5 MGD at 3 BRD, 11 MGD at 3 BRD, 5 MGD at Raipur Kalan, 30 MGD at Diggian, 1.25 MGD at Raipur Khurd and 1.6 MGD at Dhanas have already been installed, which are treating total quantity of sewage about 53.85 MGD. He also informed that final mode of treated sewage is disposed in Natural Choe except Diggian. Diggian STP treated effluent only goes to Irrigation Channel for irrigation purposes. STPs of capacity 0.4 MGD to be installed at Village Kishangarh, 5 MGD at Maloya and 1.25 MGD at Raipur Kalan have already been proposed which shall treat 6.65 MGD of domestic wastewater. The upgradation of existing STPs by Municipal Corporation, Chandigarh shall accomplish by 31/3/2020. He further informed that untreated effluent of 03 MLD from Hallomajra is discharged into Sukhna Choe which is yet to be tapped and Municipal Corporation and Engineering Department, Chandigarh Administration has been asked to prepare action plans with time lines for upgradation of existing Sewage Treatment Plants and for stopping of discharge of untreated waste water into drains.

Thereafter, the main points of the Hon'ble NGT dated 7/8/2018 of Hon'ble NGT were discussed as under:

4) Constitution of Special Task Forces (STFs) at State and District Level in each State

(a) Principal Secretary to Govt. of Punjab, Deptt. of Science, Technology and Environment informed that action regarding constitution of STFs at State Level as well as at District Levels are under process and the same will be constituted shortly.

(b) MS, HSPCB informed that the STFs at State Level as well as at District Levels has already been constituted.

(c) SEE, HPSPCB informed that STFs at State Level as well as at District Levels has already been constituted.

(d) MS, CPCC informed that STFs at State Level as well as at District Levels has been constituted.

5) Actions taken by the Punjab, Haryana and Himachal Pradesh States and Chandigarh UT on the decisions taken in the first meeting of the Executing Committee held on 31.08.2018:-

Thereafter, executing committee requested all the states to apprise about the status of actions taken on the decisions taken in first meeting of the executing committee held on 31.08.2018 at Chandigarh. The Status actions taken as informed by the States of Punjab, Haryana, Himachal Pradesh and Chandigarh UT are tabulated as detailed below:-

Sr. No.	**Decisions of the First Executing Committee held on 31/8/2018**	**Compliance status as informed by the Officials of Punjab, Haryana, Himachal Pradesh and Chandigarh UT.**
1)	Punjab Govt. has to provide all the necessary logistics and an adequate office space in Chandigarh so that smooth functioning of the Executing Committee is started at the earliest.	PSSTE, Government of Punjab informed that the action is under process at Govt. level and the same has already been informed vide memo no. 10/375/2018-STE(5)/94 dated 4/9/2018 to the Hon'ble Chairman of the Executing Committee.
2)	A dedicated web portal also be provided by the Punjab State Government for uploading information regarding action taken and also for receiving feedback from the public or stakeholders.	MS, PPCB informed that temporarily a link has been provided on Board's website i.e. www.ppcb.gov.in at home page under the sub-head 'Executing Committee for River Ghaggar' of

		the head 'Focus Area' for uploading the details/ data of the Executing Committee. (OR) www.ppcb.gov.in/ExeCommitteeGhaggar. The Member Secretaries of HPSPCB, HSPCB and CPCC informed that they will create the web portal shortly.
3)	All the concerned departments are required to identify the nodal officer to co-ordinate with the executing committee as and when required.	MS, PPCB informed that SEE (HQ-1), Punjab PPCB, Patiala has been appointed as Nodal Officer to coordinate with Executing Committee on behalf of the Board. An information in this regard has been given to the OSD (Litigation), O/o Chief Secretary to Govt. of Punjab and Principal Secretary, Deptt. of Science, Technology and Environment vide no. 26032-33 dated 31/8/2018. The Member Secretaries of HPSPCB, HSPCB and CPCC informed that they will identify the Nodal Officer to coordinate with the Executing Committee and will intimate his name shortly to the Committee.
4)	Punjab, Haryana and H.P. SPCBs and Chandigarh PCC are required to identify all the industries indulged in direct/ indirect discharge of industrial effluent and other pollution into river Ghaggar, be identified and such information be provided to the Committee to	The Member Secretaries of PPCB, HPSPCB, HSPCB and CPCC informed that the details of industries located in the catchment area of River Ghaggar as well as the drains leading to River Ghaggar and its tributaries has already been identified The detail of the same will

	verify further by it.	also be incorporated in the Action Plan to be prepared and submitted to the executing committee.
5)	Information relating to the area-wise quantum of sewage and industrial effluent generation, existing treatment capacities and the proposed treatment capacities to control pollution of River Ghaggar, as per the formats circulated during the first meeting (annexed as **Annexure-II**) also be provided to the Executing Committee and CPCB.	MS, PPCB provided information relating to quantum of sewage as received from Punjab Water Supply and Sewerage Board (PWSSB) as per the prescribed format, to the Hon'ble Members of the Committee. Also, the Member Secretaries of HPSPCB, HSPCB and CPCC gave an assurance to submit the required information shortly.
6)	The Chief Secretaries of the State Governments (Punjab, Haryana, H.P and Chandigarh UT) have to review the proposed draft Action Plan with all the concerned departments and the Chief Secretary or his representative has to be present to apprise the Executing Committee in the next meeting about the draft proposed actions with time targets in compliance to the Hon'ble NGT order dated 07.08.2018.	**MS, PPCB** informed that the draft Action Plan has been prepared and will be circulated to the concerned department for their input. After receiving their comments/ input, the same will be submitted to the Committee upon approval of Chief Secretary, Government of Punjab State. **MS, HSPCB** informed that the draft Action Plan has already been prepared and same has been circulated to all the concerned departments for comments and inputs. After receipt of inputs from the concerned departments, same will be submitted to the Committee. The Representative of HPPCB and

		MS, CPCC informed that the draft action plan is under preparation and will be sent to the Govt. for its approval shortly.
7)	Meeting with District Attorney of the State Boards and also the presiding officers of the Environment Courts will be held at the earliest under the Chairmanship of the Chairman, Executing Committee so that lacunas if any in the prosecutions be removed.	**MS, HSPCB** informed that there are 02 Environment Courts in the Haryana State. **Member Secretary, PPCB and CPCC** as well as representative of HPSPCB informed that there is no Environment Court in the State of Punjab, Himachal Pradesh and UT, Chandigarh. It was informed that the complaints under the Pollution Control Acts are filed in the Courts after getting vetted from the Legal Cell in the department. It was also informed that the detail of cases pending in various courts will be prepared shortly and will be submitted to the Executing Committee for discussion during interaction with the Law Officers of SPCBs by the Chairperson of Executing Committee.
8)	All the Chief Secretaries of State Governments (Punjab, Haryana and H,.P) and Chandigarh UT Administration are required to ensure submission of Action Taken Reports (ATRs) in compliance to the Hon'ble NGT order dated	The Officers from SPCBs and State Govts. Ensured to submit fortnightly action taken reports to the Executing Committee and CPCB.

	07.08.2018 to the Executing Committee and CPCB, voluntarily on fortnightly basis.	

Justice Pritam Pal, Chairman, Executing Committee requested all the officials to take necessary action for preparation and submission of the action plans with time lines keeping in view the restoration of polluted river Ghaggar and its tributaries, within the jurisdiction of the respective State/UT, before next date of executing committee meeting to the Executing Committee as well as CPCB. Shri J.Chandra Babu, Sc'D', CPCB and Member of Executing Committee also informed that to have uniformity in preparation and submission of the action plans by all the 3 States and 01 UT concerned, a 'structure or content' of the action plan to be submitted will be prepared and circulated to all the concerned as a part of the minutes of this executing committee **(As Annexure-II)** for taking further action accordingly. Upon deliberations with the officials of 3 States and Chandigarh UT, following decisions were taken:-

- The Govts. of Punjab shall constitute the Special Task Forces (STFs) at State Level as well as District Level immediately and shall submit the information to the Executing Committee.
- A dedicated web portal must be installed by all the SPCBs wherein, the details of action taken to curb the menace of the pollution in River Ghaggar and its tributaries by the concerned SPCBs/PCC also be uploaded. A separate link provision should also be provided in the web portal for receiving feedback/ complaints from the public or stakeholders.
- All the concerned departments in the 03 States (i.e., Punjab, Haryana and H.P) and 01 UT (Chandigarh) will identify the Nodal Officer to co-ordinate with the Executing Committee immediately and shall send the information to the Executing Committee and CPCB.
- All the 03 SPCBs and 01 UT shall submit the information regarding area-wise quantum of sewage and industrial effluent generation, existing and proposed treatment capacity etc., as per formats circulated by the Executing Committee, within a week, to the Executing Committee and CPCB.

- The Chief Secretaries of the State Governments (Punjab, Haryana, H.P and Chandigarh UT) will expedite the process to review the proposed draft Action Plan with all the concerned departments and to submit the same after its final approval to the Executing Committee before the next meeting.
- The activities regarding organizing of awareness / health camps by the 3 SPCBs and Chandigarh PCC also must be incorporated in the final Action Plan.
- The copy of all the information sent to the Executing Committee by the concerned departments, also be endorsed to CPCB.
- An interaction meet with the officers of Legal Cell of SPCBs will be taken by the Hon'ble Chairperson of Executing Committee in which the officers should bring the details of all the court cases pending in various Courts alongwith the date of filing of case, Environmental Acts under which the case filed, present status of the case, difficulties being faced by Law Officers.

The Chairman of the Executing Committee thanked 'Member Secretary, Punjab Pollution Control Board' for excellent arrangements and for organizing 2nd meeting of the Executing Committee.

2nd meeting of the Executing Committee ended with vote of thanks to the Chair.

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Annexure-I

List of Participants of the 2nd meeting of the Executing Committee held on 11/8/2018 at 'Conference Hall, Punjab State Council for Science and Technology, MGSIPA Complex, Sector-26, Chandigarh' under the Chairmanship of Justice Pritam Pal, Former Judge, Punjab & Haryana Court for ensuring compliance to Hon'ble NGT Order dated 07.08.2018 in the matte of OA No. 138/2016 (T_{NHRC}) and OA No. 139 of 2016 (T_{NHRC}).

S. No.	Name of the Official, Designation and Organization/Department
1.	Justice Pritam Pal, Chairman, Executing Committee
2.	Sh. J. Chandra Babu, Sc. 'D', CPCB and Member, Executing Committee
3.	Dr. Vimal K. Hatwal, Joint Director, Regional Office, MoEF&CC, Chandigarh-Representing Member of MoEF & CC
4.	Sh. R.K. Verma, Principal Secretary to Govt. of Punjab, Deptt. of Science & Technology, Chandigarh
5.	Sh. Krunesh Garg, MS, PPCB
6.	Sh. S. Narayanan, MS, HSPCB
7.	Sh. T.C. Nautiyal, MS, CPCC
8.	Sh. Anil Garg, Additional Commissioner, MC, Chandigarh
9.	Sh. K.P. Goyel, CE, PWSSB, Patiala
10.	Sh. D.S. Bajwa, CE, PHED, Haryana
11.	Sh. Manoj Bansal, CE, MC, Chandigarh
12.	Sh. O.P. Goyal, CE, ULB, Haryana
13.	Sh. Phool Singh Nain, CE, Haryana Irrigation Department
14.	Dr. Vandana Gupta, Director Health, Chandigarh UT Administration, Sirmor
15.	Sh. Tejinder Kumar, SEE, PPCB
16.	Sh. Sanjeev Kaul, S.E. HP, Irrigation of Public Health Deptt. Circle, Solan
17.	Sh. Sanjiv Gupta, SEE, HSVP, Panchkula
18.	Sh. Rajinder Singh, SEE (PH), UT, Engg, Deptt. UT Sectt. Chandigarh
19.	Dr. Sharewah Kumar, SEE, HPSPCB, Paonta Sahib
20.	Sh. Shailender Singh, EE, PHED, Haryana
21.	Kuldeep Singh, EE, PPCB, R.O, Mohali
22.	Sh.J.P. Singh, EE, HSPCB, Haryana
23.	Sh. V.S. Kochhar, AE Water Supply and Sanitation, Punjab.
24.	Sh. Nishant Garg, AE, Drainage, Patiala

25.	Sh. Parveen Kumar, SDE, Water Supply and Sanitation, Punjab
26.	Sh. Atul Parmar, AEE, HPSPCB, RO, Parwanoo
27.	Sh. Amit Sharma, SDE, MC, Chandigarh
28.	Sh. Lalit Thakur,AEE, HPSPCB, Kala Amb
29.	Sh. Ranbir Singh, SDE, Urban Local Bodies, Haryana
30.	Dr. Radhe Shyam, Scientist, Gr-I, Environment Department, Haryana
31.	Sh. Vivek Pandey, Scientist B, CPCC, Chandigarh
32.	Sh. Tarun Mishra, Scientist-B, CGWA, Chandigarh
33.	Sh. K.S. Rawat, Scientist-B, CRWM, Chandigarh
34.	Dr. Raj Kumar, Sc.'B', HSPCB, Panchkula, Haryana

Annexure-II

CONTENT

(For Preparation and Submission of the Proposed Action Plan (Short, Medium and Long Term Plans) for Restoration of River Ghaggar and Its Tributaries - By the States of Punjab, Haryana & Himachal Pradesh and Chandigarh UT)

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1) Back Ground

2) About River Ghaggar and Its Tributaries, activity in the catchment area of river Ghaggar and its tributaries.

3) Water quality goals as per the existing provisions or guidelines/specifications of CPCB.

4) Sources of Pollution of River Ghaggar and Its tributaries within the jurisdiction of the respective State/UT.

5) Actions initiated for ensuring compliance to the Hon'ble National Green Tribunal (NGT), Principal Bench, Delhi Order dated 07.08.2018 in the matte of OA No. 138/2016 (T_{NHRC}) and OA No. 139 of 2016 (T_{NHRC})

6) Existing Status in the catchment of river Ghaggar and Its Tributaries: - Sewage & Industrial effluent management in rural and urban areas, ground water quality, health status of the Public, water quality of River Ghaggar and Its Tributaries as well as drains contributing to the pollution load in River Ghaggar and Its Tributaries.

7) A map (preferably digital map) showing the sources of pollution (area-wise information relating to– population, water consumption in MLD, sewage generation in MLD, existing STPs with numbers and exiting sewage treatment capacity in MLD, proposed STPs-Nos with treatment capacity in MLD, drains contributing to pollution load in river Ghaggar and Its tributaries within the jurisdiction of the State/UT)

8) A map (preferably Digital map) showing the sources of industrial pollution (area-wise information relating to– sector-wise no. of industries, sector-wise total water consumption in MLD, sector-wise industrial effluent generation in MLD, existing capacity of captive ETPs and CETPs in MLD, proposed no. of captive ETPs/CETPs in MLD), sludge generated from STPs as well as municipal solid waste management.

9) Observations on Gap Analysis w.r.to (i) Sewage management; (ii) industrial effluent management; (iii) operation and maintenance of existing STPs; (iv) operation and maintenance of existing captive ETPs; (v) operation and maintenance of existing CETPs; (vi) Compliance status w.r.to the industries located in the catchment area of river Ghaggar and its tributaries within the jurisdiction of the respective SPCB/PCC) – (a) List of industries not having valid consents under Water (Prevention and Control of Pollution) Act, 1974 and authorisation under the HW & OW (M & TM) Rules, 2016 as amended; (b) List of Industries complying and non-complying to the effluent discharge norms prescribed by the respective SPCB/PCC; (c) List of industries indulged in illegal disposal of industrial effluent; (d) industrial hazardous waste (generated from industries, captive ETPs and CETPs) management, requirement of restoration of river Ghaggar and its tributaries.

10) Proposed action plans (short term, medium and long term plans) with time lines including the organisation/agency responsible for its implementation- action plan should cover aspects as detailed below:-

(i) Domestic sewage management (including source reduction and control measures by bulk sewage generators, measures for conveyance of sewage through dedicated sewer lines connectivity to STPs, measurement of flows of drains connected to the river/tributaries under reference, on-site or in-situ treatment measures, end use of treated sewage for beneficial use complying to the prescribed standards, preparation and execution of the project proposals for sewage management through state-of-the–art STP, strict vigilance, effective enforcement of standards prescribed under the Environment (Protection) Act, 1986, actions initiated against violators, sewage management in rural areas with low cost treatment technologies like constructed wet lands),

(ii) Industrial effluent management (measures which include source control like adoption of state-of-the-art technologies, reuse of treated industrial effluent to reduce fresh water consumption, adoption of zero liquid discharge, sludge management, recovery and reuse of recovered chemicals in the process, measures for conveyance of industrial effluent through dedicated lines and its connectivity to ETPs/CETPs, preparation and execution of the project proposals for industrial effluent management (ETPs/CETPs), strict vigilance, effective enforcement of standards prescribed under the Environment (Protection) Act, 1986, action against violators)

(iii) Ground water management (obtaining of NOC from CGWB for use of ground water resources, ground water survey for quality assessment, identification of problem

sources, sealing of contaminated hand pumps/tube wells used by the general public for drinking water purposes, supply of ground water to the public living in areas where ground water is contaminated, measures to control depletion of groundwater table as well as for increasing ground water levels (ground water recharge measures), remedial measures for decontamination of highly polluted groundwater resources within the jurisdiction of the respective State/UT)

(iv) Restoration of river Ghaggar and Its tributaries water quality

(v) Maintaining of E= Flows for having ecological balance in the river system

(vi) Awareness on

- Effective use of groundwater resources for agriculture purpose; and
- Health status and organising health camps

(vii) Monitoring of executing the actions plans

(viii) Any other issues relevant to the subject.

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Minutes of 3rd meeting of the Executing Committee held on 21.09.2018 at 'Conference Room of HSPCB, C-11, Sector-6, Panchkula' under the Chairmanship of Hon'ble Justice Pritam Pal, Chairman of Executing Committee regarding Action Plan for River Ghaggar

A meeting was held on 21.09.2018 under the Chairmanship of Hon'ble Justice Pritam Pal, Chairman, Executing Committee regarding Action Plan for River Ghaggar at 'Conference Room of HSPCB, C-11, Sector-6, Panchkula'. The list of officials attended the meeting is enclosed as **Annexure -I**.

Right at the outset, Chairman welcomed all the participants and MS, HSPCB briefed about the decisions taken in the First and 2nd meeting of the Executing Committee. It was also discussed that the Hon'ble NGT has directed the State Government of Punjab, Haryana, Himachal Pradesh and Chandigarh UT Administration to constitute Special Task Forces at District and State level apart from preparation of action plans to make river Ghaggar pollution free and punish the violators.

After brief discussions, the Chairman enquired about the number of convictions in the cases filed for Environment violations. The Legal Officers of the State Boards informed that it is less than 3%. Then Chairman desired to know about the reasons of such low rate of convictions in Environment Courts from the Legal Officers of Haryana, UT, Punjab and Himachal.

The District Attorney HSPCB informed that in many cases the procedure for collection of samples as mentioned in the Water/ Air Act is not complied by the officers of HSPCB. Similarly, the ownership of the industries/ units is not established in the prosecutions. The Legal Officer of UT Chandigarh Pollution Control Committee informed that many times the summons could not be effected by the process servers of the courts. There is lack of awareness among the officers of the State Board regarding the evidence/ documents to be collected for filing prosecutions.

The Chairman desired that as far as Ghaggar matter is concerned, all State Board should work collectively and the officers who file prosecution cases should be trained on filing of prosecutions for environmental violations. He directed that 'Legal Cell of HSPCB should make guidelines/ proforma regarding the requirements of the case before filing of prosecutions and a seminar should also be organized for field level officers of CPCC, HPSPCB, HPPCB and PPCB to make them aware about the Legal process in the coming week.

MS, HSPCB welcomed the decision and requested other states that such a seminar can be fixed soon after receiving inputs from other two SPCBs and CPCC. MS, HSPCB also informed that there are two Special Environment Courts in Haryana and all the prosecutions regarding environmental violations are filed by the HSPCB and Forest Department in the Environment Courts at Kurukshetra and Faridabad. District Attorney, HSPCB informed that there are approximately 500 cases pending at Kurukshetra and approximately 700 cases pending at Faridabad Court. The legal Officers of HPPCB, PSPCB and CPCC informed that there are no such Environment Courts in their States and the cases are filed in lower courts of the respective districts. The Chairman desired that the respective State Boards/ Environment Departments should write a letter to the respective High Courts through the State Govt. for establishment of Environments Courts similar to that of Haryana.

The meeting ended with vote of thanks to the Chair.

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Annexure-I

3rd meeting of the Executing Committee held on 21.09.2018 at 'Conference Room of HSPCB, C-11, Sector-6, Panchkula' under the Chairmanship of Hon'ble Justice Pritam Pal, Chairman, Executing Committee regarding Action Plan for River Ghaggar.

List of Participants

Sr. No.	Name/Designation/Department
1.	Sh. S. Narayanan, IFS, Member Secretary, HSPCB, Panchkula.
2.	Dr. Vimal Halwal, JD, MOEFCC, RO, Chandigarh and Member Executing Committee,
3.	Sh. Parveen Gupta, SEE, HPPCB, Shimla
4.	Dr. Sharawan Thakur SEE, HPPCB, Shimla
5.	Sh. Satbir Singh, DA, HSPCB, Panchkula
6.	Sh. JP Singh, EE, HSPCB, Panchkula
7.	Sh. Amrik singh, Senior Law Officer, PPCB, Punjab.
8.	Sh. Ricky Jain, Law Officer, CPCC, Chandigarh
9.	Sh. Paramjeet Singh, ADA, HSPCB, Panchkula
10.	Sh. Atul Parmar, AEE, HPPCB, RO, Parwanoo.
11.	Sh. Bhupender Kumar, ADA, Environment Department,
12.	Sh. Sandeep Kumar, Astt. Law Officer, HPPCB, Shimla.

CENTRAL POLLUTION CONTROL BOARD
(Water Quality Management Division-I)
"Parivesh Bhawan", East Arjun Nagar,
Delhi-110032
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Minutes of Fourth meeting of the Executing Committee held on 09.10.2018 at 'Conference Hall, Hotel Peterhof, Shimla (H.P.) – 171004' under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana Court, in compliance to the Hon'ble NGT order dated 07.08.2018 in matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) And Yogender Kumar

Fourth Meeting of the Executing Committee was held on 09.10.2018 at 'Conference Hall, Hotel Peterhof, Shimla (H.P.) – 171004' under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana Court, in compliance to the Hon'ble NGT order dated 07.08.2018 in matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case). The List of Officials attended the meeting is enclosed as **Annexure-I.**

Dr. R.K Pruthi, Member Secretary, Himachal Pradesh State Pollution Control Board (HPSPCB) welcomed the Chairman and Members of the Executing Committee as well as Officials of State Governments and Himachal Pradesh Pollution Control Board.

After a brief introduction of the Officials of different departments of Himachal Pradesh State, the Chairman of the Executing Committee has highlighted the seriousness of the issue and also urged officials to perform the duties seriously as there is no concrete action plans seen on ground till date. He also stated that preservation of River Ghaggar is an auspicious work, and it is the joint responsibility of all the three States (i.e., Himachal Pradesh, Haryana and Punjab) as well as Chandigarh Union Territory and to look into the effective enforcement of provisions on aspects related to industrial effluent, sewage and solid waste management and action should be taken against the violators. He urged all the Himachal Pradesh State officials to comply with the orders of Hon'ble National Green Tribunal in letter and spirit. Thereafter, The Hon'ble Chairman stressed that actions taken along with progress report shall be submitted to CPCB and also to the Executing Committee to apprise the Hon'ble NGT periodically in compliance to the Hon'ble NGT order dated 07.08.2018. The Chairman also informed that law violators should be prosecuted.

Thereafter, Member Secretary, HPSPCB informed that the State Level Task Force has been notified by Government of HP, comprising of Chief Secretary to The Government of Himachal Pradesh, Additional Chief Secretary (Environment Science and Technology), Additional Chief Secretary (Urban Development) Government of HP, Member Secretary, HP State Pollution Control Board and District Level Task Force comprising of the Concerned Deputy Commissioner, Nominee of the Concerned District and Session Judge, The Concerned Superintendent of Police, The Executive Officer of the Local Body of the Concerned District, The Regional Officer, HP State Pollution Control Board of the Concerned District. Thereafter, he requested Dr. Sharwan Kumar to make a presentation on the Status of Action Taken in compliance to the Hon'ble NGT order dated 07.08.2018.

Status of Water Polluting Industries / Civic Bodies in the Catchment of Markanda River : Kala Amb Region

Dr. Sharwan Kumar in his presentation in formed the Executing Committee that Kala Amb is a small industrial cluster falling under the catchment of River Markanda. There are total 419 industries i.e., 54 Red, 215 Orange and 133 Green and 17 industries are White category. He also informed that 93 out of 419 industries are water polluting and total flow of Kala Amb industrial cluster is approx. 5.975 MLD and existing treatment capacity of ETPs is 7.28 MLD. All the water polluting industries have installed their respective ETP's/STP's for treatment of waste water. He also stated that River Markanda enters Kala Amb at Bikram Bag and leaves at Sadhora Bridge. It covers a distance of almost 130 km in Haryana before mixing with River Ghaggar in rainy season. Main drains at Kala Amb are (i) Jattan Wala Nallah; (ii) Roon Nallah; (iii) Sukdo Nallah and (iv) Salani Nallah which ultimately mixing in the River Markanda at Kala Amb. As per joint sampling of CPCB and HPSPCB, 14 km downstream Kala Amb, River Markanda has been found dry most of the times.

In the catchment of River Markanda, sub-catchment of Jattan Wala Nallah is the area of concern whose water quality has been found most of the times below the standard due to the discharge of un-treated sewage from various drains into it and Coliform is found more than 1600 MPN/100 ml. The Industries situated Near M/s Ruchira Paper Mill, where total 4 no. of industries i.e., 2 Paper Mills, Katha Unit and 2 Metal Finishing Units); (2) Near M/s Saboo Tor, where total 13 no. of industries i.e., Pharma-4, Glass toughening-3, manufacturing-3, metal finishing-3 and Cosmetic-1) and (3) Near M/s Jay Ajay Alloys, where total 12 no. of units (Pharma-6, scrap melting-3, Food processing-1, AC Assembly-1 and manufacturing-1) are contributing industrial effluent. He also stated that in addition to above, the sewage / sullage of Kala Amb which is partially in Himachal and partially in Haryana is also discharged into Jattan Wala Nallah.

In Jattan Wala Sub-Catchment, there are total 60 industries. 29 Out of 60 industries are water polluting and having total maximum pollution load of 6473.5 KLD. All the 29 industries have provided ETPs for treatment of industrial effluent generated from the respective unit. As per the estimation, the population of Jattan Wala sub catchment is around 1000 and floating population is approx. 5000 and total sewage generation is about 236 KLD. Apart from this, residential and industrial units situated in Himachal and Haryana are also contributing BOD load in Jattan Wala Nallah. He also stated that at present, there is no Common STP in Kala Amb Area. Untreated domestic sewage and sullage of civic population of Himachal and Haryana is carried by Jattan Wala Nallah which in turn is degrading the water quality of River Markanda. **Proposed action plan of H.P. State Government for Kala Amb area are as follows:-**

- HP Govt. has already taken initiative for installation of CETP-cum-STP of appx.10 MLD capacity at Kala Amb for ensuring treatment of waste water generated from industries and domestic sewage.
- M/s Kala Amb Infrastructure Company has already been registered under Company Act as SPV for setting up CETP in Kala Amb.
- M/s Kala Amb Infrastructure Company has undertaken the work of preparing DPR through M/s Shivalik Solid Waste Management Ltd. The land for the project has been identified by the committee comprising 'DC, Sirmaur; EE, HPSPCB, Paonta Sahib and GM, DIC Nahan'. The proposal has been sent to the H.P. State Govt. for final approval.
- The survey of the area will be conducted to identify the remaining point sources.
- HP Govt. has already constituted Special Task Forces at State Level and District Level for the purpose of identifying the persons responsible for discharging effluents beyond standards into tributaries of river Ghaggar.
- HPSPCB Paonta Sahib organized a meeting on 05.10.2018 under the chairmanship of Deputy Commissioner, Sirmaur to evaluate and expedite the process of installation of CETP at Kala Amb.
- Further, a District Level Task Force meeting has also been scheduled on 12.10.2018 to formulate the action plan for improving the water quality of the tributaries of river Ghaggar.

Status of Water Polluting Industries/Civic Bodies in the Catchment of Kaushalaya River, **Parwanoo Region**

Dr.Sharwan Kumar continued his presentation and also apprised the committee that Parwanoo Town in Himachal Pradesh is having 9 Sq.KM, which is a residential, small industrial as well as commercial area. Main river/drain in Parwanoo area are River

Kaushalya and Sukhana Nallah. In Parawanoo area, there are total 324 industries i.e., 14 Red, 27 Orange and 283 Green category. 41 out of 324 industries are water polluting in nature. The total effluent generation in Parwanoo area is 0.76 MLD and all the water polluting industries have installed captive ETPs for treatment of waste water.

In the River Kaushalya catchment area, total industrial effluent treatment capacity is about 52.5 KLD and STP capacity is about 15 KLD whereas total effluent generation in Sukhana Nallah catchment is about 693.3 KLD. There are 32 water polluting industries in Sukhana Nallah catchment. As per analysis results of the samples collected from Sukhana Nallah during the years 2015 to 2018 w.r.to pH, DO, BOD and Total Coliform reveals that the Water Quality of Sukhana Nallah is bad primarily due to Sewage Load. Water Quality of Kaushalya River is meeting the Class A of CPCB "Best Designated Use".

As regards to the sewage generation and treatment of sewage in Parawanoo, he informed that Parwanoo town has 2286 households and the town is divided into 9 wards and as per the Census India 2011, the population of Parwanoo city is about 8,758. At present, there is no CETP or STP is available in Parawanoo area and sewage generated from Parawanoo city is treated in individual septic tanks and trade effluent generated is treated in captive ETPs. **Areas of Concern :-**

- No Common STP in Parwanoo Area
- No CETP in Parwanoo.
- Area of Jurisdiction – Municipal Council Parwanoo.
- Sewage of Parwanoo Town is being treated in septic tanks provided by Municipal Committee, Parwanoo – Inadequate.
- Industrial Effluent is being treated in respective ETPs of industrial units.
- No hazardous constituents in water of Sukhna Nallah – River Monitoring Results.

Action taken report by H.P. SPCB for Parawanoo area are as follows:-

- FOCUS AREA - SEWAGE TREATMENT (as pollution load comprises primarily high BOD & High TC)
- Additional Chief Secretary (EST) cum Chairman HPPCB convened interdepartmental stakeholder meeting on 15.09.2018 in this matter.
- Directions issued to I&PH Division Solan to submit proposal of common STPs in Parwanoo Area.
- 3 to 4 common STPs are proposed considering topography of the area (0.2 – 0.4 MLD each).

- Action against defaulters / Directions issued – 05 units to install new STPs within 45 days.
- Action to be taken by: District Administration, Industries Department, HIMUDA & I&PH, H.P. State Pollution Control Board.

Observation and Directions Issued by the Executing Committee:-

Upon detailed deliberations following overall directions were issued by Executing Committee:-

1. **Flow Measurement :-** Irrigation and Public Health Department directed to explore possibility of channelization and also setting up of flow measurement systems at all the salient points such as before confluence of all drains and on River Markanda and River Kaushalaya and also at the exit point of State of HP ***–Action by Irrigation and Public Health Department.***

2. **Installation of Real Time Water Quality Monitoring Station:-** Action should be taken by **Irrigation and Public Health Department** for installation of continuous Real Time Water Quality Monitoring Station in compliance with the Directions issued by CPCB under Section 18 (1) (b) of the Water (Prevention and Control of Pollution) 1974- ***Action By Irrigation and Public Health Department and District Level task force, HPSPCB***

3. **Identification of the Problems in the Catchment area of River Ghaggar and its tributaries and preparation of action plans:-** As Kala Amb and Parwanoo has already been classified as severely polluted area by the Central Pollution Control Board, the concerned state agencies to expedite the process of setting up of Common Effluent Treatment Plant, Sewage Treatment Plant and Solid waste Management Facility in the Catchment area of River Ghaggar and its tributaries after thorough gap analysis- ***Action by Industry Department, HPSIDC, HIMUDA, IPH and concerned Local Body, HP SPCB***

4. **Ground Water Sampling:- All the** Tube Wells /Hand Pumps need to be checked for the water quality compliances w.r.to the BIS Drinking Water Standards for all the relevant parameters i.e. pH, Fluoride, Sulphate, Mercury and other heavy metals. Also, the data of analysis report from Central Ground Water Board may also be collected and reported. Sampling should be done within one month by HPSPCB in association with Officials of Irrigation and Public Health Department (IPH)- ***Action***

By Irrigation and Public Health Department, Regional officer, HPSPCB, Paonta and Parwanoo.

5. **Quality of Drinking Water Supply**: - The Drinking Water Quality at Kala Amb Parwanoo Region also need to be checked and samples of drinking water shall also get be tested through NABL accredited laboratory or a Laboratory approved under E (P) Act, 1986. The drinking water quality assessment should also be included for the Monsoon Period along with Details of Treatment system followed before supply of Drinking Water. The Concerned Department shall prepare a brief note on "Drinking Water Quality" supplied to the Regions of Parwanoo and Kala Amb within 15 Days- **Action by Himachal Pradesh Housing and Urban Development Authority (HIMUDA) and Irrigation and Public Health Department (IPH)**.

6. **Digital Map of River Ghaggar and its tributaries :- A** Digital map of River Ghaggar and Its tributaries should be prepared showing main towns/city-wise population, no. of industries (sector-wise no. of industries), water consumption by the towns/cities as well as by industries, sewage generation and industrial waste water effluent being generated, no. of captive wastewater treatment facilities by the industries and the total treatment capacity, no. of existing STPs and their capacities, no. of existing CETPs and their capacities, municipal solid waste generation, hazardous waste generation, existing solid and industrial waste management facilities including drainage map to be incorporated as a part of report-**Action by HPSPCB through AGISAC.**

7. **Water quality of River Ghaggar and its tributaries as well as drains:-** To have the trend in river water quality, drains characteristics, monitoring of river Kaushalaya or Ghaggar and its tributaries as well as the drains contributing pollution load shall be carried out once in a month henceforth by H.P.SPCB at all the salient points (i.e., upstream, downstream of confluence point of tributary or drain with the River Ghaggar in Himachal Pradesh, river or drain sample before confluence with the river Ghaggar or River Kaushalaya). Collected samples shall be get analysed for relevant parameters and results should be submitted to Executing Committee and CPCB.

8. **Compliance verification of Environmental Discharge Norms by the Industries prescribed under Water (Prevention and Control of Pollution) Act, 1974 and E (P) Act, 1986:-**

Routine and Surprise inspections of all the industries located in the catchment area of river Ghaggar and its tributaries shall be conducted immediately and list of industries which are complying and not complying to the environmental laws shall be

submitted to the Committee within one Month. The reports should be prepared and submitted as per the format to be circulated to HPSPCB by Shri J.C.Babu, Member of the Executing Committee. The Team leader of the inspecting officials should be either Scientist 'B' /Asst. Environmental Engineer or Scientist 'C'/Envi.Engineer, along with sampling team not below the rank of SSO. The inspecting officials also should collect ETP outlet sample as well as ground water sample located within the industry premises or in the vicinity or nearby village or town or city. ETP outlet samples should be collected and get analysed for the parameters as per the Consent issued under Water Act, 1974 whereas the ground water samples should be analysed for pH, Sulphate, Fluoride, TDS and the heavy metals such as As, Cr^{3+}, Cr^{6+}, Hg, Zn, Cd, Pd, Ni, Mn, Fe etc., following the standard protocol. The report should clearly indicate name of the officials inspected with details such as designation, address, contact mobile number and also e.mail -**Action by RO, HPSPCB, Paonta and RO, HPSPCB, Parwanoo.**

9. **Nomination of Officer's for Interstate Inspections: -** As desired by the Committee, HP State Pollution Control Board has to nominate four Officers for Interstate Industry inspections as well as sampling of river Ghaggar and its tributaries, as detailed below:-

1) Er. Avinash Kumar Sharda, Environmental Engineer, HPSPCB Baddi.

2) Er. Lalit Kumar, Assistant Environmental Engineer, HPSPCB Kala Amb.

3) Er. Pradeep Modgil, Assistant Environmental Engineer, HPSPCB Kullu.

4) Er. Varun Gupta, Assistant Environmental Engineer, HPSPCB, Dharamshala**.**

10. **Sewage and Solid Waste Management: - Area-wise e**stimation of Population, water consumption pattern, expected sewage generation over the next 15 to 20 years, solid waste generation. Proposal to be made regarding required STPs with State-of-the-Art Technology for sewage management and also for development of integrated solid waste management facilities in the catchment area of River Ghaggar and Its tributaries. The Concerned State agency to ensure appropriate technology for Management of Sewage and Solid Waste. ***Action by MC, Parwanoo, Irrigation and Public Health Department (IPH), Urban Development and Himachal Pradesh Housing and Urban Development Authority (HIMUDA)****.*

11. Hazardous and Biomedical Waste Management: - The Committee was apprised that the state has one TSDF facility located at Dhabota, Nalgarh with Toral landfill capacity of 10 Lacs MT which is catering to the requirement of entire State. In addition to this, HP SPCB also authorized 34 facility for recycling/utilization of Hazardous Waste under Hazardous and Other waste (Management & Transboundary Movement) Rules, 2016 as amended. Further, it was also informed

to the Committee that there are 3 Common Bio-medical Waste Treatment and Disposal facility situated at different locations. The Bio-Medical Waste generated by the Healthcare institution are treated and disposed properly in these facilities. With regard to Parwanoo and Kala Amb there are 08 Healthcare facilities and Bio-medical Waste generated is disposed of through authorized through Common Bio-medical Waste treatment Facility situated at Sandli, District-Solan. The Committee desired that the HP SPCB is required to do the gap analysis w.r.to such waste generation and the waste received, treated and disposed off by the such treatment and disposal facilities and also to ensure implementation of the Bar Code system to check the pilferage of bio-medical waste. - **Action by HPSPCB.**

12. **Health Impacts in Parwanoo and Kala Amb** :- in order to assess the impact of water pollution and its impact on health of the public if any, the Committee desired that the State Department of Health, Govt. of Himachal Pradesh to compile the data of medical history of past 3 years in the Ghaggar and its catchment area. Also, State Department of Health, Govt. of Himachal Pradesh should organize health camps by involving both private and government hospitals on voluntary basis in the catchment area of River Ghaggar and its tributaries. Report on this account to be submitted within a month. **Action by Health Department, Govt. of Himachal Pradesh.**

In addition to the above the Hon'ble Chairman, Executing Committee has directed to comply on following points :-

1. The District Level Task Force (DLTF) comprising Deputy Commissioner, Superintendent Police, Regional Officer, a representative of District Session Judge shall conduct the inspections in the catchment of river Ghaggar and its tributaries at least once a month and submit the reports to SLTF on monthly basis . **Action by District Level Task Force.**

2. State Level Task Force need to take assessment of the report submitted by District Level Task Force and action be initiated and also to submit the report to Executing Committee and CPCB once in Quarter. **Action by State Level Task Force.**

3. Each Department shall identify a nodal officer and the contact details of the nodal officer as well as the Head of Department to be provided to the Executing Committee and CPCB within two weeks- **Action by All the concerned Departments.**

4. The Hon'ble Chairman is of the opinion that for speedy disposal of the court cases, High Court to be requested to make a designated court for the cases related to Environment 'or' Chief Judicial Magistrate may be designated as a special court for

cases under Environment Protection Act. Initially District-wise data regarding number of cases filed, pending cases, decided cases, period – for how long the cases have remained pending in the court, next date of hearing and such details be sent to the Secretary (Env.) Govt. of HP- **Action by HPSPCB, Office of Secretary, Environment.**

5. Drainage map to be clearly delineated and to be made part of the report.
6. Environmental surveillance squads comprising officials from different organisation be constituted and surprise inspections to be carried out by the Department concerned.

The Chairman of the Executing Committee thanked 'Member Secretary, Himachal Pradesh State Pollution Control Board' for excellent arrangements and for organizing fourth meeting of the Executing Committee.

Fourth meeting of the Executing Committee ended with vote of thanks to the Chair.

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Annexure-I

List of Participants of the First meeting of the Executing Committee held on 09.10.2018 at 'Conference Hall, Hotel Peterhof, Shimla (H.P.) – 171004' under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana Court, in compliance to the Hon'ble NGT order dated 07.08.2018 in matter of OA No. 139 of 2016

S. No.	Name of the Official, Designation/Department
1.	Hon'ble Justice Pritam Pal (Retd.), Chairman, Executive Committee.
2.	Sh. J.Chandra Babu, Scientist, CPCB and Member, Executive Committee
3.	Dr. Vimal K. Hatwal, Jt. Director, MoEF&CC, and Member, Executive Committee
4.	Sh. Rakesh Kanwar, Director, Rural Development, H.P.
5.	Dr. R. K. Pruthi, Member Secretary, HPSPCB.
6.	Sh. Lalit Jain, Deputy Commissioner, Sirmour, H.P..
7.	Er. Suman Vikrant, EnC I&PH, H.P.
8.	Sh. Satpal Dhiman, Joint Secretary (ES&T), Govt. of HP.
9.	Sh. Jitender Sanjta, Additional Director, Industries Department, HP
10.	Dr. Bhanu Neopaney, PSO, Departemnt of E&ST.
11.	Sh. Vivek Chandel, ADM Solan, HP
12.	Dr. Pratibha Chauhan, DY. SP, Sirmour.
13.	Sh. Chaman Lal, Dy. SP, Solan.
14.	Sh. Basant Verma, Secretary, DLSA, Nahan
15.	Er. Sanjeev Kaul, SE, IPH, Nahan, HP
16.	Er. Mandeep Gupta, EE, IPH Nahan, HP
17.	Er. Sumit Sood, EE, IPH Solan, HP
18.	Dr. N.K. Mehta, Dy DHS, Directorate of Health Services, HP
19.	Sh. Sudhir Sharma, EO, MC Parwanoo, H.P.
20.	Er. Rajesh Thakur, AE, HIMUDA Parwanoo, HP
21.	Er. B.R. Raghuwanshi, AE HIMUDA, Nahan, HP
22.	Dr. Manoj Chauhan, PSO, HPSPCB, Shimla.
23.	Dr. Sharwan Kumar, SEE, HPSPCB, Poanta, HP.
24.	Er. Parveen Gupta, SEE, HPSPCB, Shimla
25.	Sh. Jitender Gupta, Sr. Law Officer, HPSPCB, Shimla.
26.	Er. Atul Parmar, AEE, HPSPCB, Parwanoo
27.	Er. Chandan Kumar Singh, AEE, HPSPCB, Shimla
28.	Sh. Baldev Bharti, Sanitation expert, UD Department, Shimla
29.	Sh. Praveen Sharma, Scientific Officer, HPSPCB, Shimla
30.	Sh. Sandeep Kumar, Asstt. Law Officer, HPSPCB, Shimla

Minutes of Fifth Meeting of the Executing Committee held on 22.10.2018 at 'Conference Hall, Ground Floor, U.T. Secretariat, Sector 9, Chandigarh under the Chairmanship of Hon'ble Justic Pritam Pal, Former Judge, Punjab & Haryana High Court for ensuring compliance to the Hon'ble NGT order dated 07.08.2018 in the matter of OA No. 139 of 2016 titled Strench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) and Yogender Kumar.

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Fifth meeting of the Executing committee was held on 22.10.2018 at 'Conference Hall, Ground Floor, U.T. Secretariat, Sector 9, Chandigarh' under the chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana High Court for ensuring compliance to the Hon'ble NGT Order dated 07.08.2018 in matter of OA No. 139 of 2016 titled Strench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case). The list of officials attended the meeting is enclosed as Annexure-I.

Sh. Debendra Dalai, IFS, Director Environment and Vice-Chairman, Chandigarh Pollution Control Committee welcomed the Chairman and Members of Executing Committee as well as officials of Chandigarh Administration.

After brief introduction of the officials of different departments of U.T. Chandigarh, The Chairman, Executing Committee has noticed it very seriously that no person from Municipal Corporation, dealing with Municipal Solid Waste was available in the meeting despite of prior information.

Thereafter, Sh. Vivek Pandey, Scientist 'B' has made a presentation, in his presentation informed that about 87 MGD of water is daily supplied to Chandigarh. Around 67 MGD (Million Gallons per Day) water is being supplied mainly from Bhakra main line through Kajouli Water Works and Sector 39 Water Works and 20 MGD water is being supplied through tube wells. As per the available information, total population is about 10.5 Lacs, total waste water (both domestic and industrial effluent) generation is around 57 MGD and the existing total waste water treatment capacity is about 48.85 MGD (i.e., 5 STPs which are located at 3 BRD (11 MGD), Raipur Kalan (5 MGD), Diggian (30 MGD), Raipur Khurd (1.25 MGD) and Dhanas (1.6 MGD). Also, 3 no. of STPs (of total capacity 6.65 MGD) are under construction i.e., STP at Village Kishangarh (04. MGD), STP ayt Maloya (5 MGD) and STP at Raipur Kalan (1.25 MGD). Presently, treated waste water is discharged into Choes/Drains except Diggian sewage Treatment Plant. The treated waste water from this STP is used for irrigation purpose.

Shri V.Pandey also apprised the Committee that Chandigarh Administration, Chandigarh has already constituted State level Task Force (comprising Advisor to the Administrator, U.T., Chandigarh, Secretary Environment, Chandigarh Administration, Secretary, Urban Planning, U.T.,

Chandigarh, Secretary, Local Body, U.T., Chandigarh, Commissioner, Municipal Corporation, Chandigarh, Chief Engineer, Engineering Department, Chandigarh Administration) as well as District Level Special Task Force (comprising of District Magistrate, U.T., Chandigarh, Sh. Ravi Kumar, IPS, Superintendent of Police, Crime, U.T. Chandigarh, Sh. Amarinder Sharma, Secretary, District Legal Services Authority, Superintending Engineer, Public Health Division, Engineering Department, Chandigarh Administration, Superintending Engineer, Public Health Division, Municipal Corporation, Chandigarh, Scientist 'B', Chandigarh Pollution Control Committee). Two meetings of District Level Task Force have already been conducted and Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration were asked to take immediate action for stoppage of discharge of untreated waste water into Sukhna Choe/N. Choe. As per directions, Public Notice was also published in the leading newspapers.

To the query of members of the executing committee with regard to the industrial hazardous waste management, bio-medical waste management and E-waste management, Shri.V.Pandey apprised the committee that there are 430 industries in Chandigarh generating Hazardous Waste about 2847 MT (F.Y. 2016-2017) out of which 2767 MT is recyclable/reprocessed, 67 MT is land fillable and 11.25 MT is incinerable waste. There is no TSDF Facility in Chandigarh and hazardous waste of Chandigarh is disposed of through TSDF at Nimbua, Derabassi (Punjab). Recyclable & incinerable waste is also being disposed through authorized recyclers or service providers of Punjab, Haryana & Uttar Pradesh etc.

As regards bio-medical waste is concerned, there are around 788 Health Care Facilities, which are generating bio medical waste at about 2503 Kg/day and 02 Nos. of Hospital having their own treatment facility. There is a one Bio-medical waste treatment & disposal facility which collects & dispose off the bio-medical waste of Private & Government health care facilities of Chandigarh, which is collected and disposed off on daily basis.

As far as E-waste is concerned, he informed that around 45 MT (2016-2017) of E-waste is generated in Chandigarh which is being disposed off through facility situated in other States. M/s Ramky Enviro Engineers Limited is the nearest dismantling facility which is collecting E-waste from Chandigarh UT.

As regards to the industrial effluent is concerned, Shri Pandey informed the committee that in Chandigarh no industry (if any industry is generating waste water) is allowed to operate without Effluent Treatment Plant. Even industries are not allowed to discharge treated waste water into drains and the treated waste water is allowed to be released into sewer line which further goes to terminal sewage treatment plants (STPs) for further treatment and disposal.

Thereafter, representative of Engineering Department, Chandigarh Administration and Municipal Corporation, Chandigarh have apprised the committee about the proposed action plans which is annexed **(Annexure-II)**

Chairman of the Executing Committee has highlighted the seriousness of the issue and also urged officials to perform the duties seriously as there is no concrete action plans submitted by any Department. He also stated that preservation of River Ghaggar is an auspicious work. Effective enforcement of provisions on aspects related to industrial effluent, sewage and solid waste management and action should be taken against the violators. He urged all the Chandigarh U.T. officials to comply with the orders of Hon'ble National Green Tribunals in letter and spirit. The Chairman also informed that law violators should be prosecuted.

As regards to conducting health camps in Chandigarh UT, Director, Health Department of Chandigarh UT Administration informed the committee that the action is being taken for organizing such health camps and same will be intimated to the committee within a week upon approval of the competent authority.

District level task force and State Level Task Forces have assured that action will be initiated. DLTF will submit the ATR once in a month to SLTF and thereafter, SLTF will submit the report once in a quarter to CPCB and the Executing Committee.

Upon deliberations with the concerned department, Observations and Directions issued by Executing Committee:-

Upon details deliberations following overall directions were issued by Executing Committee, for ensuring compliance by all the concerned:-

1. **Submission of action taken report as per the decisions taken in minutes of earlier meetings of the Executing Committee:-**

   All the departments are required to submit the action taken report on the decisions taken in the earlier meetings once in every fifteen days, primarily first ATR by 31.10.2018- **Action to be taken by all the concerned departments**

2. **Flow Measurement:**

   Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration were directed to set up flow measuring devices at all the exit points of the drains into the river Ghaggar so as to measure the quantum of waste water releasing from the drains - ***Action to be taken by Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration.***

3. Installation of Real Time Water Quality Monitoring Stations at the outlets of all STPs:

Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration shall install continuous Real Time Water Quality Monitoring Station at the outlets of all the existing STPs in compliance with the directions issued by CPCB under section 18(1)(b) of the Water (Prevention & Control of Pollution) Act, 1974 and real time data also be transferred to the servers of CPCB and CPCC- ***Action to be taken by Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration.***

4. Installation of Electro Magnetic Flow Measuring Devices:

Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration are directed to install flow meters at inlet, inflow of STP, outlet and bypass channel and records maintained to maintain water balance of STP- ***Action to be taken by Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration.***

5. Action Plan for Up gradation of Existing Sewage Treatment Plants and Setting up of new Sewage Treatment Plants:

Chandigarh Smart City Limited is directed to submit action plans regarding upgradation of Existing Sewage Treatment Plants and setting up of new sewage treatment plants by 31st October 2018- **Action By Chandigarh Smart City Limited**

6. **STP Sludge management:-**

Details with regard to the sludge generation from STPs and its management should be provided by Executing Committee. Municipal Corporation, Chandigarh and Engineering Department by 31st October, 2018- ***Action to be taken by Municipal Corporation, Chandigarh, Engineering Department, Chandigarh Administration and Chandigarh Smart City Limited.***

7. Stoppage of discharged waste water into Drains:-

Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration are directed to submit action plan by 31st October, 2018 regarding stoppage of all the points/non-point sources in the drains - ***Action to be taken by Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration.***

6. Water Quality of River Ghaggar and all Drains:

Chandigarh Pollution Control Committee has been directed to monitor the water quality of river Ghaggar as well as all the drains on monthly basis and to submit the status report of water quality of River Ghaggar and exit points of Choes/Drains within Chandigarh region - ***Action to be taken by Chandigarh Pollution Control Committee.***

7. Compliance verification of Environmental Discharge Norms by the Industries prescribed under Water (Prevention & Control of Pollution), Act, 1974 and E(P) Act, 1986:-

Routine and Surprise inspections of all the industries located in U.T., Chandigarh shall be conducted immediately and list of industries which are complying and non-complying to the Environmental laws shall be submitted to the Committee within one Month. The reports should be prepared and submitted as per the format to be provided by Executing Committee member Sh. J. Chandra Babu - ***Action to be taken by Chandigarh Pollution Control Committee.***

8. Nomination of Officer's for Inspection of Executing Committee:-

As desired by the Committee, Chandigarh Pollution Control Committee will nominate one Officer for inspections of industries by Executing Committee- ***Action to be taken by Chandigarh Pollution Control Committee.***

9. Solid Waste Management:-

Municipal Corporation, Chandigarh will submit Action Taken Report and Action Plan w.r.t. Solid Waste Management and Plastic Waste by 31st October, 2018 to the Executing Committee and Municipal Corporation, Chandigarh should nominate Nodal Officer for Solid Waste Management - ***Action to be taken by Municipal Corporation, Chandigarh.***

10 Hazardous Waste Management:-

Chandigarh Pollution Control Committee has been directed to provide the Nos. of hazardous waste generating units and their method of disposal - ***Action to be taken by Chandigarh Pollution Control Committee.***

11 Bio-Medical Waste Management:-

Chandigarh Pollution Control Committee has been directed to ensure issuance of authorization to all the HCFs irrespective of quantum of bio-medical waste generation and also ensure closure of all the HCFs which have not obtained authorization from CPCC within a month. CPCC also been directed to ensure implementation of the Bar Code

System as per guidelines of CPCB to check the pilferage of Bio-Medical Waste at early date.

As regards to the commissioning of new Common Bio-Medical Waste Treatment Facility (CBWTF) in industrial area in Chandigarh, the proponent is required to submit time bound action plan within a week to the executing committee for commissioning of the new CBWTF in Chandigarh by 31.03.2018, failing which consent to establishment should be withdrawn by the CPCC - ***Action to be taken by Chandigarh Pollution Control Committee***.

12 Organization of Health Camps:-

Health Department, U.T., Chandigarh is directed to organize Health Camps in the areas surrounding the drains and will inform the dates of camps to Justice Pritam Pal, Chairman, Executing Committee, so that he can also join the same - **Action to be taken by Health Department.**

Shri J.Chandra Babu, Member, Executing Committee requested all the concerned to prepare action plans keeping in view that no drain carries and discharges untreated wastewater into River Ghaggar. He also requested all the concerned authorities for inclusion of action plans for utilization of treated sewage for construction activities, gardening and washing purposes whichever is feasible. Further, action plans also should include trainings and awareness on operation and maintenance of STPs to the STP operators as well as all the supervisors of STPs. While preparing the action plans 'content' suggested in II Meeting of the Executing Committee be followed by all the concerned departments.

In addition to the above, the Hon'ble Chairman, Executing Committee has directed that each Department shall identify a Nodal Officer and the contact details of the Nodal Officer as well as the Head of Department to provided to the Executing Committee and Central Pollution Control Board by 31st October, 2018. Each Nodal Officer will submit the progress report fortnightly. He also urged that actions taken along with progress report shall be submitted to CPCB and also to the Executing Committee to apprise the Hon'ble NGT periodically in compliance to the Hon'ble NGT order dated 07.08.2018.

The meeting ended with vote of thanks to the Chair.

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ANNEXURE – I

List of Participants

Sr. No.	Name, Designation & Department
1.	Hon'ble Justice Pritam Pal (Retd.), Chairman, Executive Committee.
2.	Sh. J.Chandra Babu, Scientist, CPCB and Member, Executive Committee
3.	Dr. Vimal K. Hatwal, Jt. Director, MoEF&CC, and Member, Executive Committee
4.	Sh. Amarinder Sharma, Chief Judicial Magistrate, Secretary, DLSA, UT, Chandigarh.
5.	Sh. Ajit Balaji Joshi, DC, Chandigarh.
6.	Sh. Debendra Dalai, IFS, Director Environment, Chandigarh.
7.	Sh. Pawan Kumar, DSP, Crime Branch, Chandigarh.
8.	Dr. G. Dewan, Director Health Services, Chandigarh.
9.	Dr. Parmjit Singh, DMS, GMSH-16, Chandigarh.
10.	Sh. Suresh Kumar Gill, Ex. Engg., Municipal Corporation, Chandigarh.
11.	Sh. Rajinder Singh Ahluwalia, SE (PH) U.T., Chandigarh.
12.	Sh. Kamal Kishore, EE (PH). Divn. No. 3, U.T., Chd.
13.	Sh. Sandeep Himalayan, Project Manager, TSDF, Nimbuan
14.	Sh. S.S. Malhotra, Alliance Envirocare Pvt. Ltd.
15.	Sh. Harish Saini, EE, (PH), MC, Chandigarh.
16.	Sh. Rajbir Singh, SDE (PH), MC, Chandigarh.
17.	Sh. Vivek Pandey, Scientist ` B' , CPCC, Chandigarh.
18.	Sh. Sushil Dogra, Scientist ` B' , CPCC, Chandigarh.
19.	Ms. Rhythm Aggawal, AEE, CPCC, Chandigarh.

Annexure-II

Proposed Action Plans Submitted by Engineering Department, Chandigarh Administration and Municipal Corporation, Chandigarh

Sr. No.	Point	Status	Action taken by MC/Chd. Admn.	Proposed Action Plan
1	Kishangarh Outlet	There is sewage water discharge from the outlet.	As a short term measure proposal has been submitted to lift the waste water and connect it with sewerage line	STP has been proposed to treat the waste water
2	Outlet of Village Kishangarh inside Forest Nursery	There is sewage water discharge from the outlet.		
3	Outlet of Shastri Nagar	There is sewage water discharge.	Sump has already been created	Sewage water will be pumped to the sewer line.
4	First outlet of Bapu Dham near bridge on the road connecting IT park with Sector 26, Chandigarh	There is sewage water discharge at first outlet of Bapu Dham near bridge on the road connecting IT Park	-	The leakage of T.T. Water flowing in the Sukhna Choe which will be tapped after detecting the leakage points by 15.11.2018.
5	Second outlet of Bapu Dham Colony (Known as Madrasi Colony)	There is sewage water discharge at second outlet of Bapu Dham colony	-	The slum developers have constructed their toilets on the existing CBD. Matter has now been taken up with Estate Office, U.T. Chandigarh for removal of encroachment on the CBD at Bapu Dham Colony, so that flow coming into Choe may be plugged.
6	Outlet from back of Gaushala, Industrial Area, Phase-I, Chd.	There is substantial sewage discharge from back of Gaushala, Industrial Area, Phase-I, Chd.	No reply received.	-

7	Outlet near CTU workshop Industrial Area, Phase-I, Chd. (Inside Forest Area)	There is sewage discharge at the outlet near CTU workshop.	The notice has been served to the General Manager, CTU Workshop for plugging & diverting the waste water.	The waste water is coming in the Sukhna Choe from the CTU workshop after washing of vehicles.
8	Indl. Area, Phase - I, Colony No. 4.	There is discharge from many outlets from Indl. Area, Phase - I, Colony No. 4.	The sump has already been constructed at site and also been connected to the main sewer line.	The remaining work for connecting waste water to sump will be done by 30.11.2018.
9	Pump House operated by Municipal Corporation behind Central Poultry Development Organization, Indl. Area, Phase - I, Chandigarh.	In case of Non-operation of pump, waste water directly goes to Sukhna Choe on regular basis.	The needful has been done regarding deploying of one more operators for running the sump and the log book at site is maintained regularly.	-
10	Outlet of Village Hallomajra	There is substantial sewage discharge from the outlet of Village Hallomajra.	-	The sewerage connections are being given to the residents of Deep Complex with the newly laid sewer lines are in progress and after completion of each household's connections the discharge will be stopped.
11	Village Daria	There is discharge of sewage water from Village Daria	Excess sewage of unauthorised colony in village Daria has been trapped and put in the sump and the same is being pumped into the sewer line.	-

Minutes of 6th meeting of the Executing Committee held with the concerned Departments of Punjab State Government at 11 AM on 15/11/2018 at `Conference Hall, Punjab State Council for Science and Technology, Mahatma Gandhi State Institute of Public Administration (MGSIPA) Complex, Sector-26, Chandigarh' under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana Court, for ensuring compliance to the Hon'ble NGT order dated 7/8/2018 in matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo Motu Case) And Yogender Kumar.

6th meeting of Executing Committee was held with the officials of Punjab State Government at 11 AM on 15.11.2018 under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana Court for ensuring compliance to the Hon'ble NGT order dated 7/8/2018 in matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo Motu Case) And Yogender Kumar. The list of Officials, who attended the meeting is enclosed as **Annexure-I**.

At the outset, Sh. Krunesh Garg, Member Secretary, Punjab Pollution Control Board (PPCB) welcomed the Chairman and Members of the Executing Committee as well as Officials of other Departments of Punjab Government. After a brief introduction of the officials present in the meeting, the Hon'ble Chairman of the Executing Committee informed that the Executing Committee has visited the whole stretch of River Ghaggar recently and observed that the quality of water flowing in River Ghaggar is not of good quality and hence, all the stakeholder departments are required to take immediate necessary action to improve upon the quality of River Ghaggar. He also highlighted the seriousness of the issue and urged officials to perform the duties seriously. He also stated that maintaining wholesomeness of the water of River Ghaggar is an auspicious work. effective enforcement of provisions of the Water (Prevention & Control of Pollution) Act, 1974 on the aspects related to industrial effluent and sewage as well as solid waste management. Action must be taken against the violators. He urged all the officials of Punjab State Government departments to comply with the orders of Hon'ble National Green Tribunal (NGT), Principal Bench, New Delhi in letter and spirit, so that there should be visible improvement in the quality of River Ghaggar. The Chairman also informed that the law violators should be punished as per the provisions of the Water (Prevention & Control of Pollution) Act, 1974. Thereafter, the agenda were discussed and the details in this regard are given in the subsequent paras:

1. Additional Secretary, Department of Science, Technology and Environment informed that the State Level Task Force and District Level Special Task Forces have been constituted by the Govt. on 14/11/2018 and a copy of the same was handed over to the Chairman and Members of the Hon'ble the Committee.

2. Er. S. S. Matharu, Environmental Engineer, PPCB gave a detailed power point presentation on the action taken w.r.to the compliance of decisions of earlier meetings of the Executing Committee. The point-wise compliance was presented as under:

- A link has been provided on Board's website i.e. www.ppcb.gov.in at home page under the sub head 'Executing Committee for River Ghaggar' of the head 'Focus Area' for uploading the details/ data of the Executing Committee. Proceedings of all the five meetings of the Executing Committee have been uploaded on the website including the orders dated 7/8/2018 passed by the Hon'ble NGT, draft Action Plan, proceedings of the meeting taken by MS, PPCB with various stakeholder departments. Also, other activities related to the project are being uploaded on the website from time to time.

- PPCB has already identified all the water polluting industries located in the catchment area of River Ghaggar. The Board has not allowed any industry to discharge its treated/ untreated wastewater into River Ghaggar directly/ indirectly. The Board has also identified all the industries located in the catchment area of River Ghaggar and a list of the same will shortly be provided to the Executing Committee for carrying out random inspections.

- All the industries located in the catchment of river Ghaggar have installed captive effluent treatment plants as under:

  - Pharmaceutical units have adopted ZLD based treatment systems.
  - One no. distillery have adopted ZLD based treatment system and the second distillery (Patiala Distillers & Manufacturers Ltd.) has although installed effluent treatment and is presently utilizing treated wastewater onto land for plantation. However, the same is in the process of installing ZLD based treatment system which is likely to be commissioned by 31/12/2018.
  - Both the Paper Board Mills have installed necessary treatment systems to re-circulate the entire process.
  - All the electroplating units are getting their effluent lifted to CETP at Ludhiana.
  - All the remaining water polluting industries are having their own treatment plants and are discharging their treated effluent onto land for irrigation.

- Regarding preparation of Action Plan to Control Pollution in River Ghaggar, a meeting was taken by MS, PPCB with all the concerned departments on

3/10/2018. Thereafter, the concerned departments have sent their inputs/ information. Now, the Board has prepared the draft Action Plan after incorporating the inputs/ information of the concerned departments and the same has been sent to the Punjab Govt. for its approval.

- The Board has written a letter to the Department of Science, Technology and Environment, Chandigarh on 31/10/2018 to take up matter with the Director, Health and Family Welfare, Punjab to organize health camps in the habitation areas located along the stretch of River Ghaggar.

- The main activities related to Punjab Pollution Control Board as per draft Action Plan were explained as under:

Activity	Target Date
Closely monitoring of the industries located in the catchment area of River Ghaggar during odd hours.	Continuous activity
Pursuing of screening plants located at Mubarikpur to devise a mechanism for 100% recirculation of the wastewater generated from the washing of river bed material.	31/3/2019
To ensure installation of ZLD treatment system by M/s Patiala Distillers and Manufactures, Vill. Main, Distt. Patiala	31/12/2018
Identification of the new industries discharging their wastewater into River Ghaggar.	Continuous activity
To ensure installation of treatment system in the paper mills as per protocol of CPCB for the industries located in Ganga Basin so as to achieve fresh water consumption and wastewater discharge to the tune of 15 KL/ Tonne of paper production and 10 KL/ Tonne of paper production respectively.	31/3/2019
Regular monitoring of ETPs installed by the industries falling in the catchment area of River Ghaggar.	Continuous activity
Monitoring of quality of water of River Ghaggar and the drains contributing to the river Ghaggar pollution	Monthly basis

3. Er. V.K Garg, Chief Engineer, Punjab Water Supply and Sewerage Board submitted the details pertaining to the number of towns falling in the catchment area of River Ghaggar, total water consumption, total wastewater generation and total no. of STP's installed in the Towns/ Cities located in the catchment area of River Ghaggar. He also informed that at present total 19 STP's are in operation, out of which 15 is being looked after by the Punjab Water Supply & Sewerage Board (PWSSB). 9 STPs are under construction and 5 are under planning stage with the department. To the query of Shri J.Chandra Babu, Member of Executing Committee with regard to installation of Electromagnetic Flow Meters with all the tube wells, the Chief Engineer informed that Electromagnetic Flow Meter has not been provided on tube wells. He further informed that the quantity of waster drawn from tube wells is calculated on the basis of running hours of tube wells/ no. of hours pumping of water and the capacity of overhead tanks and also the department is not having sufficient funds at present for providing the Electromagnetic Flow Meters. The Hon'ble Members of the Committee desired

that the department should prepare Action Plans which should also include the following as given in subsequent paras:-

a) *Installation of Electromagnetic Flow Meters to all the tube wells which are used as water supply sources.*
b) *Installation of CCTV cameras at the bye-pass system provided at all the STPs, which are in operation.*
c) *Making provisions for providing holding tank of adequate capacity or standby arrangement in the design of STPs, for holding the untreated wastewater for at least two days in the event of maintenance of the STP.*
d) *For upgradation in the technology of the existing STPs, which are based on old technology, if required.*
e) *Water quality of all the tube wells presently supplying water by the Punjab Water Supply and Sewerage Board be provided to the Committee.*

4. Er. Mandeep Singh, Executive Engineer, Horticulture, GMADA informed that two STPs have been installed by GMADA i.e. one at Lalru which is in operation and the other is at Dera Bassi, which is ready for commissioning. He assured to send data/ information pertaining to the other actions, which are required to be taken by the department to control pollution in River Ghaggar, within a week time.

5. Sh. Jaskiran Singh, Director, Department of Rural Development and Panchayats informed that there are total 75 villages in District Patiala, 61 villages in District Sangrur and 07 in District SAS Nagar, which are discharging their sullage/ wastewater in the River Ghaggar. The Gram Panchayats have been dissolved in July, 2018 after completion of their 5-years terms. The elections of the Gram Panchayat are expected in the month of December, 2018. The project regarding finalization of technology for treatment of wastewater of the villages, which are discharging their wastewater into River Ghaggar either directly or indirectly is being undertaken by Thapar Institute of Engineering and Technology, Patiala and once the report is received, the necessary steps will be taken. *The members of the Committee desired that while deciding the technology to treat the wastewater, the advice of Punjab Pollution Control Board may also be taken.*

6. Sh. R.P Gupta, Superintending Engineer, Department of Water Supply and Sanitation informed that the Department is supplying the drinking water in rural areas and there are total 200 tube wells installed by the department in catchment areas of River Ghaggar. The analysis of samples of drinking water is carried out by them and has found the concentration of Fluoride in the range of 0.1 to 9 mg/l which is beyond the permissible limits of 1.5 mg/l. *The Hon'ble Committee members requested to submit the action plan with regard to the*

measures which must be adopted for providing potable water supply to the public residing in the rural areas.

7. Sh. Dharminder Sharma, Chief Conservator of Soil informed that the Department is executing the projects for utilization of the treated wastewater from the STPs of the various towns and cities across the State. He further informed that there are 29 projects have been commissioned, 12 are under progress, 25 projects are proposed under the NABARD-RIDF-24, 18 projects are under consideration of PWSSB and 31 projects are proposed under PMKSY. He also submitted the details in writing during the meeting.

8. Sh. Devinder Singh, Superintending Engineer, Department of Drainage informed that the department is maintaining the drains of the State. To the query of Shri J.Chandra Babu, Member Executing Committee, he further informed that they donot measure the flow in the river/drain in routine, but the flow measurement of the water of River Ghaggar is carried out during rainy season. He also informed that the stationary gauges have been installed in the drains for this purpose. *Hon'ble Members of the Committee, suggested the representative of the Department of Drainage for installation of stationary gauge at all the major drain outfalls into River Ghaggar and to share the flow details (once in fifteen days) with all the concerned departments as well as the Committee. The Committee also suggested the Drainage Department for installation of stationary gauge in all the drains contributing pollution of river Ghaggar within 3-months and also to include in the action plan to be submitted by the department.*

9. Sh. Anoop Naggar, Regional Director, CGWA informed that they also monitor the water quality of underground water. As per the monitoring carried out by them, they have found 'arsenic and fluoride' in the groundwater in excess at some places. He further informed that they have categorized the whole area under four zones i.e. safe zone; semi critical; critical and over exploited as per the water extraction activities. *Committee suggested CGWA representatives to monitor ground water quality of tube wells or hand pumps in the vicinity of the habitation areas located along the stretch of River Ghaggar and to submit the analysis results to the monitoring committee, within a month.*

10. Superintendent of Health and Family Welfare Department could not bring the relevant data. *Members of the Committee suggested that Department of Health & Family Welfare shall prepare health status of public (epidemiological survey) along the stretch of River Ghaggar and also to arrange health camps in the catchment area of River Ghaggar and submit a detailed report in this regard to the Committee.*

Shri J. Chandra Babu, Member, Executing Committee requested all the concerned to prepare action plans keeping in view that no drain should carry and discharge untreated sewage/ sullage/ wastewater into River Ghaggar. Action Plan should also include trainings especially on operation and maintenance (O & M) of STPs to all the concerned officials (STP operators as well as all the supervisors of STPs). Upon deliberations with the officials of all the stakeholder departments, following decisions were taken, as detailed below:-

- Each department shall nominate the Nodal Officer of their department and send the contact details of the Nodal Officer as well as the Head of Departments to the PPCB. PPCB shall collect the information and submit the same to the Executing Committee within a week.
- All the concerned departments shall prepare detailed action plans with time lines as well as financial estimates pertaining to the activities to be performed by them for control of pollution in River Ghaggar and submit the same by 15/12/2018.
- All the department shall submit the Action Taken Report in compliance to the order dated 7/8/2018 of Hon'ble NGT by 15/12/2018.
- Er. S.S. Matharu, EE, Nodal Officer of PPCB shall visit all the STPs, which are in operation, in the presence of concerned officer of PWSSB/ GMADA within four weeks and shall submit the report to the Executing Committee. The proforma for performance assessment of STPs and submission of the report should be as per CPCB format.
- PPCB will carry out inspections of all the industries falling in the catchment area of River Ghaggar. While inspecting the industries, the visiting teams also shall collect the ETP outlet as well as ground water samples within the industry or in the vicinity of the industry and the reports along with the analysis results should be submitted by 15/12/2018. The prescribed format of the inspections (to be provided by Shri J.C.Babu, Member of Executing Committee) must be filled at site and sampling protocol be strictly followed for carrying out sampling, by the inspecting team.
- Punjab Water Supply and Sewerage Board shall prepare the detailed action plan pertaining to the activities to be performed by the department for control of pollution in River Ghaggar and submit the same by 15/12/2018 and shall apply for obtaining consent to operate of the PPCB as required under the Water (Prevention & Control of Pollution) Act, 1974 for all the STPs.
- The State Level Special Task Force as well as the District Level Special Task Forces to carryout the responsibilities assigned by the Hon’ble NGT and to submit the reports periodically to the Executing Committee.

The meeting ended with a vote of thanks to the Chair.

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Annexure-I

List of Participants

1) Justice Pritam Pal, Chairman, Executing Committee
2) Sh. J. Chandra Babu, Scientist 'D', CPCB and Member, Executive Committee
3) Dr. Vimal K. Hatwal, Jt. Director, MoEF&CC, and Member, Executive Committee
4) Capt. Karnail Singh, Additional Secretary, Deptt. of Science, Technology and Environment, Chandigarh
5) Sh. Jaskiran Singh, Director, Deptt. of Rural Development Panchayat
6) Sh. Krunesh Garg, Member Secretary, Punjab Pollution Control Board, Patiala
7) Sh. V.K. Garg, Chief Engineer, Punjab Water Supply and Sewerage Board
8) Sh. Tejinder Kumar, Sr. Envi.Engineer, PPCB, Patiala
9) Sh. R.P. Gupta, SE, Deptt of Water Supply and Sanitation
10) Sh. Davinder Singh, SE, Patiala Drainage Circle, Water Resources
11) Sh. Anoop Nagar, Regional Director, CGWA, Chandigarh
12) Sh. Dharminder Singh, CCE, Deptt. of Soil and Water Conservation
13) Sh. S.S. Matharu, Envi. Engineer, PPCB, RO, Patiala
14) Sh. Harjit Singh, Envi. Engineer, PPCB, RO, Sangrur
15) Sh. Vijay Kumar, Envi. Engineer, PPCB, Fatehgarh Sahib
16) Sh. Mandeep Singh, Xen Horticulture, Greater Mohali Area Development Authority (GMADA)
17) Sh. Mahesh Bansal, Estate Officer, GMADA
18) Sh. J.S. Dhani, Xen, Deptt of Water Supply and Sanitation
19) Sh. Ravi Pal, Asstt. Envi.Engineer, Punjab Pollution Control Board, Bathinda
20) Sh. Nishant Garg, AE, Water Resources Department, Patiala Drainage
21) Sh. M.L. Angurala, Central Ground Water Authority (CGWA), Chandigarh.

Minutes of 6th meeting of the Executing Committee held with the concerned Departments of Haryana State Government at 3 PM on 15/11/2018 at 'Conference Hall, Punjab State Council for Science and Technology (PSCST), Sector 26, Chandigarh' for ensuring compliance to the Hon'ble NGT Order dated 07.08.2018 in the matter of OA No. 138 of 2016-Stench Grips the Mansa's Sacred Ghaggar River.

List of officials attended the meeting is enclosed as **annexure 1.**

At the outset, Shri. S Narayanan, Member Secretary, Haryana State Pollution Control Board (HSPCB) welcomed the Hon'ble Justice Pritam Pal, Chairman of the Executive Committee, Shri J.Chandra Babu and Dr.V.K.Hatwal, members of the Executing Committee and other officials from Haryana State Government participated in the meeting. Thereafter he requested Justice Pritam Pal to address the participants.

Hon'ble Justice Pritam Pal, Chairman while addressing to the participants made a reference of the order of Hon'ble NGT passed on 14/11/2018 in the matter of river Sutlej and informed that the Hon'ble NGT has imposed a penalty of ₹ 50 Crore on the Punjab State Government. He further exhorted that the departments should take concrete steps pro-actively in implementing the orders of the Hon'ble NGT in true letter and spirit. Thereafter, he requested all the departments to submit the information along with the action plan of their departments expeditiously so that the report may be submitted to the Hon'ble NGT within the due date.

After brief introduction by the participated officials, the Hon'ble Chairman desired that all the Nodal Officers of the concerned departments of Haryana State Government should attend the meetings and apprise the committee on the proposed action plan for control of pollution in river Ghaggar and laxity will be viewed seriously. Thereafter, he requested the individual departments to present their action taken report.

The presentation on behalf of HSPCB was given by Sh. Vinay Gautam, Regional Officer, Jind Region. Other departments such as Public Health Engineering Department, HSIIDC, Irrigation Department as well as Health Department have also presented their status report before the executing committee.

After due deliberations, following decisions were taken in the afore-said meeting as detailed below:-

1. HSPCB shall carry out 30% Sector -wise inspection of all the industries located in the catchment of river Ghaggar. The inspection reports along with the analysis results of the samples collected during the inspections should be prepared duly signed and submitted as per the format to be circulated by Shri J Chandra Babu, Member of the Executive Committee. The inspection teams shall also do videography and shall collect the samples from outlet of ETP as well as ground water samples within or in the vicinity of the industry and shall submit the factual report to the Executing Committee before 15.12.2018. Thereafter, the Executing Committee will also make surprise inspections of 10 % of the industries inspected by the HSPCB teams and if there is any variation found then concerned officers will face serious actions.

2. HSPCB shall also collect the ground water samples from 5 locations (Panchkula) from the municipal solid waste dumping site of municipal corporation and shall get analyse the samples in HSPCB Laboratory for relevant parameters and submit the analysis report to the Executing Committee.

3. The Regional Officers Panchkula/Jind/Hisar of HSPCB shall collect the fresh ground water samples in the catchment of River Ghaggar following the standard protocol and analysis results (for parameters such as sulphates, fluoride, TSS,

heavy metals such as Chromium, Cadmium, Copper, Lead, Nickel, Zinc, Arsenic, Mercury, Iron) be submitted to Executing Committee.

4. The Regional Officers Panchkula/Jind/Hisar of HSPCB shall collect the samples of all the drains contributing to pollution of river Ghaggar as well as river Ghaggar samples, on monthly basis and shall submit the analysis results to the Executing Committee.

5. HSPCB shall also submit the details of each industry located in the catchment of River Ghaggar alongwith the details such as water consumption, wastewater generation, captive ETP, compliance status of ETP, quality of waste water before its discharge into drain/STP/CETP, final mode of discharge, consent/authorization status and other relevant details by the concerned departments as per the format already suggested by Executing Committee and shall submit the same to the Executing Committee by December 15, 2018.

6. HPPCB also shall carryout performance evaluation of all the STPs/CETPs located in the state of Haryana and reports of all the STPs/CETPs as per the format of CPCB by December 15, 2018.

7. HPPCB shall submit the information as per the letter of Executing Committee i.e., status of compliance by the industry, water quality of river Ghaggar, characteristics of all the drains contributing to river Ghaggar pollution, any difference observed when compared to the last year, action taken against the violating industries, on or before 21.11.2018 to the Executing Committee.

8. All the State Departments of Haryana State including Haryana State Pollution Control Board shall submit their action plans keeping in view the control of Ghaggar river pollution in light of the content already provided by the executing committee, by 15.12.2018 to the Executing Committee.

9. HPPCB shall ensure all the concerned departments of Haryana State (i.e. Head of the respective Department and the Nodal Officer) will attend the meetings and apprise the committee about their action plans within the due date failing which the department heads will be made responsible for violation of Hon'ble NGT orders dated 07.08.2018.

10. The Executing Committee observed that the screening units located in the Chandimandir area or in the jurisdiction of the Haryana State in the catchment area of River Ghaggar are causing turbidity and colour in the river Ghaggar and such units be assessed w.r.to the existing waste water treatment system, within ten days and apprise the executing Committee. Also, HPPCB shall take action against the screening plants, if required.

11. HPPCB also shall take action against the industries located in catchment of River Ghaggar which have neither installed captive Effluent Treatment Plant (ETP) nor a member of Common Effluent Treatment Plant (CETP) or in operation without obtaining requisite consents or authorization.

12. HPPCB shall request the District Level Special Task Forces (DLSTF) for carrying out the tasks as assigned by the Hon'ble NGT and for submission of the monthly reports to State Level Special Task Force (SLSTF) and also a copy to the Executing Committee.

13. The Regional Officer, HSPCB Hisar will pursue the matter personally with the Ld. District Judge, Sirsa for nominating person in the District level Special Task Force and will submit the report to the Committee within 02 days.

14. The Irrigation Department shall provide gauges in all the major drain outfalls leading to River Ghaggar within a month to measure the flow and shall submit flow measurement reports to the HSPCB and PHED, other concerned departments as well as apprise the Executing Committee in the next meeting.

15. STPs operated by the different department should ensure OCEMS at the out let of STPs, flow measuring devices provision at the bye-pass arrangements as well as adequate holding tank provision for storage of untreated sewage in the event of maintenance of the STPs. If such provision is not available, all the concerned departments shall include such provision in the proposed action plan.

16. The Urban Local Bodies department will submit the status of municipal solid waste in the catchment of River Ghaggar by 21.11.2018 to the HSPCB.

17. The Urban Local Bodies department shall submit the status of STPs installed under 'Amrut Scheme' in the catchment of River Ghaggar by 21.11.2018 to the HSPCB.

18. Also, the PHED will ensure that their web cameras are operational at all the STPs.

19. The Health department shall submit the report of health camps in the villages located in catchment of River Ghaggar organized by NHRM/Health Department from 07.08.2018 to till date to HSPCB by 21.11.2018. Also, the Health department shall carry out the epidemiology profile of public living in villages/towns/cities in the catchment of river Ghaggar and shall submit the report at the earliest possible along with proposed action plan for remedial actions. If funds are required for such purpose, Health Department may submit the proposal to HSPCB for providing financial support if required.

20. The Health department shall submit the action plan with time lines as per directions of Hon'ble NGT to the executing committee by 15.12.2018. HSPCB was suggested by the executing committee to co-ordinate with all the concerned departments for collection of the action plans and the compiled action plan as per the content suggested by executing committee be submitted by December 15, 2018.

    It was exhorted by the Hon'ble Chairman of the Executing Committee and the members of the committee that all the concerned Haryana State departments to analyse the scenario, identify the problems or gaps, prepare and submit their action plans in compliance to the Hon'ble NGT Order mentioning concrete steps with time lines to HSPCB and thereafter HSPCB shall compile and submit the action plans with time lines to the Executing Committee by December 15, 2018.

    The meeting ended with a vote of thanks to the Chair.

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Annexure-I

List of Participants

S.No.	Name and Designation, Department	Mobile No.	E-mail
1	Justice Pritampal Chairman		cecghaggar@gmail.com
2	Shri J.Chandra Babu, Sc 'D', and Member	9868278903	jcb.cpcb@nic.in
3	Dr.VK Hatwal, JD, MoEF & CC and Member	9464122468	vk.hatwal@govt.in
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12	Shri R.K.Bhonsle, RO, HSPCB, Panchkula	94 66117500	rspcbropkl@gmail.com
13	Shri P.K.Garg Addl GM(IA) HSIIDC	8558829204	pkgarg hsiidc@ gmail.com
14	Shri Kamaljit Singh, AEE, HSPCB	9467626808	hspcbropkl@gmail.com
15	Dr. Vandna Gupta, DHS	9814405232	vandna gupta42@gmail.com
16	Shri Raj Kumar	9416114061	hspcbwatercell@gmail.com

Minutes of 7th meeting of the Executing Committee held with the Nodal Officers of Pollution Control Boards of Punjab, Haryana, Himachal Pradesh and Chandigarh to discuss over the progress reports and result of water samples analysed during the period from 1st September, 2018 to till 30th November, 2018 in respect of Ghaggar River and its tributaries over drains at 4th Floor, Tower No.5, Forest Complex, Sector 68, Mohali under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana Court, for ensuring compliance to the Hon'ble NGT order dated 7/8/2018 in matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (SuoMotu Case) And Yogender Kumar.

7th meeting of Executing Committee was held with the Nodal officers of Pollution Control Boards of Punjab, Haryana, Himachal Pradesh and Chandigarh at 11 AM on 6.12.2018 under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana Court for ensuring compliance to the Hon'ble NGT order dated 7/8/2018 in matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo Motu Case) And Yogender Kumar. The list of Officials, who attended the meeting is enclosed as **Annexure-I**.

1. HIMACHAL PRADESH
    a. Nodal Officer, Himachal Pradesh informed that there are following two water polluted nalas which ultimately merged in Ghaggar River:
        (i) Sukhna Nallah
        (ii) Jattan Wala Nala (Kala Amb)
    b. Reports are not being submitted by the District level task forces, as per NGT orders 7/8/2018.
    c. Hon'ble Chairman and other members of the Executing Committee observed discharge of untreated wastewater from an apple factory into the Sukhna Nala during their recent visit to Parwanoo Industrial area. Assistant Environmental Engineer (AEE), HP-PCB, Regional Office Parwanoo, who was accompanying with Hon'ble Chairman, assured during the visit that action will be taken against this industry. AEE further informed that the Closer was given to the unit; however, no action was initiated by the Head Office so far. AEE further added that verbal assurance has been given by the industry to improve the ETP and that they will not discharge any polluted water in Sukhna Nala, in future.
    d. Further Nodal Officer apprised the committee by following information on source of Ghaggar River pollution in Himachal Pradesh.

Source of Pollution	
Sukhana Nallah, Parwanoo, District Solan	**Jattan Wala Nala, Kala Amb, Disstt. Sirmour at Nahan**
Action Taken (August to Nov)	Action Taken (August to Nov)
1. During this period, notices (directions) to 8 industrial units were issued. None of the industrial unit was prosecuted. 2. Seven electroplating units were inspected, 3 were complying with ZLD and remaining will comply ZLD by 31.12.2018. 3. Sixteen Septic Tanks managed by the Himachal Pradesh Housing and Urban Development Authority were inspected and 6 were found non-functional. 4. Fine of Rs.5000/- was imposed upon five industrial units for improper solid waste management.	1. Two meetings of District Level Task Force were held. 2. There are total 90 water polluted Units in this area. 3. Inspection of 54 industrial units was done. Out of which 50 samples were taken and result of 15 units are out. 4. Result of 2 industrial units was found beyond the permissible limits. 5. Health Camps at Kala Amb 6. No Prosecution so far. 7. Twenty two drinking water samples of catchment area were taken and all parameters were found the within the permissible limits.

2. HARYANA

[a] Nodal Officer, Haryana informed the Committee that total 63 water polluting industries were inspected from August to November.

[b] Nodal Officer further apprised the committee that the closer notices has been issued to 16 industries; however no prosecution has been initiated so far.

[c] Further, Nodal Officer shared following status of water quality at eight points fall under the jurisdiction of HSPCB:

1.	Sector 28 Panchkula	STP Panchkula Area discharge – Quality degraded
2.	ShukhnaChoe	Quality degraded
3.	Ghail Drain, Ambala	Minor improvement
4.	Markanda, Ambala Distt.	Discharge of Ambala city only
5.	Sagar Para Drain (Saraswati)	Discharge of Kurukshetra, Shahbad and Pehva.
6.	Kaithal Drain	Khinouri (Punjab) merged with Ghaggar
7.	Ratia (Fatehabad)	Discharge of Ratia
8.	Sirsa	Not Given

[d] Further, Nodal Officer assured that all STPs, CTPs will have online checkup monitoring system in near future.

3. PUNJAB

[a] Nodal Officer, Punjab informed the Committee that neither any closure was issued nor any prosecution was initiated by the PPCB from August to November.

[b] Further, it was informed that no health campus has been organized in the Catchment area of the Ghaggar so far.

[c] Nodal Officer shared following information on source of pollution in Ghaggar River from the Punjab State.

1.	Mohali	1.Dhabi Nalah 2. Derabassi 3. JharmalChoe
2.	Derabassi	At some points, polluted water directly discharged in Ghaggar River.
3.	Patiala	1. Basoli (25 dhara) 2. Dhakansu 3. Patiala Nadi
4.	Sangrur	1. Jambuwalachoe (Sangrur Distt.) 2. Khnouri town 3. Moonak town
5.	Mansa	1. Lehraagaga 2. Sardoolgarh

4. CHANDIGARH

[a] Nodal Officer, Chandigarh informed the Committee that there were two main sources of pollution from Chandigarh Side:

i. Sukhna Choe

ii. N Choe (Attawachoe)

[b] One industrial unit was closed due to without ETP discharge.

5. Representative of all the states raised their concern for the functioning of the district level task forces. However, Hon'ble Chairman assured that the matter will be taken up with the concerned department in near future.

6. Committee desired to submit a detailed report of the work, time bond action taken report with the water quality results showing before and after execution of the Hon'ble NGT orders.

The meeting ended with a vote of thanks to the Chair.

List of persons who attended meeting on 6.12.2018

1. Justice Pritam Pal, Chairman, Executive Committee (Ghaggar River)
2. Dr. V.K. Hatwal, Member, Executive Committee (Ghaggar River)
3. Sh. Tejinder Singh, Nodal Officer, Punjab Pollution Control Board
4. Sh. S.K. Shandil, Nodal Officer, Himachal Pradesh Pollution Control Board
5. Sh. Shharawan Kumar, Sr. Environmental Engg. Paonta Sahib, Distt. Sirmour
6. Sh. Lalit Kumar, Himachal Pradesh Pollution Control Board.
7. Sh. J.P. Singh, Nodal Officer, Haryana Pollution Control Board, Panckula
8. Sh. Vivek Pandey, Nodal Officer, Chandigarh Pollution Control Committee

Minutes of 8th meeting of the Executing Committee held at 11 AM on 22/12/2018 at 'Conference Hall, Punjab State Council for Science and Technology, Mahatma Gandhi State Institute of Public Administration (MGSIPA) Complex, Sector-26, Chandigarh' under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana Court, for ensuring compliance to the Hon'ble NGT order dated 7/8/2018 in the matter of OA No. 139 of 2016 titled as Stench Grips Mansa's Sacred Ghaggar River (Suo Motu Case) And Yogender Kumar.

8th meeting of Executing Committee was held with the Departments of Punjab State Government, Haryana State Government, Chandigarh UT Administration and Himachal Pradesh State Government on 22.12.2018 under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana Court for ensuring compliance of the Hon'ble NGT order dated 7/8/2018 in the matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo Motu Case) And Yogender Kumar. The list of Officials, who attended the meeting is enclosed as **Annexure-I**.

At the outset, Sh. Pawan Garg, Member Secretary, Punjab Pollution Control Board (PPCB) welcomed the Chairman and Members of the Executing Committee as well as Officials. After a brief introduction of the officials, Hon'ble Chairman of the Executing Committee has apprised the officers regarding the discussions took place in the meeting held with the Chairperson of the Hon'ble NGT at Delhi on 12th December, 2018. He also highlighted the seriousness of the issue and urged all the officials to comply with the orders of Hon'ble National Green Tribunal (NGT), Principal Bench, New Delhi in letter and spirit, so that there should be visible improvement in the quality of River Ghaggar. The Chairman also informed that the law violators should be punished as per the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and also requested all the State departments for uploading of information regarding monthly action taken reports on the website of the concerned Departments of Environment and State Pollution Control Boards. Thereafter, he requested the officials to make power point presentations on the actions taken as detailed in the subsequent paras: -

A. Presentations by Departments of Punjab State Government: -

1) Punjab Pollution Control Board: -

Er. S. S. Matharu, Environmental Engineer and Nodal Officer, PPCB gave a power point presentation on the action taken w.r.to the compliance of decisions of earlier meetings of the Executing Committee and actions taken in compliance to the directions passed by the Hon'ble NGT on 7.8.2018, as detailed below:-

(i) **Website:-** A link has been provided on Board's website i.e. www.ppcb.gov.in at home page under the sub head 'Executing Committee for River Ghaggar' of the head 'Focus Area' for uploading the activities relating to the actions taken by PPCB as well as Executing Committee.

(ii) **Inspection of industries for verification of compliance to the discharge norms:-**PPCB has already identified 48 major water polluting industries (Dera Bassi 41 and Patiala 07), located in the catchment area of river Ghaggar. 28

Out of 48 industries located in the catchment area of River Ghaggar have been visited. 10 Units are lying closed either on their own or by the order passed by Hon'ble NGT. 02 units are being visited fortnightly as per the orders of Hon'ble NGT and remaining 8 units are being visited by PPCB officials.

(iii) **Monitoring of water quality of River Ghaggar.:-** PPCB officials have informed that monthly monitoring of water of river Ghaggar is being carried out at 14 no. of locations namely Mubarikpur, Bhankarpur, Chhatbir, U/s Jharmal, D/s Charmal, U/s Dhakanshu , D/s Dhakanshu, Rattanheri, U/s Sagar Para Drain, D/s Sagar Para Drain, Khanauri, Moonak, U/s Sardulgarh, D/s Sardulgarh. The analysis results of water quality of river Ghaggar for the months of October, 2017 and August to November 2018 reveals that the Ghggar river water quality w.r.to the BOD and DO is not complying with the water :quality criteria at all the monitoring points except at one location.

(iv) **Ground water samples analysis results:-** The Board carries out ground water sampling only at four locations i.e., (i) piezometer installed near Ash Dyke of M/s Nabha Power Limited, Village Nelas, Rajpura; (ii) submersible pump installed in the premises of the temple at Village Rasauli, District Patiala; (iii) hand pump (80' deep) installed at the vacant plot of Shri Prem Singh, near Dashmesh Dental Clinic, Village Bhankharpur, Tehsil Dera Bassi, Distt. SAS Nagar; (iv) hand pump installed near Lala Wala Peer, Lalru, Tehsil Dera Bassi, Distt. SAS Nagar. Apart from the four samples, in compliance to the recommendations of the executing committee, PPCB also collected ground water samples from tubewell installed in the premises of Govt. School along Mansa- Sirsa Road, Sardulgarh and near the RO Plant installed along Mansa-Sirsa Road, Sardulgarh. Besides above, the ground water sampling has also been carried out inside/ outside the industrial premises of the industries, which are located in the catchment area of river Ghaggar, by the officers of the Board during the month of November and December, 2018. The analysis results are still awaited and same will be incorporated in the action plan.

(v) **Installation of OCEMS by the industries:-** All the paper mills have been asked to follow the protocol framed by CPCB for installation of treatment system in the paper mills as per protocol of CPCB for the industries located in Ganga Basin so as to achieve fresh water consumption and wastewater discharge to the tune of 15 KL/ Tonne of paper produced and 10 KL/ Tonne of paper produced respectively.

(vi) **District Level Special Task Forces:-** Meetings of District SAS Nagar, Patiala, Sangrur and Mansa have already been held and the Deptt. of Health and Family Welfare has been asked to organize health check up camps of the inhabitants in the catchment area of river Ghaggar. The activities carried out by the Department of Health and Family Welfare will be incorporated in the Action Plan.

(vii) **Monitoring of STPs:** PPCB has carried out monitoring of STPs i.e., (i) STP of 17.3 MLD capacity at Zirakpur, Distt. SAS Nagar; (ii) STP of 45 MLD capacity

at Mohali; (iii) STP of 4 MLD capacity at Banur; (iv) STP of 46 MLD capacity at village Shermajra, Patiala ; (v) STP of 13 MLD capacity at PUDA, Patiala; (vi) STP of 4 MLD capacity at Patran; (vi) STP of 10 MLD capacity at Samana on 8.12.2018 – STP was not in operation; (vii) STP of 3 MLD capacity at Khanauri; (viii) STP of 3 MLD capacity at Moonak on 9.12.2018 – STP was not in operation; (ix) STP of 4 MLD capacity at Lehragagga; (x) STP of 8 MLD capacity at Sunam; (xi) STP of 1.5 MLD capacity at Lalru; (xii) STP of 7 MLD capacity at Rajpura; (xiii) STP of 3 MLD capacity for Bhikhi town; (xiv) STP of 4 MLD capacity for Sardulgarh; (xv) STP of 25 MLD capacity for Mandi Gobindgarh. Shri Matharu also apprised the committee that the sludge samples were collected from 7 no. of STPs, which were sent to PBTI for analysis. The said analysis results are awaited. He further informed that as soon as the results are received, the same will be compared with the specifications for compost quality as given in the Schedule II of the Solid Waste Management Rules, 2016 and to check whether it is fit for use of manure or not.

Presentation by Punjab Water Supply and Sewerage Board:-

Er. Lata Chauhan, Executive Engineer, Punjab Water Supply and Sewerage Board presented the power point presentation on the proposed actions related to their department. She informed to the committee members that present tentative population of 39 towns which fall on the catchment area of river Ghaggar is 2364799 (Year 2018) & sewage generation is 283 MLD. In 39 towns, there are 19 STPs with capacity 228 MLD commissioned and in operation, 9 STPs (capacity 37 MLD) are under construction and 20 new STPs (with capacity 62 MLD) are proposed, 1 STP (3 MLD) is not tied up from any sources and 5 towns (18 MLD sewage generation) there is no sewerage system. Presently, 2 STPs (of capacity 56 MLD) are under the control of MC, Patiala, 1 STP (45.4 MLD capacity) is under the control of GMADA and 16 STPs (of capacity 21 MLD) are under the control of PWS & SB. Out of 16, STPs at Khanauri (3 MLD), Lehragagga(4 MLD), Moonak (3 MLD), Patran (4 MLD) & Rajpura (7 MLD) are under stabilization. The proposed time frame for STPs under progress is in the order of 6 months to one year. .She also informed that out of 16 STPs under PWSSB, treated water will be used for irrigation purpose by Department of Water & Soil Conservation. As regards to the installation of Electromagnetic, Flow Meters to all the tube wells which are used as water supply source, there are 39 towns in the catchment area of Ghaggar River, out of which 19 towns which are having approximately 99 installations where O&M of water supply is with PWSSB and cost of each electronic flow meter is approximately Rs. 55,000/-. Therefore approximate expenditure shall be Rs 54.45 Lacs. With regard to the provisions for providing holding tank of adequate capacity or standby arrangement in the design of STPs, for holding the untreated wastewater for at least two days in the event of maintenance of the STP, she informed that the CPHEEO Manual does not have provision for this purpose. As regards to the upgradation of the technology in the existing STPs, all the existing STPs which came to operation prior to 16.08.2016 yet to be upgraded to achieve newly notified standards requires funds amounting to Rs. 53.45 Crore.

After deliberations and discussions with Shri R.K.Verma, Principal Secretary, Deptt of Science Technology & Environment, Punjab State Government, following decisions were taken by the Monitoring Committee, as follows:-

(i) Punjab State Government to take action to smoothen the flow of the funds so that the operation of the STP should not be hampered by way of adopting suitable mechanism.

(ii) District Level Special Task Forces are required to perform the tasks (conduct inspection of the industries on fortnightly basis and submit its report as per the proforma of PPCB to the State Level Special Task Force-SLSTF) in compliance to the Hon'ble NGT order dated 07.08.2018. SLSTF shall submit first quarter report to CPCB within a week.

(iii) Department of Health & Family Welfare, Department of Local Govt., PSIEC, GMADA, Department of Rural Development & Panchayat and Deptt. of Irrigation (Drainage) have not yet nominated their Nodal Officer so far and the head of their department shall ensure that the nodal officer shall be nominated, immediately and intimation in this regard shall be given in writing to the PPCB through email id eenodal@yahoo.in, as well as Shri J.C.Babu, Member, Executing Committee i.e., jcb.cpcb@nic.in.

(iv) PPCB will carry out inspections of all the remaining 8 industries falling in the catchment area of River Ghaggar, within next two days.

(v) PWSSB / GMADA shall provide Online Continuous Monitoring System (OCMS) at the final outlet of all the STPS for getting real time data of treated wastewater and necessary measures be taken to ensure that no untreated wastewater is being discharged/ bye passed.

(vi) PPCB shall collect the ground water sample of Sardulgarh area on monthly basis and shall compare the results with the previous analysis results to ascertain the effect on the ground water quality of the area due to pollution in River Ghaggar.

(vii) PPCB shall initiate action under the provisions of the Water Act, 1974 against all the defaulting STPs, which were not in operation.

(viii) PWSSB shall ensure that the contract of the operator of the STP must be extended before the expiry of the previous contract and in case the contract is not executed with the existing Operator, the PWSSB will be responsible to operate the STP properly and effectively so as to ensure compliance of environmental standards. However, at any time and for any reason, operation of STPs should not be stopped.

(ix) PPCB shall conduct meeting with all the operators of the STPs installed in the towns falling in the catchment area of river Ghaggar to sensitize the issue pertaining to the bye-passing of the untreated effluent from the STPs.

(x) CGWA shall furnish the data regarding ground water quality in the catchment area of Rive Ghaggar, within 7 days to the nodal officer of CPCB.

(xi) The Nodal officer of all the stakeholder departments shall submit the reply to the questionnaire supplied by the Hon'ble Chairman of the Committee in the meeting on monthly basis through email.

B. Presentations by Departments of Haryana State Government: -

The Chairman, Executing Committee enquired about the monthly ATR submitted by the District Level Special Task Forces (DLSTFs). Shri. JP Singh, EE, HSPCB informed the committee that the DLSTFs of Ambala, Panchkula, Kurukshetra and Fatehabad have sent their report in the month of November, 2018 only. The DLSTFs of Hisar, Sirsa and Jind have not sent any report so far. Chairman Executing Committee stated that some of the Govt. Departments have not designated Nodal Officers viz., HSIIDC, Forest, Health, Irrigation, Agriculture and Panchayats. Sh. J P Singh, EE, HSPCB also submitted that all the STPs/CETPs will provide online effluent Monitoring Devices by 31.3.2018 in Haryana. However, Nodal Officer, Haryana SPCB has not apprised about the aspects especially relating to the industrial inspections conducted so far as per recommendations of the Executing Committee, status of industrial effluent characteristics, observations made during the inspections of industries and the STPs in the catchment of river Ghaggar by the Haryana inspection teams, no. of industries complying and non-complying with the discharge norms, sludge characteristics and the existing disposal practices by the STPs as well as other waste management practices.

Member Secretary, Haryana State Pollution Control Board informed the Committee that the Haryana State has prepared action plans in consultation with all the departments which include to lay the sewerage network in all the towns of Haryana as well as diversion of sewage from unauthorized colonies of towns into existing sewers so that it could be treated in STPs. He also informed that the Irrigation department has done extensive survey in the month of November 2018 and all the discharge points have been identified where the sewage is released into drains joining river Ghaggar and the flow measurements were taken into account the capacity of STPs were fixed.

The Executing Committee reiterated that STFs and the officials of HSPCB have been mandated to make inspections and identify violators and required to be punished under the environmental provisions. None of the STFs in the Haryana state has done this task so far. The Chairman, EC has made it clear that Hon'ble NGT will make the Chief Secretary of the State responsible for failure to implement the Hon'ble directions. The Departments should also have requested to submit monthly action taken report in compliance to the Hon'ble NGT orders so as to apprise the Hon'ble NGT periodically by the executing committee. Member Secretary, HSPCB informed that views of all the concerned departments have already been taken and the action plans prepared accordingly and same will be submitted within a week after taking approval from the Haryana State Government.

C) Presentation by the Departments of Chandigarh UT Administration

Presentation by Special Secretary Engineering, Chandigarh Administration:

The Special Secretary Engineering, Chandigarh Administration and Commissioner, Municipal Corporation, Chandigarh gave the presentation about the steps taken by the Chandigarh Administration to stop the discharge of sewage water into various Choes.

Special Secretary Engineering, in his presentation informed that due to increase in the population and unauthorized construction, the excess sewage overflows during peak hours. Chandigarh Smart City Limited has planned to install 2.0 MLD STP at the Kishangarh Outlet. The target date for completion is March 2022. However, as short term measure, Engineering Department has planned to install sewage pump and sump with the cost of Rs.19.94 lacs for lifting the excess sewage and disposing of the same in existing sewer line near Golf Club to stop the flow of raw sewage in the choe. The target date for completion is 31.03.2019. He also informed that the unauthorized colony viz., Shastri nagar is located near the Sukhna Choe i.e. termed as extended abadi of village kishangarh. The sewage of colony has been harvested and put in the sump for further pumping to the sewer line to avoid flow of sewage in the Sukhna choe. Similarly, the unauthorized colonies adjacent to village Daria are located near Sukhna Choe. The sewage of the colonies near Daria has been harvested and sump has been created and machinery has been installed to lift the sewage and put in the sewer line of the village. He also stated that under the jurisdiction of Engg Department, there are two STPs i.e., 7.5 MLD Sewage Treatment Plant, Dhanas and 5.67 MLD Sewage Treatment Plant, Raipur Khurd 7.5 MLD Sewage Treatment Plant, Dhanas was installed in 2013 on SBR technology having designed for the parameters of treating sewage for BOD level 10 mg/l. whereas 5.67 MLD S.T.Plant Raipur Khurd was installed about 13 years back with designated parameters of BOD level 30 mg/l. This S.T.P is old and treating the sewage within (+/-) 20% variation in parameters of designated capacity. However, the new S.T. Plant of 12 MLD capacity is to be installed by the Chandigarh Smart City Ltd. The DPR of the same has been prepared and is under process of approval of the competent authority. The Chandigarh Smart City Ltd. has fixed target for construction of new S.T.P by March 2022.

Presentation by Municipal Commissioner, Chandigarh:-Municipal Commissioner, Chandigarh in his presentation informed that water supply in Chandigarh was coming from Bhakra main line through Kajouli and Sector 39 Water Works. Around 67 MGD water is being supplied from this and 22 MGD water is being supplied through tube wells. Total around 89 MGD is being supplied daily to Chandigarh and as per the information provided by Municipal Corporation, Chandigarh total waste water generation is around 54 MGD and treatment capacity is 48 MGD. At present 05 Nos. of Sewage Treatment Plants are operational in Chandigarh. Gap in treatment capacity is 6.0 MGD. Three STPs of 0.4 MGD capacity at Village Kishan Garh; 5 MGD at Maloya and 1.25 MGD at Raipur Kallan. Thereafter, members were also apprised of status of waste water discharge points at Sukhna Choe and N-Choe and action taken along with Action plan to stop the same. He also assured the members that after the commissioning of the new STPs and upgradation of existing STPs by Chandigarh SMART City Pvt. Ltd., there will be no shortfall In the treatment capacity available at

the STPs and all the sewer generated will be treated with effluent BOD level of less than 5 mg/ltr. He also informed the committee that the MC, Chandigarh recover 30 % funds from the public in the form of the tax based on the water consumption which is assessed as per the water meter system already implemented in Chandigarh. He also informed that the financial recovery details will be shared to the committee by the Municipal Commissioner, within a week by email at jcb.cpcb@nic.in.

Presentation by Member Secretary, Chandigarh PCC:-

Member Secretary, Chandigarh Pollution Control Committee (CPCC) informed that the District Level Special Task Forces has already conducted three meetings and submitted the report to State Level Special Task Force. He also presented on the Bio-Medical Waste Management, Municipal Solid Waste Management, Hazardous Waste Management, Plastic Waste Management and E-Waste Management is being carried out as per the prescribed rules. As regards to the industrial discharge, MS, CPCC informed that CPCC does not permit any industry to run without Effluent Treatment Plant (ETP). During inspection it was found that one service station situated in Industrial Area was found bypassing the waste water discharge directly into the sewer line without imparting any treatment. After which unit was sealed and now CPCC is going to prosecute the unit. MS, CPCC also informed the committee that the action plans covering all aspects has already been finalized and same will be submitted within this week after taking approval from the Principal Secretary, Chandigarh UT Administration.

D) Presentation by the Departments of Himachal Pradesh State

At the outset, the Chairman of the Committee welcomed all the officials present in the meeting and congratulated the officials of Himachal Pradesh for successfully organizing the Clean Sukhna campaign on 19.12.2018 and prompted other States to organize such cleanliness drives in their respective States. This was followed by detailed presentations by the Nodal Officer of the HPPCB, Er. SK Shandil, Environmental Engineer on the status of progress made in Kala Amb and Parwanoo areas. Detailed presentations were also given by the Superintending Engineer, Irrigation & Public Health Department Solan and Superintending Engineer, HIMUDA. Director, Rural Development, GoHP gave a detailed status of the works in progress and the works proposed for the control of water pollution from panchayat areas especially in the Parwanoo and Kala Amb. Presentation on health statistics was followed by the CMO Solan. After detailed deliberations and discussions during the meeting the following decisions were taken –

(i) It was specifically directed that water flow measurement and water quality monitoring shall be carried out by the Irrigation & Public Health Department in Himachal Pradesh at the exit points of Himachal Pradesh as well as all the drains contributing to the river Ghaggar pollution.

(ii) The HIMUDA shall include in action plan for waste water management from septic tanks by adopting constructed wetland system before discharge of such wastewater effluent from septic tanks and for completion of the afore-said task time line suggested is within three months.

(iii) Health Camp shall be organized by the respective CMOs of Solan & Sirmour Districts in Kala Amb & Parwanoo areas periodically.

(iv) The Rural Development Department, GoHP will work in coordination with the HPSPSB to control & check water pollution from adjoining panchayat areas in Kala Amb & Parwanoo.

After deliberations with the State Departments, the Executing Committee made it clear to all the concerned departments of the States namely Punjab, Haryana, Himachal Pradesh States and Chandigarh UT Administration that the action taken report on the recommendations of the Executing Committee meetings and the Action Plans with time lines and financial estimates for each action plan keeping in view of control of River Ghaggar pollution be submitted latest by 31.12.2018 to the Executing Committee and beyond that the action plans will not be accepted The Executing Committee also suggested that the Environment Department and respective State Pollution Control Boards shall co-ordinate with the all the concerned departments and ensured that the action plans are submitted by 31.12.2018 after taking approvals from the Principal Secretary of the respective State/UT in compliance to the Hon'ble NGT order dated 20.09.2018 in the matter of OA No. 673/2018.

The Meeting ended with vote of thanks to the Chair.

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Annexure-I

LIST OF PARTICIPANTS

1) Justice Pritam Pal, Chairman, Executing Committee
2) Sh. J. Chandra Babu, Scientist 'D', CPCB and Member, Executive Committee
3) Dr. Vimal K. Hatwal, Jt. Director, MoEF&CC, and Member, Executive Committee
4) Sh. R.K. Verma, IAS, Principal Secretary, Deptt. of Science, Technology & Environment.
5) Prof. S.S. Marwaha, Chairman, Punjab Pollution Control Board, Patiala.
6) Sh. Shaukat Ahmad, Additional Deputy Commissioner (G), Patiala.
7) Dr. Poonam Saigal, Deputy Director, Deptt. of Health & Family Welfare, Punjab.
8) Sh. Davinder Kumar, SE, Panchayati Raj, Deptt. of Rural Development & Panchayat, Chandigarh.
9) Sh. Sukminer Singh, SE, Deptt. of Water Supply & Sanitation, Patiala.
10) Sh. T.L. Sharma, SE, MC, Panchkula.
11) Sh. R.S. Bains, CE, PSIEC, Chandigarh
12) Sh. Vinit Kumar, AMD, PSIEC, Chandigarh.
13) Sh. S. Narayanan, IFS, Member Secretary, Haryana State Pollution Control Board, Panchkula.
14) Sh. Bhagwan Dass, Divisional Engineer, GMADA, Mohali.
15) Sh. Pawan Garg, Member Secretary, Punjab Pollution Control Board, Patiala
16) Sh. V.K. Garg, Chief Engineer, Punjab Water Supply and Sewerage Board
17) Sh. Tejinder Kumar, Sr. Envi.Engineer, PPCB, Patiala
18) Dr. Asruddin, Director, Health Services.
19) Sh. Raman Sandhu, Director, Deptt. of Rural Development & Panchayat, Haryana.
20) Sh. Anoop Nagar, Regional Director, Central Ground Water Board, Chandigarh.
21) Sh. Davinder Singh, SE, Patiala Drainage Circle, Water Resources
22) Sh. S.S. Matharu, Envi. Engineer, PPCB, RO, Patiala
23) Sh. M.L. Angurala, Central Ground Water
24) Sh. Rajdeep Singh Brar, Additional Deputy Commissioner (G), Sangrur.
25) Sh. Satish Rathi, Executive Engineer, Deptt. of Public Health, Haryana.
26) Sh. T.P. Singh, SE, PHED, Haryana.
27) Sh. N.K. Payal, XEN, HSVP, Haryana
28) Sh. P.K. Garg, Additional GM, HSIDC, Haryana
29) Smt. Lata Chauhan, XEN, PWSSB.
30) Sh. R.S. Mittal, SE, Kaithal.
31) Sh. S.K. Sharma, XEN, PSIEC, Kaithal.
32) Sh. Tejinder Kumar, SEE, PPCB.
33) Sh. J.P. Singh, EE, HSPCB, Haryana.
34) Sh. G.S. Dhillon, Map Officer, Deptt. of Soil & Water Conservation, Chandigarh.
35) Sh. Sidharth Bhargav, SDO, HSPCB, Haryana

37	R. S. Mittal S.E.	Irrigation & Water resources Department, Kaithal Haryana
38	S. K. Sharma, Xen, PSIRC-----	PSIRC

39	Tejinder Kumar SEE	PPCB, HO, PTA
40	J. P. Singh, SEE	HSPCB HQ
41	G. S. Dhillon Mep Officer	Deptt. of soil of water conservation Punjab
42	Sidharth Bhargava, AEE	HSPCB
43	R. O. Panchkula Region	HSPCB
44	R. O. Jind Region at Bhiwani	HSPCB
45	Atul Parmar, R. O. Parwanoo	HPPCB
46	Lalit Thakur, AEE, Kala Amb-----	HPPCB
467	R. V. Singh, Consultant	Consultant PVT----
48	Sh. Sudhir Sharma, Executive Officer	Municipal Council, Parwanoo (H.P.)
49	Sh. Ramesh Bhel ---- EE , Parwanoo	HIMUDA
50	Sh. Rajesh Thakur, AE	HIMUDA
51	Dr. Sharawam Kumar, SEE	HPSPCB Paonta Sahib
52	Sanjeev Kaul, SE	HP, Irrigation & PH Department
53	Er. Anjoni Kapoor, SE ---	HIMUDA, HP
54	Sh. M.L. Anguvala, Scientist 'D'	Central Ground Water Board, NWR Chandigarh.
55	Sh. Anoop Nagar, Regional Director	Central Ground Water Board, NWR Chandigarh.
56	Sh. Rajinder Singh, , SE (PH)	Engineer Deptt. (U.T.) Chandigarh
57	Sh. Mahesh, CE -----	Engineer Deptt. (U.T.) Chandigarh
58	DSP Harjit Kaur	Chandigarh Police
59	Sh. S. K. Shandil, EE	HP State Pollution Contral Board
60	Sh. Rakesh Kanwar, Director	Rural Development Himachal Pradesh
61	Dr. Vinod Kumar Sangal, DPO---	Himachal Pradesh
62	Dr. R. K. Daroch, C.M.D.	Health & Family Welfare Department (HP)
63	Sh. Sachin Rana, Addl. Deputy Commissioner	UT Chandigarh, Office-----
64	Sh. Manoj Bansal	Chief Engineer, Municipal Corporation Chandigarh
65	Sh. T. C. Nautiyal	MS CPCC Chandigarh
66	Sh. K.K. Yadav, IAS	Commissioner MC, Chandigarh

Minutes of 9th meeting of the Executing Committee held on 8/1/2019 at '4th Floor, Tower No.5, Forest Complex, Sector 68, Mohali' under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana High Court, for ensuring compliance to the Hon'ble NGT Order dated 7/8/2018 in the matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo Motu Case) And Yogender Kumar.

9th meeting of Executing Committee was held with the Chairman and Member Secretaries of State Pollution Control Boards of Punjab, Haryana, Himachal Pradesh and Chandigarh Pollution Control Committee (CPCC) on 8.1.2019 under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana High Court for ensuring compliance of the Hon'ble NGT order dated 7/8/2018 in the matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo Motu Case) And Yogender Kumar. The list of Officials, who attended the meeting is enclosed as **Annexure-I**

Chairman and the Members of the Committee has reviewed the draft action plans prepared by the State of Punjab, Haryana, Himachal Pradesh and Chandigarh UT for restoration of polluted river Ghaggar. The State-wise recommendations made by the committee for carrying out necessary improvements are detailed as below:-

Punjab

- Action taken for Closure of industrial units for violation of the provisions based on the recent inspections made by the teams of Punjab Pollution Control Board.
- Actions taken by the State Level Task Force constituted by the State Government for ensuring compliance to the Hon'ble NGT order dated 07.08.2018;
- Industry-wise water consumption, waste water generation, mode of treatment and final treated effluent characteristics of all the 48 industries as well as final mode of disposal of treated or untreated effluent
- Observations made by the inspected teams on 48 industries;
- List of industries complying and non-complying with the effluent discharge norms
- Status of health of the public and the Health Camps organized by the State Health Department;
- Map showing all Drains which are contributing to the river Ghaggar pollution;
- Map showing all major towns, population, industrial complexes/estates located on the banks of river Ghaggar, STP location and their capacity
- Town-wise water consumption, sewage generation, no. of STPs, existing treatment capacity of STPs and the gaps observed and sites identified for construction of new STPs in the form of a table as decided in the first meeting of Executive Committee

- Total estimated flow from all the drains into river Ghaggar to be identified both at Urban and Rural level.
- Aspects relating to Industrial Pollution to be included
- District Level Task Force, State Level Task Force actions also be included
- Nodal Officers HODs of all the departments to be included in the report
- Copy of orders of constitution of the DLSTF and SLSTF as well as Nodal Officers to be annexed.
- Visit reports along with analysis results of the effluent to be provided
- Ground water quality should be added in Action Plan – as per GGWA
- Waste Management (Total waste). Pl. provide breakup, recyclable storage and waste
- Aspects relating to STP Sludge Management based on the characteristics, STP compliance statement with observations to be added in Action Plan.
- Ground water recharge Management should be included in Action Plan
- Greenery development should be added on the Banks of River Ghaggar (Forest Department should be asked to do so)
- Installation of RTWQM Stations - time lines (Irrigation Department). Minimum 3 months
- Any other aspects related to compliance to the Hon'ble NGT Order

Himachal Pradesh

- Action plans report should be prepared as per the structure suggested in 2 meeting of the Executing Committee
- Major Towns and Major Industries, Total sewage generation, Existing STPs and their capacities and the gaps identified should be indicated
- Health Camp details to be upload on the website.
- Ground Water samples results not found and same need to be included.
- Details of measurement of drain flow to be indicated
- Aspects relating to waste management should be included;
- Proposal for management of Sewerage generated from rural areas also be included in the action plan.
- Cleanliness drive earlier held, photos to be uploaded on website.
- Health Status of the public
- Any other aspects related to compliance to the Hon'ble NGT Order

Chandigarh

- District Level STF and State Level STF report to be uploaded on website and actions taken by the DLSTF and SLSTF need to be included
- Samples of industrial effluent discharge and the compliance status to be included
- Ground water samples, 7 samples taken, result awaited and results of the ground water samples to be included in the report
- Drain Flow measurement missing and characteristics of drains also be included.

- Industry-wise water consumption, wastewater generation and treatment system and mode of disposal also be included in the report.
- Industry-wise effluent characteristics and their compliance status also be included in the report.
- Treated sewage management, STP sludge disposal Plans to be included
- Timeline should be revised from 2022 to Dec., 2020 for installing STPs.
- Any other aspects related to compliance to the Hon'ble NGT Order

Haryana

- No Health Camp organized till date and Specify dates of Health Camps which are to be organized in future in Action Plan.
- Ground water samples collected and their characteristics to be included. Also, report of CGWA relating to ground water characteristics in the catchment of river Ghaggar also be included.
- All drains should be mentioned in Action Plan with flow and also should be shown in the map.
- STP proposal should be given as per capacity.
- Industry wise water consumption/wastewater generation, ETP availability, effluent characteristics, compliance status and mode of disposal also be included in the report
- Compliance status reports on STP's as well as ETPs pertaining to industries also be included.
- Mode of treated sewerage disposal and STP sludge Management based on the characteristics of the sludge to be proposed
- CETPs, STPs compliance status reports should be included in the report.
- One map showing towns, industrial hubs, CETPs and STP's locations should be included in the report
- Any other aspects related to compliance to the Hon'ble NGT Order

After reviewing the draft action plans by the executing committee, Justice Pritam Pal, Chairman, Executing Committee directed all the States to incorporate all aspects in compliance to the Hon'ble NGT order dated 07.08.2019 and for submission of the revised action plans preferably by 15.01.2019 to the Executing Committee.

The Meeting ended with vote of thanks to the Chair**.**

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Annexure-I

List of participants of 9th meeting of the Executing Committee held on 08.01.2019 under the Chairmanship of Hon'ble Justice Pritam Pal at 'Forest Complex, Sector 68, Mohali'.

S.No	Name & Designation
1.	Hon'ble Justice Pritam Pal, Chairman, Executive Committee (Ghaggar River)
2.	Sh. J Chandra Babu, Member Executive Committee, (Ghaggar River)
3.	Dr. K.K Garg, Deputy Director, Ministry of Environment, Forest and Climate Change, Sector 31, Chandigarh
4.	Sh. S.S. Marwaha, Chairman, Punjab Pollution Control Board
5.	Sh. Pawan Garg, Member Secretary, Punjab Pollution Control Board
6.	Sh. Surinder Singh Matharu, Nodal Officer, Punjab Pollution Control Board, Mohali
7.	Sh.Gulshan Rai, CEE, Punjab Pollution Control Board
8.	Dr. R.K Pruthi Member Secretary Himachal Pradesh Pollution Control Board
9.	Sh. S.K. Shandil, Nodal Officer, Himachal Pradesh Pollution Control Board
10.	Sh.Debendra Dalai, IFS, Special Secretary, Environment Chandigarh
11.	Sh. T.C. Nautiyal, Member Secretary, Chandigarh Pollution Control Committee
12.	Sh. J.P. Singh, Environmental Engineer, Haryana State Pollution Control Board, Panchkula
13.	Sh. Rajinder Sharma, RO, Haryana State Pollution Control Board, Panchkula
14.	Sh. Sidharth Bhargava, AEE, Haryana State Pollution Control Board

Annexure-III

Analysis results of the River Ghaggar/Kaushalya/Markanda Samples collected during 22-23.10.2018 and 29-30.10.2018 for physico-chemical parameters

Sampling point	Date	pH	DO (mg/l)	Conductivity (µmho/cm)	TDS (mg/l)	COD (mg/l)	BOD (mg/l)	Total Hardness as CaCO3 in mg/l	Total Alkalinity as CaCO3 in mg/l	Ca in mg/l	Mg in mg/l	Cl in mg/l	SO_4 in mg/l	NO_2-N in mg/l	PO_4-P in mg/l	NH_3-N in mg/l
R1-River Markaanda at Narayangarh	22.10.2018	6.9	8	825	522	18	3	332	117	53	48	137	63	0.03	0.04	1.3
R3-River Markanda (U/s Kala Amb)	22.10.2018	7.4	12	400	252	9	1	190	173	7	41	17	26	0.01	0.05	0.4
R4-River Ghaggar (A/c of River Kaushalya)	22.10.2018	7.4	7.6	436	300	35	2	248	201	42	34	18	21	0.05	0.09	0.1
R5- River Kaushalya at Village Kambli	22.10.2018	7.6	7.8	338	196	9	2	162	145	10	33	13	18	0.01	0.06	BDL
R7-River Ghaggar at Mubarikpur	22.10.2018	7.3	5	523	322	10	5	276	217	26	51	20	31	0.06	0.1	0.2
R13-River Ghaggar (A/c of Jhermal Choe)	23.10.2018	7.1	2.2	789	440	25	6	296	288	42	46	60	39	0.086	0.37	8.1
R16-River Ghaggar (A/c of Ghel Drain)	23.10.2018	7	2.6	842	448	29	7	316	296	40	52	66	46	0.1	0.57	6.6
R 19 -River Ghaggar (Shambu Border)	23.10.2018	7.1	2.3	864	490	27	6	300	296	43	46	72	46	0.08	0.54	8.5
R2-U/s Markanda B/c River Ghaggar)	29.10.2018	7.1	3.4	800	496	43	11	207	293	58	15	59	29	0.65	0.81	5.96
R3-U/s Ghaggar River @ Village Chiali, Haryana	29.10.2018	7.4	2.2	925	516	25	4	292	305	80	22	84	36	0.18	0.94	14
R4-D/s River Ghaggar (at Village Dhandota)	29.10.2018	7.5	2.4	895	528	25	5	300	308	77	26	77	28	0.36	0.93	12.1
R6-D/s River Ghaggar (A/c of Patiala Nadi)	29.10.2018	7.5	0.3	1128	680	338	94	317	373	104	11	100	180	0.04	1.25	25.3
R9-River Ghaggar (at Chandpur Syphon)	29.10.2018	7.5	1.8	950	594	47	12	292	336	75	25	84	32	0.01	1.44	9.71
R10-River Ghaggar, Sirdulgarh	29.10.2018	7.4	2.0	1000	676	172	39	327	348	88	25	88	48	0.04	0.09	10.6
R11-River Ghaggar-Sirsa Dabhvali Road	30.10.2018	7.7	2.2	935	640	158	24	317	328	85	25	80	58	0.03	0.09	9.2
R12-River Ghaggar- Ottu	30.10.2018	7.4	2.6	810	516	54	4	254	273	58	26	71	40	0.25	0.68	5.2
SW-1-River Ghaggar (D/s Mubarikpur)	30.10.2018	7.9	3.7	532	334	26	4	227	192	66	15	25	14	0.08	0.08	0.33

Annexure-IV

Analysis results of the River Ghaggar/Kaushalya/Markanda Samples collected during 22-23.10.2018 and 29-30.10.2018 for Heavy Metals and the Biological parameters

Sampling point	Date	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Cu (mg/l)	Fe (mg/l)	Mn (mg/L)	Ni (mg/l)	Pb (mg/l)	Zn (mg/l)	Total Coliform (MPN/ 100 ml)	Fecal Coliform (MPN/100ml)
R1-River Markanda at Narayangarh	22.10.2018	BDL	BDL	BDL	BDL	2.35	0.73	BDL	BDL	0.13	46000	33000
R3-River Markanda (U/s Kala Amb)	22.10.2018	BDL	BDL	BDL	BDL	0.19	0.15	BDL	0.03	BDL	70000	70000
R4-River Ghaggar (A/c of River Kaushalya)	22.10.2018	BDL	BDL	0.07	0.04	74.29	2.7	0.08	BDL	0.15	49000	22000
R5- River Kaushalya at Village Kambli	22.10.2018	BDL	BDL	0.01	BDL	7.21	0.21	0.01	BDL	BDL	33000	11000
R7-River Ghaggar at Mubarakpur	22.10.2018	BDL	BDL	BDL	BDL	5.07	0.85	BDL	BDL	BDL	170000	45000
R13-River Ghaggar (A/c of Jhermal Choe)	23.10.2018	BDL	BDL	BDL	BDL	5.73	0.32	BDL	BDL	BDL	79000	79000
R16-River Ghaggar (A/c of Ghel Drain)	23.10.2018	BDL	BDL	BDL	BDL	BDL	0.37	BDL	BDL	BDL	49000	33000
R 19 -River Ghaggar (Shambu Border)	23.10.2018	BDL	BDL	0.01	0.01	3.93	0.58	BDL	BDL	0.04	70000	33000
R2-U/s Markanda Before Confluencing River Ghaggar)	29.10.2018	BDL	BDL	BDL	BDL	1.84	0.29	BDL	BDL	BDL	790	490
R3-U/s Ghaggar River @ Village Chiali, Haryana	29.10.2018	BDL	BDL	BDL	BDL	1.97	0.29	BDL	BDL	0.02	790	330
R4-D/s River Ghaggar (at Village Dhandota)	29.10.2018	BDL	BDL	BDL	BDL	1.41	0.21	BDL	BDL	BDL	6000	2000
R6-D/s River Ghaggar (A/c of Patiala Nadi)	29.10.2018	BDL	BDL	BDL	BDL	2.29	0.32	BDL	BDL	0.01	2400000	340000
R9-River Ghaggar (at Chandpur Syphon)	29.10.2018	BDL	BDL	0.02	BDL	0.49	0.32	BDL	BDL	0.02	2400	1300
R10-River Ghaggar, Sirdulgarh	29.10.2018	BDL	BDL	BDL	BDL	1.33	0.86	BDL	BDL	BDL	200	200
R11-River Ghaggar-Sirsa Dabhvali Road	30.10.2018	BDL	BDL	BDL	BDL	0.86	0.86	BDL	BDL	BDL	45000	2000
R12-River Ghaggar- Ottu Weir	30.10.2018	BDL	BDL	BDL	BDL	0.48	0.14	BDL	BDL	BDL	7800	200
SW-1-River Ghaggar (D/s Mubarikpur)	30.10.2018	BDL	BDL	0.03	0.02	31.19	1.44	0.04	BDL	0.05	-	-

Annexure-V

Analysis results of the Drain samples collected during 22-23.10.2018 and 29-30.10.2018 for General Parameters and Heavy Metals

Sampling point	Date	pH	TSS in mg/l	TDS (mg/l)	COD (mg/l)	BOD (mg/l)	PO_4-P in mg/l	NH3-N in mg/l	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Cu (mg/l)	Fe (mg/l)	Mn (mg/L)	Ni (mg/l)	Pb (mg/l)	Zn (mg/l)
D-1-SH 11, Palar, Haryana-136035	29.10.2018	6.91	108	-	456	119	1.08	3	BDL	BDL	BDL	0.01	0.75	0.15	BDL	BDL	BDL
D-5- Patiala Drain	29.10.2018	6.87	612	-	5637	1439	8.49	89	BDL	BDL	0.01	0.04	6.7	0.36	0.01	BDL	0.41
D-8-Khaital Drain B/c of River Ghaggar	29.10.2018	8.53	36	-	30	6	0.89	BDL	BDL	BDL	BDL	BDL	0.43	0.01	BDL	BDL	BDL
D-7-Sagar Para Drain@ Chicharwala	29.10.2018	7.16	68	-	464	121	1.86	5	BDL	BDL	BDL	BDL	1.07	0.19	BDL	BDL	BDL
D-2-Jattawala Nallah	22.10.2018	6.37	83	760	253	80	-	8	BDL	BDL	BDL	BDL	1.64	0.21	BDL	BDL	0.09
D-6-Sukhna Nallah	22.10.2018	6.81	30	208	42	13	-	4	BDL	BDL	BDL	BDL	1.11	0.82	BDL	BDL	0.07
D-8-Baltana Drain	22.10.2018	6.83	64	120	184	76	-	21	BDL	BDL	BDL	BDL	0.98	0.1	BDL	BDL	0.03
D-11Derabassi Drain	23.10.2018	6.73	304	6060	6741	2000	-	87	BDL	BDL	0.28	0.34	5.69	0.3	0.27	0.02	0.32
D-12-Jhermal Choe (Tiwana Village)	23.10.2018	7.33	68	2012	273	80	-	15	BDL	BDL	0.01	0.02	1.1	0.46	BDL	BDL	BDL
D-15-Bassouli Drain	23.10.2018	7.23	123	2316	259	53	-	8	BDL	BDL	BDL	BDL	0.35	0.39	BDL	BDL	BDL
D-17-Ghel Drain	23.10.2018	6.59	29	272	69	13	-	10	BDL	BDL	BDL	BDL	0.74	0.2	BDL	BDL	BDL
D-18- 25 Dhara	23.10.2018	6.57	47	160	105	26	-	12	BDL	BDL	BDL	BDL	0.94	0.3	BDL	BDL	BDL

Annexure-VI

A. List of Industries Complying/Non-complying with the Effluent Discharge Standards in Kala Amb, Himachal Pradesh as per the inspections made during November 2018- January 2019

S. No.	Name of the Unit	Address	pH	TDS	TSS	COD	BOD	Total Fe	Cr Total	Zn	Cu	Ni	Pb	Cd	O & G	Phenol	S	Cr $^{+6}$	PO_4	Compliance Status
Permissible Effluent Discharge Standards in mg/l (except pH)			**5.5 to 9.0**	**-**	**100**	**250**	**30**	**0.3**	**2**	**5**	**3**	**3**	**0.2**	**2**	**10**	**1**	**2**	**0.1**	**1**	
1	Accura Care Pharmaceuticals (P) Ltd.	Village Moginand, Kala Amb	8.29	762	20	172	22	**	**	**	**	**	**	**	0.20	**	**	**	**	Complying
2	Adwin Pharma	Village Rampur Jattan, Kala Amb	7.78	**	10	40	2.80	**	**	**	**	**	ND	**	Nil	ND	Nil	ND	0.22	Complying in Second Sampling
3	Adwin Pharma	Village Rampur Jattan, Kala Amb	7.13	318	64	360	**120**	**	**	**	**	**	**	**	1.04	**	**	**	**	Non Complying in First Sampling
4	Alps Communications	Village Rampur Jattan, Kala Amb	8.27	**	2	8.	1	**	**	**	**	**	ND	**	Nil	ND	Nil	**	ND	Complying
5	Aqua Parental Ltd	Village Khari, Sadhora Road, Kala Amb	8.04	**	8	44	2.40	**	**	**	**	**	ND	**	Nil	ND	Nil	ND	0.22	Complying in Second Sampling
6	Aqua Parental Ltd	Village Khari, Sadhora Road, Kala Amb	7.61	**	88	**272**	**108**	**	**	**	**	**	**	**	1.04	**	**	**	**	Non Complying in First Sampling
7	Art N Glass, Unit-I	Village Johron, Kala Amb	7.39	**	40		**	**	**	**	**	**	**	**	0.28	**	**	**	**	Complying
8	Art N Glass, Unit-II	Village Johron, Kala Amb	7.75	**	18	8	1	**	**	**	**	**	**	**	Nil	**	**	**	**	Complying (Second Sampling)
9	Art N Glass, Unit-II	Village Johron, Kala Amb	6.95	**	**146**	**	**	**	**	**	**	**	**	**	0.44	**	**	**	**	Non Complying
10	Axsys Solutions	Village Johron, Kala Amb	5.45	**	25	**272**	22	**	**	**	**	**	**	**	0.32	**	**	**	**	Non Complying
11	Axsys Solutions	Village Johron, Kala Amb	7.52	**	14.	24.	1.80	**	**	**	**	**	**	**	Nil	**	**	**	**	Complying
12	Axsys Solutions	Village Johron, Kala Amb	6.82	**	110	28	4	**	**	**	**	**	**	**	0.36	**	**	**	**	Complying for Irrigation Standards
13	Bimal Industries, Unit-II	Village Johron, Kala Amb	7.39	**	5	8.	**	**	**	**	**	**	**	**	Nil	**	**	**	**	Complying

S. No.	Name of the Unit	Address	pH	TDS	TSS	COD	BOD	Total Fe	Cr Total	Zn	Cu	Ni	Pb	Cd	O & G	Phenol	S	Cr $^{+6}$	PO_4	Compliance Status
Permissible Effluent Discharge Standards in mg/l (except pH)			**5.5 to 9.0**	**-**	**100**	**250**	**30**	**0.3**	**2**	**5**	**3**	**3**	**0.2**	**2**	**10**	**1**	**2**	**0.1**	**1**	
14	Blue Star Ltd. Unit-I	Village Moginand, Kala Amb	8.36	327	10	16	2.80	**	**	**	**	**	**	**	Nil	**	**	**	**	Complying
15	Blue Star Ltd. Unit-II	Village Rampur Jattan, Kala Amb	7.79	**	13	136	10	**	**	**	**	**	**	**	0.20	**	**	**	**	Complying
16	Bothra Metals	Village Kheri, Trilokpur Road, Kala Amb	7.30	**	48	60	**	**	0.20	0.83	ND	0.08	ND	ND	0.32	**	**	**	**	Complying
17	Care Cosmetics	Village Moginand, Kala Amb	7.79	**	38	164	22	**	**	**	**	**	**	**	0.60	**	**	**	**	Complying
18	CBM Industries	Village Kheri, Trilokpur Road, Kala Amb	7.56	**	3	8	**	0.10	**	**	**	**	ND	**	**	**	**	**	**	Complying
19	CS Zircon	Village Rampur Jattan, Kala Amb	7.47	**	25	20		**	**	**	**	**	**	**	Nil	**	**	**	**	Complying
20	Digital Vision	Village Ogli, Kala Amb	7.56	**	48	108	14	**	**	**	**	**	ND	**	0.16	0.74	0.80	**	0.24	Complying
21	Elnova Pharma	Village Moginand, Kala Amb	7.33	247	10	24	1.80	**	**	**	**	**	**	**	Nil	**	**	**	**	Complying
22	Five Star Health Care	Village Ogli, Kala Amb	7.81	**	45	92	10	**	**	**	**	**	**	**	0.16	**	**	**	**	Complying
23	Geeta Industries Ltd.	Village Rampur Jattan, Kala Amb	7.10	**	3	20	-	**	-	-	-	-	-	**	Nil	**	**	**	**	Complying
24	General Machine Tools	Village Johron, Kala Amb	7.04	**	15	100	12	**	ND	**	**	**	ND	**	Nil	ND	Nil	ND	0.28	Complying
25	Gnosis Pharma	Village Moginand, Kala Amb	7.57	**	22	140	18	**	**	**	**	**	ND	**	0.36	ND	0.80	**	0.20	Complying
26	Gold Plus Glass Industry	Village Johron, Kala Amb	7.59	**	19		**	**	**	**	**	**	**	**	Nil	**	**	**	**	Complying
27	Grampus Laboratories	Village Johron, Kala Amb	7.38	**	2	12	1.40	**	ND	**	**	**	ND	**	Nil	0.44	Nil	ND	0.21	Complying
28	Himachal Polyfins Ltd.	Village Khari, Sadhora Road, Kala Amb	8.88	**	7	32	**	**	**	**	**	**	**	**	Nil	**	**	**	**	Complying

S. No.	Name of the Unit	Address	pH	TDS	TSS	COD	BOD	Total Fe	Cr Total	Zn	Cu	Ni	Pb	Cd	O & G	Phenol	S	Cr $^{+6}$	PO_4	Compliance Status
Permissible Effluent Discharge Standards in mg/l (except pH)			**5.5 to 9.0**	**-**	**100**	**250**	**30**	**0.3**	**2**	**5**	**3**	**3**	**0.2**	**2**	**10**	**1**	**2**	**0.1**	**1**	
29	Indkus Biotech	Village Rampur Jattan, Kala Amb	6.60	**	**153**	**1248**	**680**	**	**	**	**	**	**	**	2.12	**	**	**	**	Non- Complying in First Sampling. Thereafter the unit has installed an Evaporator
30	Indo Rama Engineers	Village Rampur Jattan, Kala Amb	7.88	346	6	16	1.20	**	**	**	**	**	**	**	Nil	**	**	**	**	Complying
31	Integrated Labs	Village Moginand, Kala Amb	7.64	**	46	188	24	**	**	**	**	**	ND	**	0.32	0.24	Nil	**	0.46	Complying
32	JHS Svenguard	Village Kheri, Trilokpur Road, Kala Amb	8.20	**	4	32	2.8	**	**	**	**	**	**	**	Nil	**	**	**	**	Complying
33	Konark Enterprises	Village Moginand, Kala Amb	7.88	**	4	8	**	**	ND	**	**	**	**	**	Nil	**	**	**	**	Complying
34	Konark Fixtures	Village Moginand, Kala Amb	8.35	**	14	16	**	**	ND	**	**	**	**	**	Nil	**	**	**	**	Complying
35	Konark Herbal	Village Moginand, Kala Amb	8.22	**	15	96	8	**	**	**	**	**	**	**	Nil	**	**	**	**	Complying
36	Konark Product	Village Moginand, Kala Amb	7.89	**	8	76	**	**	0.08	**	**	**	**	**	Nil	**	**	**	**	Complying
37	Medisys Biotech	Village Moginand, Kala Amb	7.80	**	57	**332**	**72**	**	**	**	**	**	ND	**	0.36	0.34	1.20	ND	0.47	Complying for Irrigation Standards
38	MK Auto Clutch	Village Kheri, Trilokpur Road, Kala Amb	8.27	**	119	124	**	**38.6**	0.14	5.43	ND	0.33	ND	ND	0.92	**	**	**	**	Complying for Irrigation Standards
39	MMG Healthcare	Village Rampur Jattan, Kala Amb	6.77	**	24	224	18	**	ND	**	**	**	ND		0.48	ND	Nil	ND	0.26	Complying
40	Myron Industries Unit-I	Village Ogli, Kala Amb	7.68	**	7	36	2.2	0.11	**	**	**	**	**	**	Nil	**	**	**	**	Complying in Second Sampling
41	Myron Industries Unit-I	Village Ogli, Kala Amb	8.02	**	122	72	**	**	**	**	**	**	**	**	0.36	**	**	**	**	Non Complying in First Sampling
42	Orison Pharmaceuticals	Village Khari, Sadhora Road, Kala Amb	8.24	**	21	84	7	**	**	**	**	**	ND	**	Nil	ND	Nil	ND	0.21	Complying in Second Sampling

S. No.	Name of the Unit	Address	pH	TDS	TSS	COD	BOD	Total Fe	Cr Total	Zn	Cu	Ni	Pb	Cd	O & G	Phenol	S	Cr $^{+6}$	PO_4	Compliance Status
Permissible Effluent Discharge Standards in mg/l (except pH)			**5.5 to 9.0**	**-**	**100**	**250**	**30**	**0.3**	**2**	**5**	**3**	**3**	**0.2**	**2**	**10**	**1**	**2**	**0.1**	**1**	
43	Orison Pharmaceuticals	Village Khari, Sadhora Road, Kala Amb	7.64	**	112	**496**	**340**	**	**	**	**	**	**	**	1.88	**	**	**	**	Non Complying in First Sampling
44	Ovation Remedies	Village Johron, Kala Amb	7.93	**	28	156	18	**	**	**	**	**	**	**	0.48	**	**	**	**	Complying
45	Pashupati Spinning & Weaving Ltd.	Village Kheri, Trilokpur Road, Kala Amb	8.23	**	43	156	26	**	**	**	**	**	**	**	0.52	**	**	**	**	Complying
46	Pashupati Spinning & Weaving Ltd.	Village Kheri, Trilokpur Road, Kala Amb	7.61	**	83	116	18	**	ND	**	**	**	**	**	0.28	0.89	1.60	ND	**	Complying
47	Phoenix Udyog Pvt. Ltd.	Village Moginand, Kala Amb	8.57	**	12	36		**	**	**	**	**	**	**	Nil	**	**	**	**	Complying
48	Pidilite Industries Ltd., Unit-I	Village Moginand, Kala Amb	8.18	**	4.	80	5	**	**	**	**	**	**	**	Nil	**	**	**	**	Complying
49	Pidilite Industries Ltd., Unit-II	Village Rampur Jattan, Kala Amb	7.56	**	37	220	18	**	**	**	**	**	**	**	0.32	**	**	**	**	Complying
50	Pidilite Industries Ltd., Unit-III	Village Rampur Jattan, Kala Amb	7.78	136	9	8	1	**	**	**	**	**	**	**	Nil	**	**	**	**	Complying
51	Pioneer Embrioderies Ltd.	Village Kheri, Trilokpur Road, Kala Amb	8.28	**	5	12	2	**	**	**	**	**	**	**	Nil	**	**	**	**	Complying
52	Primus Pharmaceuticals	Village Khari, Sadhora Road, Kala Amb	9.16	**	13	100	8	**	**	**	**	**	ND	**	Nil	ND	Nil	**	0.39	Complying
53	Progressive Industries	Village Ogli, Kala Amb	7.60	**	3	20		**	**	**	**	**	**	**	Nil	**	**	**	**	Complying
54	Protect Telelink	Suketi Road Kala Amb	6.92	**	76	96	10	**	**	**	**	**	**	**	0.40	**	**	**	**	Complying
55	Pushkar Pharma	Village Kheri, Kala Amb	8.01	**	8	44	3	**	**	**	**	**	ND	**	Nil	ND	Nil	**	0.32	Complying
56	Rich Graviss Products (P) Ltd.	Village Rampur Jattan, Kala Amb	8.18	**	13	56	4	**	**	**	**	**	**	**	Nil	**	**	**	**	Complying
57	Ruchira Paper Ltd.	Trilokpur Road, Kala Amb	7.52	**	29	88	9	**	**	**	**	**	**	**	Nil	**	**	**	**	Complying

S. No.	Name of the Unit	Address	pH	TDS	TSS	COD	BOD	Total Fe	Cr Total	Zn	Cu	Ni	Pb	Cd	O & G	Phenol	S	Cr $^{+6}$	PO_4	Compliance Status
Permissible Effluent Discharge Standards in mg/l (except pH)			**5.5 to 9.0**	**-**	**100**	**250**	**30**	**0.3**	**2**	**5**	**3**	**3**	**0.2**	**2**	**10**	**1**	**2**	**0.1**	**1**	
58	Ruchira Paper Ltd.	Trilokpur Road, Kala Amb	7.56	929	89	228	20.00	**	**	**	**	**	**	**	**	**	**	**	**	Complying
59	Saboo Cylinders Pvt.	Trilokpur Road, Kala Amb	7.94	**	13	68	**	0.10	**	**	**	**	ND	**	Nil	**	**	**	**	Complying in Second Sampling
60	Saboo Cylinders Pvt. Ltd.	Trilokpur Road, Kala Amb	8.03	**	119	**736**	**	8.68	**	**	**	**	**	**	1.48	**	**	**	**	Non Complying in First Sampling
61	Sagar Katha Factory	Trilokpur Road, Kala Amb	7.33	**	34	60	5	**	**	**	**	**	**	**	**	**	**	**	**	Complying
62	Sai Corporation	Village Johron, Kala Amb	8.08	**	52	48	6	**	**	**	**	**	**	**	0.24	**	**	**	**	Complying
63	Sai Tech Medicare	Village Kheri, Trilokpur Road, Kala Amb	7.76	**	39	76	10	**	**	**	**	**	ND	**	0.16	ND	0.40	**	1.24	Complying
64	Sarv Bio Lab	Village Johron, Kala Amb	7.81	**	37	84	9.	**	**	**	**	**	ND	**	Nil	ND	Nil	ND	0.19	Complying
65	SBS Biotech Ltd.	Village Rampur Jattan, Kala Amb	7.46	**	117	**280**	22	**	ND	**	**	**	ND	**	0.52	ND	0.80	ND	1.91	Complying for Irrigation Standards
66	Sheela Foam Ltd.	Village Rampur Jattan, Kala Amb	7.35	**	69	76	10	**	**	**	**	**	**	**	0.30	**	**	**	**	Complying
67	Shivam Cotspin	Village Kheri, Trilokpur Road, Kala Amb	7.37	**	45	172	24	**	**	**	**	**	**	**	0.48	**	**	**	**	Complying
68	Shivam Enterprises	Suketi Road Kala Amb	7.68	**	19	92	8	**	**	**	**	**	ND	**	0.24	0.64	Nil	ND	0.23	Complying
69	Shri Krishna Steelage (P) Ltd.	Trilokpur Road, Kala Amb	8.17	**	19	16	**	ND	**	**	**	**	**	**	Nil	**	**	**	**	Complying
70	Sidhivinayak Industries	Village Johron, Kala Amb	6.62	**	37	**492**	**70**	**	ND	**	**	**	ND	**	0.64	ND	1.20	ND	2.16	Non Complying in First Sampling. Thereafter the unit has installed an Evaporator - zero discharge.
71	SNS Corporation	Village Rampur Jattan, Kala Amb	8.07	**	7	28	**	**	**	**	**	**	**	**	Nil	**	**	**	**	Complying
72	Sozin Flora Pharma	Village Moginand, Kala Amb	7.96	**	11	64	9	**	**	**	**	**	ND	**	Nil	ND	Nil	ND	0.22	Complying

S. No.	Name of the Unit	Address	pH	TDS	TSS	COD	BOD	Total Fe	Cr Total	Zn	Cu	Ni	Pb	Cd	O & G	Phenol	S	Cr $^{+6}$	PO_4	Compliance Status
Permissible Effluent Discharge Standards in mg/l (except pH)			**5.5 to 9.0**	**-**	**100**	**250**	**30**	**0.3**	**2**	**5**	**3**	**3**	**0.2**	**2**	**10**	**1**	**2**	**0.1**	**1**	
73	SPK Wire Products (P) Ltd.	Village Kheri, Trilokpur Road, Kala Amb	7.15	**	3	8	1.40	**	**	**	**	0.04	**	**	Nil	**	**	**	**	Complying
74	SPT Industries	Village Khari, Sadhora Road, Kala Amb	4.40	**	146	24	2.60	320	ND	3.94	ND	0.18	ND	ND	Nil	**	**	**	**	Non Complying and Second sample collected
75	Sunvet Pharma (P) Ltd.	Village Moginand, Kala Amb	7.76	**	18	72	9	**	**	**	**	**	ND	**	Nil	0.88	0.80	**	0.23	Complying
76	Symbiosis Pharmaceticals	Suketi Road Kala Amb	7.25	**	59	245	**55**	**	**	**	**	**	ND		1.04	0.20	Nil	ND	0.24	Non-Complying
77	Systole Remedies	Village Ogli, Kala Amb	7.77	**	46	100	12	**	**	**	**	**	ND	**	0.24	0.64	Nil	ND	0.34	Complying
78	United Biscuits (P) Ltd.	Village Khari, Sadhora Road, Kala Amb	7.06	**	27	12	2.2	**	**	**	**	**	**	**	Nil	**	**	**	**	Complying
79	Varav Biogenesis	Village Johron, Kala Amb	7.26	**	110	96	15	**	**	**	**	**	ND	**	0.28	ND	Nil	**	0.40	Complying
80	Vashishth Chemicals	Village Ogli, Kala Amb	8.38	**	52	64	**	**	**	**	**	**	**	**	Nil	**	**	**	**	Complying
81	Vinay Packaging	Village Rampur Jattan, Kala Amb	7.12	**	44	212	22	**	ND	**	**	**	ND	**	0.24	ND	1.60	ND	1.97	Complying
82	Virgo Aluminum Ltd.	Village Rampur Jattan, Kala Amb	7.44	**	8	44	3.8	**	**	**	**	**	**	**	Nil	**	**	**	**	Complying

B. List of Industries complying/non complying with the Effluent Discharge Standards in Parwanoo as per the inspections made during November 2018-January 2019

S No	Name of the Industrial unit	Sampling Point	pH	TSS	COD	BOD	O&G	Phenol	Sulphide	T.P	NH3-N	Cr+6	CN	Fe	Pb	Zn	T.Cr	Cu.	Ni	NO3-N	Compliance Status
Permissible Effkuent Discharge Standards in mg/l (except pH)			**5.5-9.0**	**100.0**	**250.0**	**30.0**	**10.0**	**1.0**	**2.0**	**1.0**	**10**	**0.1**	**0.2**	**3**	**0.1**	**5.0**	**2**	**3**	**3**	**10**	
1	Modulus Prefab Solutions Unit 2 Naryal Parwanoo	ETP FO	8.08	7	64	9	Nil	0.14	Nil	0.089	Nil	ND	ND	ND	ND	0.08	ND	ND	ND	**	Complying
2	Fujiyama Power Systam Naryal	STP FO	8.69	58	120	25	1.76	**	**	**	**	**	**	**	**	**	**	**	**	**	Complying
3	Microturner Sector 04 Village Naryal	STP FO	7.34	48	80	16	Nil	**	**	**	**	**	**	**	**	**	**	**	**	**	Complying
4	Microturner Sector 04 Village Naryal	ETP FO	8.06	21	64	10	Nil	Nil	NIL	0.054	Nil	ND	ND	ND	ND	3.85	ND	ND	ND	**	Complying
5	Visage Beauty & Health Care Village Naryal	FO -ETP cum STP	6.77	94	200	28	1.48	0.16	0.64	0.14	**	ND	ND	**	**	**	**	**	**	**	Complying
6	Total Healthcare, Vill Ambota, Sec 05 Parwanoo	ETP FO	7.25	14	160	20	1.96	0.37	Nil	0.32	**	ND	ND	**	ND	**	**	**	**	**	Complying
7	Hanuchem Labo unit-2, Plot no 13 Sector 05 Parwanoo	ETP FO	7.16	30	72	14	0.88	ND	ND	0.13	**	ND	ND	**	**	**	**	**	**	**	Complying
8	AVI Technologies, Plot no 16-17 Sector 05 Parwanoo	ETP FO	6.72	60	204	28	2.36	0.43	0.32	0.87	**	ND	ND	**	ND	**	**	**	**	**	Complying
9	Legen Healthcare, Plot no 20 Sec 05 Parwanoo	ETP FO	5.74	33	60	14	0.72	ND	Nil	0.094	**	ND	ND	**	ND	**	**	**	**	**	Complying
10	Haimi Agro Chemicals, Plot No 08 Sec 05 Parwanoo	ETP FO	8.32	54	104	25	Nil	0.19	Nil	0.11	**	ND	ND	**	ND	0.02	**	ND	**	0.324	Complying
11	Maxwell Pharma Plot 06 Sector 05 Parwanoo	ETP FO	7.75	10	52	10	Nil	ND	Nil	0.12	**	ND	ND	**	**	**	**	**	**	**	Complying
12	Gabriel India Sector - 02 Parwanoo	STP FO	8.25	4	1.3	28	Nil	**	**	**	**	**	**	**	**	**	**	**	**	**	Complying
13	Gabriel India Sector - 02 Parwanoo	ETP FO	8.07	2	2.8	24	Nil	ND	Nil	0.047	Nil	ND	ND	ND	ND	0.04	ND	ND	ND	**	Complying

S No	Name of the Industrial unit	Sampling Point	pH	TSS	COD	BOD	O&G	Phenol	Sulphide	T.P	NH3-N	Cr+6	CN	Fe	Pb	Zn	T.Cr	Cu.	Ni	NO3-N	Compliance Status
Permissible Effkuent Discharge Standards in mg/l (except pH)			**5.5-9.0**	**100.0**	**250.0**	**30.0**	**10.0**	**1.0**	**2.0**	**1.0**	**10**	**0.1**	**0.2**	**3**	**0.1**	**5.0**	**2**	**3**	**3**	**10**	
14	Federal Mogul India, Sec- 02 Parwanoo	ETP FO	7.23	**8.6**	76	6.4	0.8	ND	ND	ND		ND									Complying
15	Federal Mogul India, Sec- 02 Parwanoo	STP FO	6.45	10	32	4.5	Nil	Nil	Nil	0.074	Nil	ND	ND	ND	ND	ND	ND	ND	ND	**	Complying
16	Morepen Laboratories Ltd. Plot no 12 C Sec2 Parwanoo	ETP FO	6.52	11	104	25	2.16	1.16	Nil	0.21	**	ND	ND	**	**	**	**	**	**	**	Non-Complying. Show Cause Notice Issued
17	Aaggee Healthcraft, Plot No 12A Sector 02 Parwanoo	STP FO	7.76	2	40	3.5	Nil	ND	Nil	0.057	**	**	ND	**	ND	**	**	**	**	**	Complying
18	Balaji Powertronics Plot no 12 Sector 02 Parwanoo	STP FO	7.88	34	64	12	Nil	**	**	**	**	**	**	**	**	**	**	**	**	**	Complying
19	Universal Power Products Sc 02 Parwanoo	STP FO	7.72	25	48	11	Nil	**	**	**	**	**	**	**	**	**	**	**	**	**	Complying
20	Tafe Motors & Tarctors Ltd. Plot no 29 Sec 02 Parwanoo	ETP FO	7.38	19	164	27	0.66	0.24	Nil	0.15	Nil	ND	ND	ND	ND	0.09	ND	ND	ND	**	Complying
21	Real Care Life Sciences, Parwanoo	ETP FO	7.17	18.00	276.00	88.00	1.12	0.11	0.32	0.82	**	Nil	ND							0.82	Electricity Disconnected
22	KDDL, Parwanoo	STP FO	7.46	5.00	24.00	3.00	Nil			0	**				ND						Complying
23	KDDL, Parwanoo	ETP FO	7.78	6.20	132.00	19.30	2.10		ND	0.03		ND									Complying
24	Kapco International	ETP FO	7.91	10.00	28.00	4.00	Nil	Nil	Nil	0.28	**		ND		ND					0.28	Complying
25	Mile Stone Gears Pvt. Ltd	STP FO	7.37	7.00	52.00	7.30	0.80														Complying
26	Mahle Filters Pvt. Ltd. (Unit-II), Parwanoo.	ETP FO	3.51	24.40	204.00	43.00	2.50		ND	4.28		ND									Non-Complying. Show Cause Notice Issued
27	Mahle Filters Pvt. Ltd. (Unit-I), Parwanoo.	STP FO	6.77	4.60	28.00	6.00	0.60														Complying
28	Salico Trading Co. Parwanoo	ETP FO	7.79	5.00	28.00	2.00	Nil	Nil	Nil	0.22	**		ND	0.20	ND	0.12	ND	ND	ND	0.22	Complying

S No	Name of the Industrial unit	Sampling Point	pH	TSS	COD	BOD	O&G	Phenol	Sulphide	T.P	NH3-N	Cr+6	CN	Fe	Pb	Zn	T.Cr	Cu.	Ni	NO3-N	Compliance Status
Permissible Effkuent Discharge Standards in mg/l (except pH)			**5.5-9.0**	**100.0**	**250.0**	**30.0**	**10.0**	**1.0**	**2.0**	**1.0**	**10**	**0.1**	**0.2**	**3**	**0.1**	**5.0**	**2**	**3**	**3**	**10**	
29	Mahadev Pharmaceuticals, Parwanoo	ETP FO	6.91	263.40	148.00	21.50	2.40		ND	0.07		ND									Non-Complying. Show Cause Notice Issued
30	Krishnav Engineering Ltd., Parwanoo	ETP FO	7.96	7.00	24.00	3.50	Nil			0.2	**		ND	0.20		ND	ND	ND	ND	0.20	Complying
31	Ind Sphinix Limited, Sector-5, Parwanoo	STP FO	8.85	55.00	140.00	24.00	1.48			0	**										Complying
32	Salico Trading Company	ETP FO	7.6	1.2	56.0	5.1	0.6		ND	0.16		ND									Complying
33	Salico Trading Company	STP FO	6.98	56.8	56.0	6.5	0.5														Complying
34	SK Industries Unit II	ETP FO	7.9	95.6	40.0	6.0	0.7	ND	ND	0.06		ND									Complying
35	SK Industries Unit II	STP FO	7.5	42.8	92.0	8.8	1.0														Complying
36	Huhtamaki PPL	ETP FO	4.3	202.8	24.0	6.1	0.8		ND	0.7		ND									Non-Complying. Show Cause Notice Issued

Note: - Total No. of industries reported to be inspected as 142. Total analysis results provided is 118. 24 Dry visits made by the HPSPCB Officials.

Annexure - VII

A. List of Industries complying/non complying with the Effluent Discharge Standards in Chandigarh as per the inspections made during Jan, 2019

S. No	Name and Address of the Unit	Parameter	pH	TSS (mg/l)	COD (mg/l)	BOD (mg/l)	NH_3-N (mg/l)	PO_4-P (mg/l)	O& G (mg/l)	Al (mg/l)	Cu (mg/l)	Zn (mg/l)	Cd (mg/l)	Pb (mg/l)	Ni (mg/l)	Total Cr (mg/l)	Sn (mg/l)	Ag (mg/l)	STATUS of COMPLIANCE
		Permissible Limits in mg/l (except pH)	**6.0-9.0**	**100**	**....**	**....**	**50**	**5**	**10**	**5**	**3**	**5**	**2**	**0.1**	**3**	**2**	**2**	**...**	
1	Khanna Sanitations Pvt.Ltd, Plot No. 121, Indl. Area Ph-I, Chandigarh	Electroplating	8.50	486	**....**	....	2.74	0.29	1.3	<1	0.103	<0.1	0.016	<0.1	<0.5	0.515	BDL	BDL	COMPLIED
2	H.S.Fastners, Plot No. 316, Indl. Area Ph-I, Chandigarh	Electroplating	8.25	205	....	....	7.02	0.55	<1	<1	0.113	0.192	0.017	<0.1	<0.5	<0.5	BDL	BDL	COMPLIED
3	Groz Beckert Asia Pvt.Ltd, Plot No. 177-A, Indl. Area, Ph-I, Chandigarh	Electroplating	8.89	118	....	....	5.43	0.03	<1	<1	<0.1	<0.1	<0.01	<0.1	<0.5	1	BDL	BDL	COMPLIED
4	Deepak Fasteners, 136-140/57 Indl. Area Ph-I, Chandigarh	Electroplating	9.60	179	....	....	10.65	0.03	<1	<1	0.114	0.182	<0.01	<0.1	0.95	3.153	BDL	BDL	NON-COMPLYING
5	Srijan Exports, Plot No. 280, Indl. Area Ph-I, Chandigarh	Electroplating	2.90	38	204	47	6.42	0.23	<1	<1	<0.1	30.4	0.066	0.76	449	12.8	BDL	BDL	NON-COMPLYING
6	Thapar Industries, Plot No. 335, Indl. Area Ph-I, Chandigarh	Electroplating	7.50	190	266	59	3.25	0.30	<1	<1	<0.1	57.9	0.023	<0.1	<0.5	<0.5	BDL	BDL	NON-COMPYING
7	S.G.Industries Plot No. 3106, Indl.Area Ph-II, Chandigarh	Electroplating	6.80	200	....	....	47	0.80	<1	<1	<0.1	0.195	<0.01	<0.01	<0.5	<0.5	BDL	BDL	COMPLIED

B. List of Industries complying/non complying with the Effluent Discharge Standards in Chandigarh as per the inspections made during January 2019

S No.	Name of the Unit Address	Parameter	pH	TSS (mg/l)	COD (mg/l)	BOD (mg/l)	NH_3-N (mg/l)	PO_4-P (mg/l)	O& G (mg/l)	STATUS OF COMPLIANCE
		Permissible Limits in mg/l except pH	**5.5-9.0**	**600**	**...**	**350**	**50**	**....**	**20**	
1	AB Motors Plot No. 53, Indl. Area Ph-II, Chd	Service Station	7.50	13	114	38	2.48	0.22	<1	Complied
2	KLG Enterprises (Hotel KLG) Plot No. 51, Indl. Area Ph-II, Chd	Hotel	7.18	10	58	29	0.37	0.03	<1	Complied
3	Krishna Automobiles Plot No. 177-E, Indl. Area Ph-I, Chd	Service Station	7.31	189	219	111	3.60	0.39	2.5	Complied
4	Em Pee Motors Ltd. Plot No. 177-H, Indl. Area Ph-I, Chd	Service Station	7.17	80	276	50	3.60	0.28	3.5	Complied
5	Rock & Storm Bottlers Pvt. Ltd. Plot No. 214, Indl. Area Ph-I, Chd	Bottling Plant	6.31	59	13800	6750	2.91	0.19	1.3	Non-Complied
6	Kujjal Builders Hotel (The Lalit) RGCTP, Kishangarh	Hotel	7.56	187	495	123	6.34	0.50	<1	Complied
7	DLF Info City Developers (Chandigarh) Ltd PLOT NO. 2, RGCTP, Kishangarh	IT Industry	7.03	20	59	31	6.34	6.02	<1	Complied
8	Infosys Limited PLOT NO.1, RGCTP, Kishangarh	IT Industry	7.14	12	66	23	45.12	2.09	<1	Complied
9	Tech Mahindra Ltd. PLOT NO.23 (SEZ) PH-II, RGCTP, Kishangarh	IT Industry	7.37	35	79	42	37.67	3.92	1	Complied
10	Punjab State Co-op. Milk Producer's Fed Ltd. (Milk Plant Verka), Indl. Area, Ph-I, Chd.	Milk Plant	8.14	116	153	56	2.48	1.78	2.3	Complied
11	Freaking Amazing Foods Pvt. Ltd. SCO 32, Sec 26, Chd	Micro Brewery	6.95	17	13	4	1.85	0.27	<1	Complied
12	Lemon Tree Hotels Plot No. 3 (MW), Indl. Area Ph-I, Chd	Hotel	7.90	109	375	165	38.72	2.04	<1	Complied
13	Hind Inns & Hotels Ltd. Plot No. 15, Indl. Area Ph-I, Chd	Hotel	7.15	15	64	18	18.90	1.23	<1	Complied
14	PASCO Motors Plot No. 2, Indl. Area Ph-I, Chd	Service Station	7.05	17	88	21	3.85	0.32	1.1	Complied

15	Charisma Goldwheels Plot No. 7, Indl. Area Ph-I, Chd	Service Station	6.95	112	223	63	3.00	0.41	1.8	Complied
16	Sterling Mobikes Pvt. Ltd. Plot No. 167, Indl. Area Ph-I, Chd	Service Station	7.10	8	36	11	1.51	0.56	<1	Complied
17	Lally Motors Ltd. Plot No. 6, Indl. Area Ph-I, Chd	Service Station	7.05	173	247	71	3.42	0.64	1.3	Complied
18	G.M.P. Motors Plot No. 128, Indl. Area Ph-I, Chd	Service Station	7.05	13	106	45	4.88	0.38	<1	Complied
19	Modern Automoblies Plot No. 4 (MW), Indl. Area Ph-I, Chd	Service Station	6.95	30	127	36	5.05	0.4	<1	Complied

Annexure-VIII

Industry-wise status report of 48 industrial units located in the catchment area of river Ghaggar in Punjab State

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
2.	M/s Bhandari Exports Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	14/12/2018	**Parameters**	**From final outlet of ETP**			**Not complying**	• Due to non-providing of proper distribution network of pipes in the plantation area, some part of the plantation area was noticed totally dry and in other part there was stagnation of wastewater in the furrows. • There was wild growth of weeds in the plantation area • The sludge beneath the decanter was lying in the shape of a big heap due to which it was seen spreading beyond the pucca floor. Therefore, to rule out the possibility to contaminate the sub-soil with leachate of the sludge, the industry is required to
			pH	8.1		6.5-8.5		
			TSS	21		100		
			TDS	**2283**		2100		
			COD	32		250		
			BOD	5		30		
			Ammonical Nitrogen	0.7		50		
			SAR	8		26		
			Sulphide	BDL		2		
			Oil & Grease	BDL		10		
			Phenolic Compound	BDL		1		
			Total Chrome	BDL		2		

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. • provide wall all along the floor where the sludge after decanter is collected. • There were no sludge drying beds to dry the sludge after decanter to reduce its moisture contents and the industry was advised to provide the same at the earliest possible. • The industry was advised to provide a pipeline for carrying wastewater generated from hydro installed in dyeing section, the wastewater of which is presently coming through a channel where there is a possibility of entrance of rainwater and boiler ash.
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
			Color Co-Pt Scale	100		150		
3.	M/s Rana Polycot Ltd., Village Alamgir, Teh. Dera Bassi, Distt. Mohali	5/12/2018	**Parameter**	**Final outlet of ETP**			**Not complying**	• Due to non-providing of proper distribution network of pipes in the plantation area, some part of the plantation area was noticed totally dry and in other part, there was stagnation of wastewater in the furrows. • There was wild growth of weeds in the plantation area.
			pH	8.4		6.5-8.5		
			TSS	28		100		
			TDS	**2468**		2100		
			COD	58		250		
			BOD	16		30		
			Oil & Grease	BDL		10		

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
			Sulphide	BDL		2		
			Ammonical Nitrogen	BDL		50		
			Phenolic Compound	BDL		1		
			SAR	12.4		26		
			Total Chrome	BDL		2		
4.	M/s Nahar Spinning Mills Ltd., (M&D), Village Jalalpur, Teh. Dera Bassi, Distt. Mohali	26/12/2018	**Parameter**	Final outlet leading to plantation area	Outlet of Carbon filter		**Not complying**	• Some plantation area was found stagnated and wild growth of weed was also observed in plantation area. • Some plantation area was found dried. • Treated water distribution in plantation area was not uniform.
			pH	7.9	7.8	6.5-8.5		
			TSS	**223**	17	100		
			TDS	**2348**	**2292**	2100		
			COD	171	76	250		
			BOD	**59**	23	30		
			Ammonical Nitrogen	BDL	BDL	50		
			SAR	**38.7**	**31.0**	26		
			Sulphide	1.8	1.4	2		

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
			Oil & grease	BDL	BDL	10		
			Phenolic Compounds	BDL	BDL	1		
			Total Chrome	BDL	BDL	2		
			Color Co-Pt Scale	30	40	150		
5.	M/s Nahar Industrial Enterprises Ltd., (Process House-1), Village Jalalpur, Teh. Dera Bassi, Distt. Mohali	17/12/2018	**Parameters**	**From Outlet of ETP**	**From plantation area under stagnation**		**Not Complying**	• The industry was transferring untreated effluent into collection tank and other components of the old ETP, which is not in use. • The industry has provided bypass/outlet line near collection tank area, which shows that the industry can discharge effluent through this bye-pass line, but no effluent was going at the time of visit. • The wastewater distribution in plantation area was not uniform due to which stagnation of treated wastewater was noticed during visit. • There was wild growth of weeds in the plantation area.
			pH	**8.5**	**8.7**	6.5-8.5		
			TSS	**438**	**204**	100		
			TDS	**2875**	**5013**	2100		
			COD	**486**	**593**	250		
			BOD	**153**	**201**	30		
			Ammonical Nitrogen	2.1	14	50		
			SAR	18.3	**42**	26		
			Sulphide	BDL	**207**	2		
			Oil & grease	BDL	BDL	10		
			Phenolic Compounds	BDL	BDL	1		

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
			Total Chrome	0.63	BDL	2		
6.	M/s Nahar Industrial Enterprises Ltd., (Process House -2), Village Jalalpur, Teh. Dera Bassi, Distt. Mohali	10/12/2018	**Parameters**	**From Outlet of ETP**	**From internal drain leading to Hasanpur drain**		**Not Complying**	• Some quantity of untreated effluent was being discharged into Hassanpur drain through storm water drain. This drain meets Jharmal Choe which eventually leads to river Ghaggar. • The wastewater distribution in plantation area was not uniform due to which stagnation of treated wastewater was noticed during visit. • There was wild growth of weeds in the plantation area. • Growth of grass was noticed in the sludge drying beds. • Sludge thickener was not in operation.
			pH	8.2	**9.1**	6.5-8.5		
			TSS	**164**	**127**	100		
			TDS	**3574**	**2417**	2100		
			COD	**749**	**539**	250		
			BOD	**134**	**108**	30		
			Ammonical Nitrogen	14	BDL	50		
			SAR	**28**	22.6	26		
			Sulphide	**12**	**9**	2		
			Oil & grease	3.2	BDL	10		
			Phenolic Compounds	1	BDL	1		
			Total Chrome	BDL	BDL	2		
			Color Co-Pt Scale	**180**	**200**	150		
7.	M/s Oswal Denim Ltd., Nahar Complex, Lalru,	28/12/2018	Parameters	Outlet of ETP			**Not complying**	• The pumping station for transferring the wastewater from collection tank to
			pH	7.3		6.5-8.5		

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
	Teh. Dera Bassi, Distt. Mohali							equalization tank was lying out of order due to which the wastewater was being transferred by providing temporary arrangement having flexible pipes. • Chemical dosing in the ETP was being imparted manually instead of mechanized system. • RO plant of ETP section was not in use and was lying disconnected. • Filter press was found submerged with wet sludge. • Sludge was stored in an unscientific manner in open area. • Sludge drier was found not in operation. • The industry has provided stack with the drier of plastic pipe and without any sampling arrangement. • House-keeping was poor.
			TSS	88		100		
			TDS	**4520**		2100		
			COD	**264**		250		
			BOD	**84**		30		
			Ammonical Nitrogen	BDL		50		
			SAR	**39**		26		
			Sulphide	**08**		2		
			Oil & grease	BDL		10		
			Phenolic Compounds	BDL		1		
			Total Chrome	BDL		2		
			Color Co-Pt Scale	**160**		150		
8.		4/12/2018	Parameters	Outlet of ETP			Complying	• The industry has not provided any mechanized system for imparting dozing of
			pH	7.7		6.5-8.5		

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. • chemicals in the physico-chemical treatment. • Stagnation of treated wastewater was noticed in some pockets in the plantation area developed within the premises of the unit. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • There was wild growth of weeds in the plantation area.
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
	M/s Rainbow Denim Ltd., Village Choundheri, Teh. Dera Bassi, Distt. Mohali		TSS	20		100		
			TDS	1015		2100		
			COD	60		250		
			BOD	18		30		
			Oil & grease	BDL		10		
			Sulphide	BDL		2		
			Ammonical Nitrogen	BDL		50		
			Phenolic Compounds	BDL		1		
			SAR	8.7		26		
			Total Chrome	BDL		2		
9.	M/s Mirha Exports Ltd., Village Jaula Khurd, Teh. Dera Bassi, Distt. Mohali	7/8/2018	Parameters	Outlet of ETP	Plantation area		**Not Complying**	• Stagnation of wastewater was noticed in the plantation area.
			pH	3.6	7.9	6.5-8.5		
			TSS	**52**	**448**	50		
			TDS	1846	1506	2100		
			COD	88	**826**	250		
			BOD	18	**305**	30		
			Oil and Grease	BDL	**13.1**	10		

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
			MLSS	5400	-	-		
			MLVSS	3680	-	-		
10.	M/s SHL Agro Foods (P) Ltd., Village Jaula Khurd, Teh. Dera Bassi, Distt. Mohali	17.9.2018	Parameters	Outlet of ETP			Complying	• 1. Distribution of treated effluent in plantation area was not proper. • 2. The industry has installed 3 no. pumps in treated water tank for the discharge of treated effluent in plantation area and was advised to provide common header line with these pumps and further utilization of treated wastewater through a single pipeline.
			pH	7.7		6.5-8.5		
			TSS	14		50		
			TDS	618		2100		
			COD	42		250		
			BOD	12		30		
			Oil & Grease	BDL		10		
11.	M/s Cadchem Lab. Ltd., Village Jaula Khurd, Teh. Dera Bassi, Distt. Mohali	28/12/2018	Parameter	Outlet of ETP (from Board Lab)	Outlet of ETP (From PBTI)		**Not Complying**	• Stagnation of treated wastewater was observed in the plantation area. • The industry has not maintained the plantation area in proper manner for scientific disposal of treated wastewater.
			pH	6.9	7.2	6.0-8.5		
			TSS	09	6.4	100		
			BOD	10	7.5	100		
			Cyanide	BDL	BDL	0.1		

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
			Bio-Assay	**0% survival of fish in 100% effluent after 96 hours**	**70% survival of fish in 100% effluent after 96 hours**	90% survival of fish in 100% effluent after first 96 hours		
			Oil & grease	BDL	BDL	10		
			Chromium	BDL	BDL	0.10		
			As	BDL	BDL	0.20		
			Hg	BDL	BDL	0.01		
			Phenolic Compounds	BDL	BDL	1		
			Sulphide	BDL	BDL	2		
			Phosphate	**22.5**	-	5		
12.	Parabolic Drugs Ltd., Village Chachrouli, Dera Bassi	Lying Closed						

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater					Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation				**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6			6.5-8.5		
			TSS	21	50			100		
			TDS	2089	**2690**			2100		
			COD	119	200			250		
			BOD	24	**42**			30		
			Oil & Grease	BDL	BDL			10		
			Sulphide	BDL	**24**			2		
			Ammonical Nitrogen	BDL	11.9			50		
			Phenolic Compound	BDL	BDL			1		
			SAR	8.7	9.3			26		
			Total Chrome	BDL	BDL			2		
13.	Punjab Chemical & Crop Protection Ltd (Pharma Division), (Old name Alpha Drugs Ltd.), Village Samalheri, Dera Bassi	Visited by the EPS team on 12.11.2018	Parameters	MEE Feed	MEE condensate	MEE Concentrate	Low TDS collection tank	As such the industry is using the MEE condensate into cooling tower. Therefore, no trade effluent is discharged.	**Not complying as the MEE is not achieving the desired efficiency of 25-30%.**	• The house-keeping near the MEE was not upto the mark.
			pH	8.4	7.8	8.2	6.4			
			TSS	660	32	750	368			
			TDS	41162	530	47638	39894			
			COD	250720	303	-	9024			
			BOD	3856	51	-	1714			
			Oil & grease	BDL	BDL	-	BDL			
			Phosphate	-	0.95	-	-			

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater					Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation				**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6			6.5-8.5		
			TSS	21	50			100		
			TDS	2089	**2690**			2100		
			COD	119	200			250		
			BOD	24	**42**			30		
			Oil & Grease	BDL	BDL			10		
			Sulphide	BDL	**24**			2		
			Ammonical Nitrogen	BDL	11.9			50		
			Phenolic Compound	BDL	BDL			1		
			SAR	8.7	9.3			26		
			Total Chrome	BDL	BDL			2		
			Sulphide	-	1.6	-	-			
			Cyanide	-	BDL	-	-			
			Phenolic compounds	-	BDL	-	-			
			Bio-Assay	-	**40 % survival of fish in 100 % effluent after 96 hrs.**	-	-			
14.	Nectar Lifesciences Ltd. Unit-2 (Old Name Surya Medicare Ltd.), Village Saidpura, Dera Bassi	The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 passed in OA no. 30 & 33 of 2013. Thereafter, the Hon'ble NGT has allowed the industry to operate and directed the CPCB to visit the industry fortnightly. The CPCB is monitoring the industry as per the order of Hon'ble NGT on fortnightly basis.								

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
15.	Allychem Laboratories (P) Ltd, E-68-69, focal point, Dera Bassi	The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 passed in OA no. 30 & 33 of 2013.						
16.	Essix Biosciences Ltd., B-4 & 5, Focal Point, Dera Bassi	The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 passed in OA no. 30 & 33 of 2013. Thereafter, the Hon'ble NGT has allowed the industry to operate and directed the CPCB to visit the industry fortnightly. The CPCB is monitoring the industry as per the order of Hon'ble NGT on fortnightly basis.						
17.	Vardhman Chemtech Ltd., Focal Point, Dera Bassi.	**Lying Closed**						
18.	Anuja Healthcare Ltd. (Old name Anuja Impex (P) Ltd.), C-26 & C-31, Focal Point, Dera Bassi	The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 passed in OA no. 30 & 33 of 2013.						
19.	Nectar Lifesciences Ltd. Unit-1 (Old Name Surya Medicare Ltd), Village Saidpur, Dera Bassi	The effluent generated from the Nectar Lifesciences Unit-1 is being treated through the ETP/MEE installed in Unit-2. The unit-2 was closed by the Hon'ble NGT vide order dated 25.10.2018 passed in OA no. 30 & 33 of 2013. Thereafter, the Hon'ble NGT has allowed the industry to operate and directed the CPCB to visit the industry on fortnightly basis. The CPCB is monitoring the industry as per the order of Hon'ble NGT fortnightly.						
20.	ARK Healthcare, D-12, Focal Point, Dera Bassi	The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 passed in OA no. 30 & 33 of 2013.						
21.		25/12/2018	Parameter	Outlet of ETP				

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater						Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation					**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6				6.5-8.5		
			TSS	21	50				100		
			TDS	2089	**2690**				2100		
			COD	119	200				250		
			BOD	24	**42**				30		
			Oil & Grease	BDL	BDL				10		
			Sulphide	BDL	**24**				2		
			Ammonical Nitrogen	BDL	11.9				50		
			Phenolic Compound	BDL	BDL				1		
			SAR	8.7	9.3				26		
			Total Chrome	BDL	BDL				2		
	M/s Panacea Biotec Ltd.,Village Samalheri, Teh. Dera Bassi, Distt. Mohali		pH	**3.67**					6.0 - 8.5	**Not Complying**	• Flow of water containing traces of oil / grease / solvents was noticed in the storm water channel leading to a pucca trench adjoining to the boundary wall of the unit. The water containing oil may overflow from this trench resulting its way into river Ghaggar. • Dosing of chemicals was being imparted manually. The industry was advised to provide mechanized system for dozing of chemicals.
			TSS	67					100		
			O & G	**43**					10		
			BOD	4.3					100		
			COD	86					-		
			TDS	3961					2100		
			Dissolved phosphates	BDL					5.0		
			Bio-assay	100% fish survived upto 96 hrs. in 100% effluent					90% fish survived upto 96 hrs. in 100% effluent		
22.	Yashwani Enterprises, E-74, Focal Point, Dera Bassi	The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 passed in OA no. 30 & 33 of 2013.									
23.	Punjab Chemicals & Crop Protection Ltd (Agro	Visited by the CPCB on 12.09.2018	Parameter	Raw Effluent	MEE inlet	MEE Outlet	STP Outlet	As such the industry		Complying	• The unit was observed complying with ZLD regime.
			pH	5.01	7.01	6.86	7.41				

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater						Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation					**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6				6.5-8.5		
			TSS	21	50				100		
			TDS	2089	**2690**				2100		
			COD	119	200				250		
			BOD	24	**42**				30		
			Oil & Grease	BDL	BDL				10		
			Sulphide	BDL	**24**				2		
			Ammonical Nitrogen	BDL	11.9				50		
			Phenolic Compound	BDL	BDL				1		
			SAR	8.7	9.3				26		
			Total Chrome	BDL	BDL				2		
	Division)., Village Bhankharpur, Dera Bassi		TSS	957	1668	26	19	is using the MEE condensate into cooling tower. Therefore, no trade effluent is discharged.			
			TDS	54156	52340	180	196				
			COD	49100	57481	66	49				
			BOD	29760	11658	25	02				
24.	Sarwal Pharmaceuticals, F-14, Focal Point, Dera Bassi	The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 passed in OA no. 30 & 33 of 2013.									
25.	Austin Pharmaceuticals, E-40, Focal Point, Dera Bassi	Visited by the CPCB in the month of September, 18 in compliance to the orders passed by the Hon'ble NGT in OA no. 30 & 33 of 2013. The Hon'ble NGT ordered to close down the unit on 25.10.18. Further, the Hon'ble NGT directed the CPCB to re-visit the industry before 31.12.2018. The case is pending before the Hon'ble NGT.									

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
26.	Ticoma Pharmacia, E-47, Focal Point, Dera Bassi	The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 passed in OA no. 30 & 33 of 2013. Thereafter, the Hon'ble NGT has allowed the industry to operate and directed the CPCB to visit the industry fortnightly. The CPCB is monitoring the industry as per the order of Hon'ble NGT on fortnightly basis.						
27.	M/s Steel Strips Wheels (P) Ltd., Village Lehli, Teh. Dera Bassi, Distt. Mohali	7/9/2018	Parameter		**Plantation area**		Not Complying	• Stagnation of wastewater was noticed in the plantation area at some places. • ETP sludge was found stored in open in shape of heaps in the sludge drying beds near the ETP area.

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
			pH	**9.96**	7.04	5.5-9		
			TSS	**383**	**603**	200		
			Oil and grease	**28**	6.1	10		
			Fe	**38.71**	**77.21**	3		
			BOD	**157**	**158**	100		
			COD	448	400	-		
			Total phosphate	1.2	1.2	8.0		
			TDS	**19910**	**16765**	2100		
			Chloride	**5598**	**6048**	1000		
			Sulphate	600	650	1000		
28.	Prerna Strips, Village Bhankharpur, Dera Bassi	29.11.2018	**Closed temporarily on its own**					

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
29.	Kiran Industries (Vipan Kumar), F-19, Focal Point, Dera Bassi	03.12.2018	-	-	-	-	Complying	• The industry is engaged in the business of Electroplating on job basis and the entire wastewater is being got lifted by operator of the CETP at Ludhiana. The industry is meeting out its water requirements through PSIEC water supply only.
30.	Kamal Hi-tech Engineers (P) Ltd, B-10-11, Focal Point, Dera Bassi	29.11.2018	-	-	-	-	Complying	• The industry is an electroplating unit and the effluent is got lifted by M/s JBR Technologies Pvt. Ltd., Ludhiana.
31.	Morff International, E-27, Focal Point, Dera Bassi	The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 passed in OA no. 30 & 33 of 2013.						
32.	Kaura Inds.Corp., D-2, Focal Point, Dera Bassi	29.11.2018	-	-	-	-	Complying	• The industry is engaged in the business of zinc plating and the entire trade effluent generated is being got lifted by operator of CETP at Ludhiana. The industry has not installed any submersible / tubewell in its premises. Therefore, ground water sampling could not be carried out. The industry is taking entire fresh water from PSIEC tubewell.

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
33.	A.R. Fastners, E-71, Indl. Focal Point, Dera Bassi	14.12.2018	-	-	-	-	Complying	• The industry is carrying hot dip galvanizing process and the trade effluent generated from acid pickling section is being given to the operator of CETP at Ludhiana.
34.	Piyanshu chemicals (P) Ltd., D-22A & D-23, Focal Point, Dera Bassi	03.12.2018	-	-	-	-	Complying	• The industry generates only a nominal quantity of trade effluent for which the industry has installed electric evaporator followed by pan evaporator. • The industry is meeting out its water requirements through PSIEC water supply only. • The industry was also visited by CPCB and it was found compliant.
35.	Varindra Organics (P) Ltd., D-24, Focal Point, Dera Bassi	06.12.2018	-	-	-	-	Complying	• The industry was not in operation as it operates off and on. • The industry uses treated wastewater in the cooling tower. • As such, it does not discharge any kind of trade effluent.

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
36.	Power Chem Plast Ltd.(Formerly Power Drugs Ltd), C-25, Focal Point, Dera Bassi	• The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 passed in OA no. 30 & 33 of 2013.						
37.	M/s Vishal Paper Tech Ltd., Village Mubarakpur, Teh. Dera Bassi, Distt. Mohali	25/12/2018	-	-	-	-	Complying	• Samples could not be collected as the industry was re-circulating its entire treated trade effluent into process stream. • The industry has installed two pipelines for utilization of treated wastewater in the process. However, water meter has been provided only on one line. Therefore, to carry out mapping of treated wastewater, the industry was advised to provide the water meter on other line also.
38.	Nachiketa Papers Ltd., Village Mubarikpur, Dera Bassi	30.10.2018	-	-	-	-	-	• Visited by Hon'ble Executing Committee on 30.10.18.
39.	Molson Coors india (P) Ltd. (Old name Mount Shivalik Breweries),	28.12.2018	Parameter	Rain water harvesting pit	Treated trade effluent leading to plantation area	Prescribed standards	Complying	•

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
	Village Bhankharpur, Dera Bassi		pH	7.9	8.0	5.5-9.0		
			TSS	18	28	100		
			BOD	8	11	100		
40.	Chandigarh Distillers & Bottlers Ltd., Banur	21.08.2018		Water discharged into drain from plantation area	From the drain passing from inside of industry near bridge		**Non-complying**	• The industry is illegally discharging its effluent from the plantation area into nearby drain. • The plantation area was found fully submerged with the effluent and no ridges / furrow were seen in the plantation area under Karnal technology. • The effluent samples were collected from 02 no. points i.e. from the drain near the plantation area and the drain passing inside of the industry. The analysis results revealed that the concentration of pollutants such as TSS, TDS, COD and BOD was beyond the permissible limits prescribed for such units and thus th e industry had violated the
			pH	7.6	6.9	6.0-9.0		
			TSS mg/l	**1025**	**280**	100		
			TDS mg/l	**2531**	768	2100		
			COD mg/l	**2700**	**860**	250		
			BOD mg/l	**1080**	**220**	100		
			Oil & Grease mg/l	9.4	6.2	10		

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. • conditions of the consent granted to it under Water (Prevention & Control of Pollution) Act, 1974.
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
41.	M/s Rama Industries, Village Choundheri, Teh. Dera Bassi, Distt. Mohali	4/12/2018	Parameters	Outlet of ETP			Complying	• The level of the weir of the secondary clarifier was uneven due to which its entire circumference was not being utilized. The industry was advised to make the level of the weir uniform for equal distribution of treated wastewater along its circumference.
			pH	7.4		6.5-.8.5		
			TSS	52		100		
			TDS	2086		2100		
			BOD	8		30		
			Oil & grease	BDL		10		
			COD	48		250		
42.	Patiala Distillers & Mfrs. Pvt. Ltd., Vill. Main, Patiala.	03.12.2018	Parameters	Outlet of ETP			Complying	• ETP was in operation. • The industry has procured equipment for conversion of the unit into ZLD. • The industry was required to convert into ZLD by 31.12.2018 but the work is expected to be completed by 31.03.2019. • The plantation w.r.t ridges and furrows needs improvement.
			pH	8.21		5.5 – 9.0		
			TSS	47		100		
			BOD	65		100		

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
43.	Vishal Coater Pvt. Ltd., Vill. Khusropur, Patiala.	07.12.2018	Parameters	Outlet of ETP		Prescribed limits	Complying Common ETP installed in the premises of M/s Vishal Paper Industries Pvt ltd.	• Common ETP has been installed for the treatment of wastewater generated from the industries namely M/s Vishal coaters Pvt Ltd and M/s Vishal Paper industries. was in operation. • The plantation area w.r.t. ridges and furrows needs improvement.
			pH	7.44		7.0-8.5		
			TSS	19		500		
			BOD	18		30		
			COD	144		350		
44.	Vishal Paper Industries Pvt. Ltd., Vill. Khusropur, Patiala.	07.12.2018	Parameters	Outlet of ETP			Complying Common ETP installed in the premises of M/s Vishal Paper Industries Pvt Ltd.	• Common ETP has been installed for the treatment of wastewater generated from the industries namely M/s Vishal coaters Pvt Ltd and M/s Vishal Paper industries was in operation. • The plantation area w.r.t. ridges and furrows needs improvement.
			pH	7.44		7.0-8.5		
			TSS	19		500		
			BOD	18		30		
			COD	144		350		
45.	SSG Paper Mills, Vill. Khusropur, Maine Road, Patiala.	04.12.2018	Parameters	Outlet of ETP			Complying	• The ETP was in operation. • The unit has recently installed sedicell for improvement in the treatment of wastewater.
			pH	7.51		5.5-9.0		
			TSS	13		100		
			BOD	14		100		

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. • • The sludge generated is reuse in the process. However, no record is being maintained by the industry. • The industry was advised to maintain the same.
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
			Sodium Absorption Ratio	3.08		26		
46.	Shree Swami Card Board Mills, Bhanri Road, Vill. Main, Distt. Patiala.	04.12.2018	Recirculation	Recirculation			Complying	• The industry is recirculating its entire wastewater from the process and thus no ETP is required to be installed by the unit. • The industry has not constructed any shed for the handling of paper industry sludge as per the SOP laid down by the Board.
47.	Mittal Card Board Mills, Vill. Main, Tehsil and Distt. Patiala.	04.12.2018	Recirculation	Recirculation			Complying	• The industry is recirculating its entire wastewater from the process and thus no ETP is required to be installed by the unit. • The industry has constructed any shed for the handling of paper industry sludge as per the SOP laid down by the Board.
48.		08.12.2018	Parameters	Outlet of ETP			Complying	

S.N.	Name of the industry	Date of sampling	Detail of Analysis of the wastewater			Prescribed Standards	Compliance Status	Main observations noted during visit
1.	M/s T.C. Terrytex Ltd., Village Sarsini, Teh. Dera Bassi, Distt. Mohali	5/12/2018 and 15/12/2018	Parameters	From outlet of ETP	From plantation under stagnation		**Not complying**	• Stagnation of treated wastewater was noticed in the plantation area developed within the premises of the unit. • Also stagnation of treated wastewater was noticed in some pockets of the plantation area developed outside the industrial premises. • The industry has not provided permanent distribution network of pipelines for scientific disposal of treated wastewater in the plantation area. • The industry has not installed any flow meter on the pipeline through which the permeate of RO is used in the processes. •
			pH	7.8	7.6	6.5-8.5		
			TSS	21	50	100		
			TDS	2089	**2690**	2100		
			COD	119	200	250		
			BOD	24	**42**	30		
			Oil & Grease	BDL	BDL	10		
			Sulphide	BDL	**24**	2		
			Ammonical Nitrogen	BDL	11.9	50		
			Phenolic Compound	BDL	BDL	1		
			SAR	8.7	9.3	26		
			Total Chrome	BDL	BDL	2		
	DSG Paper Mill, Vill. Bhanri Road, Maine Road, Patiala.		pH	7.5		7.0-8.5		• ETP was in operation. • The plantation w.r.t ridges and furrows needs improvement. • The unit has installed sedicell to treat a part of wastewater generated from the process. • The industry has procured equipment related to Polydisc filter which will reduce the wastewater generation.
			TSS	74		500		
			COD	252		350		
			BOD	27		30		

Annexure-IX

A. Industry-wise status report of industrial units located in the catchment area of river Ghaggar in Haryana State

S. No.	Name of unit	Date of inspection	Observations if the unit found non-complying otherwise write complying	Sampling results of effluent (results of the last sample to be given if not collected on the day of inspection) (All values in mg/l except pH)	Permissible limits of effluent samples (All values in mg/l except pH)	Compliance Status / Remarks/ Action Taken Report
1	Ultimate Automobiles Pvt. Ltd, Plot No. 355, Indl-Area, Ph-II, Panchkula	26.11.2018	Non Complying	SS=332 BOD=48 COD=269.6	SS=100 BOD=30 COD=250	Closed by Board vide no. 6158 dated 04.01.2019 and Recommend for sanction of prosecution vide this office letter no. 425 dated 23.01.2019
2	EM PEE Motors Pvt. Ltd., Plot No. 72, Indl-Area, Ph-1, Panchkula	26.11.2018	Non Complying. 1. Unit is not having valid agreement with GEPIL for disposal of HW. 2. Capacity of ETP as informed by the representative of unit is 08 KLD but total effluent generation is 30 KLD. 3. No record of ETP sludge maintained. 4. pH meter non functional.	pH =7.16 SS=17 BOD=18 COD=102 O & G = ND	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	Recommended for Closure vide no. 457 dated 24.01.2019.
3	V.M.S Metal Works Pvt. Ltd, Plot No. 278-279, I.A, Phase-I, Panchkula	26.11.2018	Non Complying 1. ETP is installed, but not in operation 2. APCM at buffing Section not provided. 3. APCM on Electroplating Section not Provided.	pH=7.39, SS=12 COD=109.6, O & G =ND Ammonical Nitrogen=ND Hexavalent Chromium=ND Total Chrominum=ND Zinc=0.2 , Nickle=0.5 Cynaide=ND Iron=0.6	pH=6-9 SS=100 COD=250 O & G =10 Ammonical Nitrogen=50 Zinc=5 Cynaide=0.2 Iron=3	SCN issued vide No. 4688 dated 10.12.2018 and Closed by Board by vide no. 6178 dated 04.01.2019
4	Unique Himtech Pvt. Ltd, Plot No. 28, HSIIDC, Kalka, Industrial Area, Kalka, Panchkula	26.11.2018	Non Complying 1. No record of ETP sludge generation provided at the time of the inspection. 2. Authorization under HOWM Rules,	pH=7.71 SS=56.8 BOD=27 COD=120 O & G =ND	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	SCN issued vide No. 4674 dated 10.12.2018 and unit replied on 20.12.2018

S. No.	Name of unit	Date of inspection	Observations if the unit found non-complying otherwise write complying	Sampling results of effluent (results of the last sample to be given if not collected on the day of inspection) (All values in mg/l except pH)	Permissible limits of effluent samples (All values in mg/l except pH)	Compliance Status / Remarks/ Action Taken Report
			2016 not provided at the time of inspection.	Zinc=0.4 Chromium=ND Hexavalent Chormium=ND Nickle=ND Copper=0.38 Iron=0.55	Zinc=5 Chromium=2 Hexavalent Chormium=0.1 Nickle=3 Copper=3 Iron=3	
5	Essen Connectors Pvt. Ltd,. 23-24, PH-I, INDL-AREA, Panchkula	26.11.2018	Non Complying. 1. APCM on Electroplating Section not Provided.	pH=6.89SS=38O & G =0.2Cyanide=NDAmmonical Nitrogen=2.1Total residual chlorine=0.8Cadmium= NDNickel=0.82Zinc=0.9Hexavalent Chromium=NDTotal Chromium=0.66Copper=1.4Lead =NDIron=1.22Total Metal=5.0	pH=6-9SS=100O & G =10Cyanide=0.2Ammonical Nitrogen=50Total residual chlorine=1Cadmium= 2Nickel=3Zinc=5Hexavalent Chromium=0.1Total Chromium=2Copper=3Lead =0.1Iron=3.0Total Metal=10	SCN issued vide No. 4672 dated 10.12.2018 and unit replied on 18.12.2018. Recommended for closure vide no. 5219 dated 21.12.2018
6	The Ambala Distt.. Co-OP. Milk Production Producers Union Ltd. G.T. Road, Ambala City.	26.11.2018	Complying	pH =7.44 SS=49 BOD=19 COD=90.8 O & G = 2	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	NA
7	Metro Motors 106, Railway Road, Ambala Cantt.	26.11.2018	Non Complying 1. pH meter not working. 2. Log book of ETP not maintained after 12.11.2018.	pH=8.65 SS=83 BOD=24 COD=106.0 O & G = 2.5	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	SCN issued vide No. 4660 dated 10.12.2018 and unit replied on 20.12.2018.
8	Modern Automobiles, NH-1, Adjoining Model Town Crossing, Ambala City	26.11.2018	Non Complying 1. Log book of ETP not maintained. 2. pH meter and Energy meter not found working. 3. Proper record of ETP sludge generation not maintained. 4. Housekeeping conditions not good.	pH=7.06 SS=78.0 BOD=24 COD=119.2 O & G =3.5	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	SCN issued vide No. 4662 dated 10.12.2018 and unit replied on 19.12.2018.

S. No.	Name of unit	Date of inspection	Observations if the unit found non-complying otherwise write complying	Sampling results of effluent (results of the last sample to be given if not collected on the day of inspection) (All values in mg/l except pH)	Permissible limits of effluent samples (All values in mg/l except pH)	Compliance Status / Remarks/ Action Taken Report
9	Haryana Milk Food Ltd., Vill. Usmanpur, Kaithal Road, Pehowa, Distt. Kurukshetra	26.11.2018	Non Complying	SS= 120 BOD= 46	SS=100 BOD=30	SCN issued vide No. 5232 dated 21.12.2018 and unit replied on 12.01.2019. Recommend for sanction of prosecution vide this office letter no. 435 dated 24.01.2019
10	Sainsons Paper Indus. Ltd., Plot No. 5, Vill Bakhli, Pehowa, Kurukshetra.	26.11.2018	Complying	pH=8.4, SS=20 BOD=24 COD=144 O & G =6	pH=5.5-9, SS=100 BOD=30 COD=250 O & G =10	NA
11	Motel Golden Saras, G.T Road, VPO Masana, Kuruskehtra	26.11.2018	Non Complying	pH=7.1 SS=180 BOD=70 COD=320 O & G =18	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	Recommended for Closure vide no. 157 dated 04.01.2019 and Recommend for sanction of prosecution vide this office letter no. 449 dated 24.01.2019
12	Kapoor Enterprise 102, Vikaspuri, Near Sai Baba Mandir, Ambala Cantt.	26.11.2018	Non Complying 1. Not obtained CTO under Water (Prevention & Control of Pollution) Act, 1974 & Air (Prevention and Control of Pollution) Act, 1981. 2. Not installed ETP for treatment of trade effluent.	NA	NA	SCN issued vide No. 4666 dated 10.12.2018 and Closed by Board vide no. 6262 dated 15.01.2019 and Recommend for sanction of prosecution vide this office letter no. 410 dated 21.01.2019
13	Coatings & Chemicals, 113, Inds-Area, Ambala Cantt	26.11.2018	Non Complying.	pH=3.67 SS=204 BOD=70 COD=287.6 O & G =7	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	Recommended for Closure vide no. 369 dated 17.01.2019 and Recommend for sanction of prosecution vide this office letter no. 408 dated 21.01.2019.
14	M.M Continental (Hotel), Village -Mullana, District - Ambala	26.11.2018	Complying	pH=7.31 SS=56 BOD=24	pH=5.5-9 SS=100 BOD=30	NA

S. No.	Name of unit	Date of inspection	Observations if the unit found non-complying otherwise write complying	Sampling results of effluent (results of the last sample to be given if not collected on the day of inspection) (All values in mg/l except pH)	Permissible limits of effluent samples (All values in mg/l except pH)	Compliance Status / Remarks/ Action Taken Report
				COD=122 O & G =2.5	COD=250 O & G =10	
15	Viking Tanners, Inc. Plot No 23, IDC, Near Motor Market, Ambala City	26.11.2018	Non Complying	pH=6.67 SS=24 BOD=80 COD=272 O & G =12.5 Ammonical Nitrogen=3.36 TDS=1420 Chlorides=290 Total Hardness=368 Calcium=100 Magnesium=28.674 Phenolic Compund=ND Sulphate=680.6 Copper=ND Zinc=0.013	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10 Phenolic Compund=1	Closed by Board vide no. 6248 dated 15.01.2019 and Recommend for sanction of prosecution vide this office letter no. 409 dated 21.01.2019
16	THE INDIAN EXPRESS LTD., PLOT NO. C-5, SECTOR-6, PANCHKULA	03.12.2018	Complying	pH=8.72 SS=32 BOD=23 COD=109.2 O & G =2.5	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	NA
17	Ojas Super Specialty Hospital, Site no. H1, Sec-26, Panchkula	03.12.2018	Complying	pH=7.98 SS=37 BOD=21 COD=90 O & G =2.5	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	NA
18	Paras Bliss Hospital Swastik Vihar, Ph-I, Sec-5, Panchkula	03.12.2018	Non Complying 1. Logbook of ETP not maintained by the unit.	pH=6.71 SS=9.0 BOD=12	pH=5.5-9 SS=100 BOD=30	SCN issued vide No. 4680 dated 10.12.2018 and unit replied on 20.12.2018.

S. No.	Name of unit	Date of inspection	Observations if the unit found non-complying otherwise write complying	Sampling results of effluent (results of the last sample to be given if not collected on the day of inspection) (All values in mg/l except pH)	Permissible limits of effluent samples (All values in mg/l except pH)	Compliance Status / Remarks/ Action Taken Report
				COD=45.2 O & G =ND	COD=250 O & G =10	
19	Parbhat Hotels Pvt. Ltd., Site No. 4, Sector 10, Panchkula	03.12.2018	Non Complying 1. ETP not found working during inspection. 2. Logbook of ETP not maintained by the unit.	pH=3.59 SS=8870 BOD=350 COD=1180 O & G =22.5	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	SCN issued vide No. 5358 dated 28.12.2018 and unit replied on 17.12.2018. Recommend for sanction of prosecution vide this office letter no. 456 dated 24.01.2019.
20	CONTEL BELLA VISTA SECTOR -5, PANCHKULA	03.12.2018	Non Complying1. No ETP Sludge found during inspection.2. ETP not working satisfactorily during inspection.	pH=7.21 SS= 48.9 BOD= 23 COD= 110 O & G = ND	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	SCN issued vide No. 4676 dated 10.12.2018 and unit replied on 18.12.2018.
21	Alchemist Hospital Ltd., Sector-21, Panchkula	03.12.2018	Non Complying	pH=5.60 SS=118 BOD=110 COD=367.6 O & G =7	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	SCN issued vide No. 5234 dated 21.12.2018 and unit replied. Recommend for sanction of prosecution vide this office letter no. 458 dated 24.01.2019.
22	Miri Piri Institute of Medical Sciences Research, G.T. Road, Shahbad, Markanda, Kurukshetra	03.12.2018	Complying	pH=8.8 SS=20 BOD=16 COD=48 O & G =ND	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	NA
23	Shri Balaji Aarogyam Hospital, Behind Old Bus Stand, Kurukshetra	03.12.2018	Non Complying	pH=9.6 SS=120 BOD=46 COD=128 O & G =6	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	SCN issued vide No. 5228 dated 21.12.2018 and unit replied on 10.01.2019 through E-mail and hard copy 17.01.2019. Recommend for sanction of prosecution vide this office letter no. 448 dated 24.01.2019

S. No.	Name of unit	Date of inspection	Observations if the unit found non-complying otherwise write complying	Sampling results of effluent (results of the last sample to be given if not collected on the day of inspection) (All values in mg/l except pH)	Permissible limits of effluent samples (All values in mg/l except pH)	Compliance Status / Remarks/ Action Taken Report
24	Virk Hospital, SCO 16-17, Sec-17, Kurukshetra	03.12.2018	Non Complying	pH=9.3 SS=230 BOD=80 COD=288 O & G=8	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	SCN issued vide No. 5236 dated 21.12.2018 and unit replied on 16.01.2019 through E-mail. Recommend for sanction of prosecution vide this office letter no. 441 dated 24.01.2019.
25	Saraswati Mission Hospital, Ambala Road, Pehowa, Kurukshetra	03.12.2018	Non Complying	pH=8.2 SS=190 BOD=80 COD=264 O & G =6	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	SCN issued vide No. 5224 dated 21.12.2018 and recommend for sanction of prosecution vide this office letter no. 450 dated 24.01.2019.
26	Aggarwal Nursing Home, Salarpur Road, Kurukshetra	03.12.2018	Non Complying	pH=8.8 SS=490 BOD=190 COD=720 O & G =16	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	SCN issued vide No. 5226 dated 21.12.2018 and unit replied on 16.01.2019. Recommend for sanction of prosecution vide this office letter no. 451 dated 24.01.2019.
27	Luxmi Switch Gear Pvt. Ltd., Plot No. 82, Ind. Area, Ph-I, Panchkula.	23.01.2019	Non Complying1. Sludge drying bed not provided by the unit.2. Reaction unit not proper.3. pH meter not working.4. Flow meter on outlet of unit not provided.5. Storage site for hazardous waste not provided.	pH=7.89 SS=14 BOD=9 COD=34.4 O & G =ND	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	SCN issued vide No. 467 dated 25.01.2019.
28	Venus Remedies Limited, 51-52, Industrial Area, Ph-I, Panchkula	23.01.2019	Non Complying 1. Agreement of unit made with TSDF-GEPIL expired on 21.02.2018. 2. No storage site of Hazardous Waste provided.	pH=8.4 SS=14 BOD=15.6 COD=49.2 O & G =ND	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	SCN issued vide No. 461 dated 25.01.2019.

S. No.	Name of unit	Date of inspection	Observations if the unit found non-complying otherwise write complying	Sampling results of effluent (results of the last sample to be given if not collected on the day of inspection) (All values in mg/l except pH)	Permissible limits of effluent samples (All values in mg/l except pH)	Compliance Status / Remarks/ Action Taken Report
			3. No record of Hazardous Waste transported to GEPIL. 4. Logbook not maintained properly. 5. Kitchen wasted is discharged directly into sewer without treatment. 6. Boiler erection done without taking CTE expansion from HSPCB.	Lead=ND Hexavalent Chromium=ND Total Chromium=ND Copper=ND Zinc=0.065 Nickel=ND Dissolved phosphates=ND Sulphide=ND Iron=0.057	Lead=0.1 Dissolved Phosphate=5.0 Sulphide=2.0	
29	A.K. International, Plot No. 267, Ind. Area, Ph-I, Panchkula.	23.01.2019	Non Complying1. Board of Hazardous Waste information not provided by the unit at the entrance gate.2. Proper storage room for hazardous waste not provided.3. Housekeeping conditions not good.4. Dosing of poly electrolyte not proper.	pH=6.62 SS=14 COD=38.4 O & G= ND Ammonical Nitrogen=ND Copper=0.004 Zinc=0.274 Nickle=0.1 Iron=1.347 Total Chromium=ND Hexavalent Chormium=ND Lead =ND	pH=5.5-9 SS=100 COD=250 O & G =10 Iron=3.0 Ammonical Nitrogen=50	SCN issued vide No. 463 dated 25.01.2019
30	Raghav Industries, Plot No. 392, I.A, Phase-II, Panchkula	12.11.2018	Complying	pH=6.59 SS=78 BOD=28 COD=140 O & G =ND	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	NA
31	DLF Homes Panchkula Pvt. Ltd, Vill. Islam Nagar, Bhagwanpur, Sec-3, Distt. Panchkula	27.11.2018	Complying	pH=7.34 SS=7 BOD=14 COD=65.2 O & G =ND	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	NA

S. No.	Name of unit	Date of inspection	Observations if the unit found non-complying otherwise write complying	Sampling results of effluent (results of the last sample to be given if not collected on the day of inspection) (All values in mg/l except pH)	Permissible limits of effluent samples (All values in mg/l except pH)	Compliance Status / Remarks/ Action Taken Report
32	Troika International Pvt. Ltd., # 248, Ind-Area, PH-1, Panchkula	20.09.2018	Complying	pH=6.89, SS=24 COD=90 O & G =2.5 Ammonical Nitrogen=ND Zinc=0.45 Chromium=0.26 Hexavalent Chromium=0.05 Nickle=0.14 Copper=0.62 Iron=0.36 Total Metal=1.83	pH=5.5-9 SS=100 COD=250 O & G =10 Ammonical Nitrogen=50 Zinc=5 Chromium=2 Hexavalent Chromium=0.1 Nickle=3 Copper=3 Iron=3 Total Metal=10	NA
33	WELCOME CROP HEALTH PRODUCTS VILL & PO. MOULI, PANCHKULA	24.09.2018	Complying	pH=7.84, SS=8 BOD=9, COD=48.8 O & G =ND, Calcium=140 Magnisium=63.18 Phenolic Compound=ND Copper=ND, Zinc=0.3 Nickle=ND, Iron=0.7 Total Chromium=ND Hexavalent Chromium=ND Dissolved Phosphate= 0.844 Nitrate=1.327	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10 Phenolic Compound=1.0	NA
34	5 MLD STP MOTI NAGAR, Ambala	09.08.2018	Complying	pH=7.41, SS=10 BOD=17 COD=59.6 O & G =ND	pH=5.5-9, SS=100 BOD=30 COD=250 O & G =10	NA
35	Panchkula Roller Flour Mills Ltd., Plot No. 79, Ind. Area, Phase-I, PKL	04.12.2018	Complying	pH=7.3 SS=18 BOD=12 COD=49.2 O & G =ND	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	NA

Note:- 18 Industries visit reports awaited from the HSPCB.

B. Compliance Status Reports of CETPs in Haryana (in 2018)

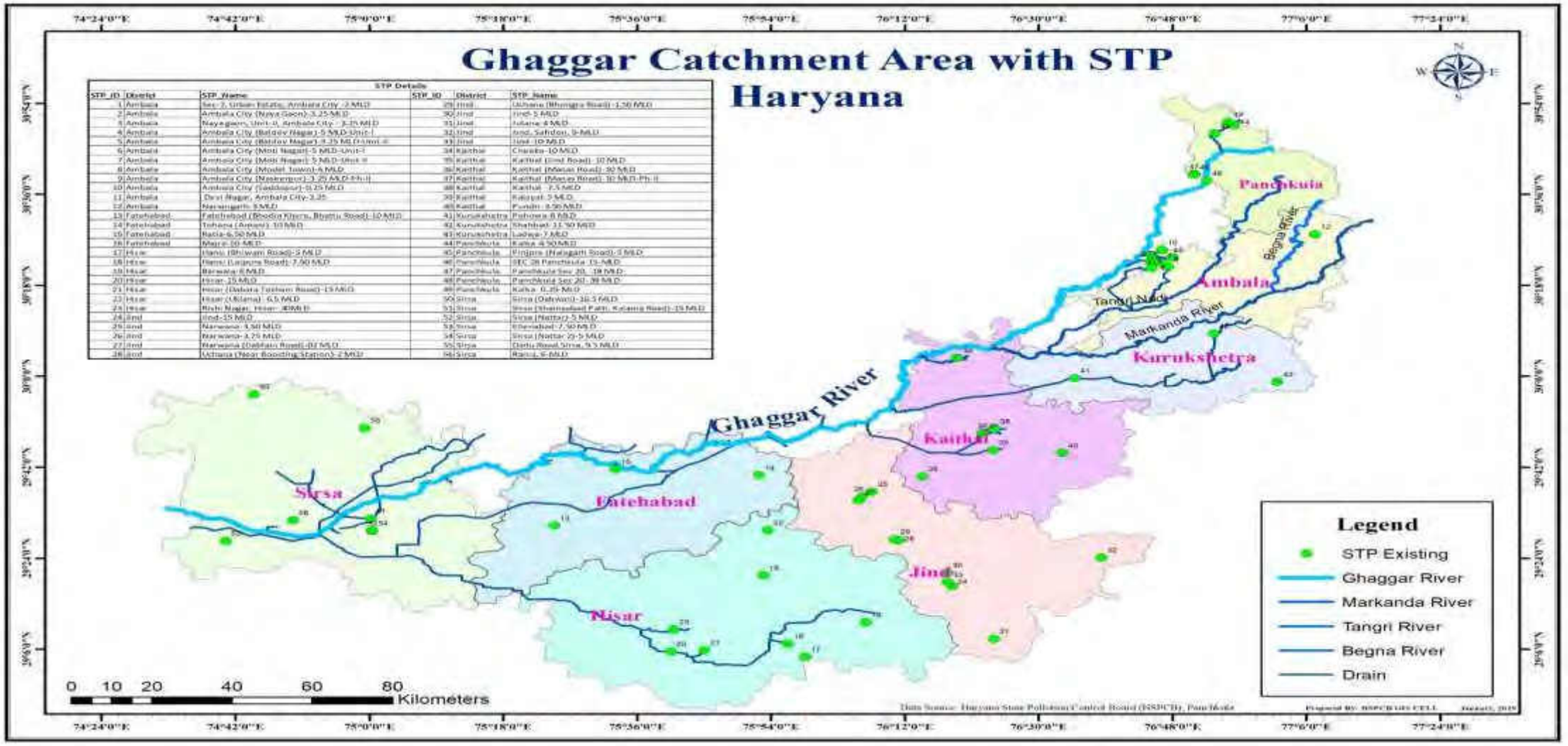
S. No.	Name and Address the CETP	Observed final effluent quality										Compliance Status
		Report No. & date	BOD in mg/l	COD in mg/l	pH	TSS in mg/l	Cr $^{+6}$ in mg/l	Total Cr in mg/l	Ni in mg/l	Fe in mg/l	Zn in mg/l	
		Prescribed Limits (in mg/l except pH)	**30**	**250**	**6.5 to 9.0**	**100**	**0.2**	**2**	**3**	**3**	**5**	
1	**IE Barwala, Panchkula**	4098 dt. 07.02.2018	14	50	7.66	15	-	-	-	-	-	Complying
		4562, 02.05.2018	12.5	34	7.88	14	-	-	-	-	-	Complying
		4956, 09.08.2018	10	38.8	7.77	14	-	-	-	-	-	Complying
		5287, 08.11.2018	11	44.4	6.63	25	-	-	-	-	-	Complying
2	**Ambala Cantt.**	4084 dt. 30.01.2018	18	67.6	7.68	30	-	-	-	-	-	Complying
		4590, 11.05.2018	18	62.4	7.52	24	-	-	-	-	-	Complying
		4967 dt. 09.08.2018	11	38.8	7.5	12	-	-	-	-	-	Complying
3	**IDC Saha, Ambala**	4083 dt. 30.01.2018	11	38.4	8.12	37	-	-	-	-	-	Complying
		4651, 14.05.2018	24	143.2	7.68	4	-	-	-	-	-	Complying
		4970 dt. 09.08.2018	9	34	8.14	12	-	-	-	-	-	Complying
		5292, 12.11.2018	14	58.4	6.9	11	-	-	-	-	-	Complying
4	**I. E. Jind**	3961 Dt. 01.01.2018	17.5	82.4	8.23	16	-	-	-	-	-	Complying
		4542 dt. 30.04.2018	26	105.6	7.55	N.D	-	-	-	-	-	Complying
		121, 14.08.2018	12	48	8	20	-	-	-	-	-	Complying

Annexure-X

Analysis results of the Five Sewage Treatment Plants (STPs) located in Chandigarh (October to December 2018)

S. No	Parameters	Permissible Limit	STP Raipur Khurd-2018			STP 3BRD FINAL OUTLET – 2018 (11 MGD)			STP Diggian Outlet-2018			STP Raipur Kalan-2018			STP, Dhanas		
			Oct.	Nov.	Dec.	Oct.	Nov.	Dec.	Oct.	Nov.	Dec.	Oct.	Nov.	Dec.	Oct.	Nov.	Dec.
1	**pH**	**5.5 to 9.0**	7.6	7.1	7.3	7.3	7.3	7.3	7.4	7.2	7.1	7.1	6.9	7.1	7.6	7.6	7.2
2	**DO**	**-**	NIL	0.48	NIL	4.8	5.6	3.6	4.2	2.6	1.2	NIL	NIL	NIL	5.2	5.3	5.3
3	**COD**	**250 mg/l**	195	158	167	11	32	28	56	126	135	138	118	145	22	39	62
4	**BOD**	**30 mg/l**	59	62	69	3	8	9	28	51	58	59	59	70	7	10	12
5	**TSS**	**100 mg/l**	95	84	56	9	7	7	30	45	39	38	41	22	6	11	10
6	**NH_3-N**	**50 mg/l**	28	26	31	3	6	10	37	41	34	36	29	43	12	13	13
7	**PO_4-P**	**5.0 mg/l**	1.20	1.00	2.10	3.80	1.50	3.10	3.50	3.10	4.30	3.80	3.50	4.70	1.30	BDL	1
8	**Total Coliform**	**- (MPN/100 ml)**	1.7×10^5	3.0×10^5	1.4×10^6	9.3×10^3	8.0×10^4	7.6×10^4	8.0×10^6	1.8×10^6	2.7×10^6	4.5×10^4	1.4×10^5	3.2×10^5	2.0×10^4	1.1×10^5	5.4×10^4
9	**Faecal Coliform**	**- (MPN/100 ml)**	1.1×10^5	1.8×10^5	4.5×10^5	6.1×10^3	4.5×10^4	4.0×10^4	4.5×10^6	1.4×10^5	1.4×10^5	2.0×10^4	9.3×10^4	2.7×10^5	1.3×10^4	6.9×10^4	2.7×10^4

Annexure-XI


Ghaggar Catchment Area with STP
Haryana
STP Details
STP_ID | District | STP_Name | STP_ID | District | STP_Name
1 | Ambala | Sec-7, Urban Estate, Ambala City -2 MLD
2 | Ambala | Ambala City (Naya Gaon)-3.25 MLD
3 | Ambala | Nayagaon, Unit-II, Ambala City - 3.25 MLD
4 | Ambala | Ambala City (Baldev Nagar)-5 MLD-Unit-I
5 | Ambala | Ambala City (Baldev Nagar)-3.25 MLD-Unit-II
6 | Ambala | Ambala City (Moti Nagar)-5 MLD-Unit-I
7 | Ambala | Ambala City (Moti Nagar)-5 MLD-Unit-II
8 | Ambala | Ambala City (Model Town)-6 MLD
9 | Ambala | Ambala City (Naskanpur)-3.25 MLD-Ph-II
10 | Ambala | Ambala City (Saidapur)-3.25 MLD
11 | Ambala | Devi Nagar, Ambala City-3.25
12 | Ambala | Narangarh- 5 MLD
13 | Fatehabad | Fatehabad (Bhodia Khera, Bhattu Road)-10 MLD
14 | Fatehabad | Tohana (Ameri)-10 MLD
15 | Fatehabad | Ratia-6.50 MLD
16 | Fatehabad | Mara-10 MLD
17 | Hisar | Hansi (Bhiwani Road)-5 MLD
18 | Hisar | Hansi (Jaipura Road)- 7.50 MLD
19 | Hisar | Barwala-6 MLD
20 | Hisar | Hisar-15 MLD
21 | Hisar | Hisar (Dabara Tosham Road)-15 MLD
22 | Hisar | Hisar (Uklana) - 6.5 MLD
23 | Hisar | Rishi Nagar, Hisar- 40MLD
24 | Jind | Jind-15 MLD
25 | Jind | Narwana- 5.50 MLD
26 | Jind | Narwana- 3.25 MLD
27 | Jind | Narwana (Dabhan Road)-02 MLD
28 | Jind | Uchana (Near Boosting Station)- 2 MLD
29 | Jind | Uchana (Bhuriga Road) -1.50 MLD
30 | Jind | Jind- 5 MLD
31 | Jind | Julana- 4 MLD
32 | Jind | Jind, Safidon, 9 MLD
33 | Jind | Jind -10 MLD
34 | Kaithal | Chasita-10 MLD
35 | Kaithal | Kaithal (Jind Road)- 10 MLD
36 | Kaithal | Kaithal (Matak Road)-30 MLD
37 | Kaithal | Kaithal (Matak Road)- 30 MLD-Ph-II
38 | Kaithal | Kaithal - 7.5 MLD
39 | Kaithal | Kalayat- 5 MLD
40 | Kaithal | Pundri- 8.50 MLD
41 | Kurukshetra | Pehowa-8 MLD
42 | Kurukshetra | Shahbad- 11.50 MLD
43 | Kurukshetra | Ladwa-7 MLD
44 | Panchkula | Kalka-4.50 MLD
45 | Panchkula | Pinjore (Nalagarh Road)-5 MLD
46 | Panchkula | SEC-28 Panchkula- 15 MLD
47 | Panchkula | Panchkula Sec-20, -18 MLD
48 | Panchkula | Panchkula Sec-20, -38 MLD
49 | Panchkula | Kalka- 6.25 MLD
50 | Sirsa | Sirsa (Dabwali)- 16.5 MLD
51 | Sirsa | Sirsa (Shamsabad Path, Kalanwali Road)- 15 MLD
52 | Sirsa | Sirsa (Nattar)-5 MLD
53 | Sirsa | Ellenabad-7.50 MLD
54 | Sirsa | Sirsa (Nattar-2)-5 MLD
55 | Sirsa | Delhi Road Sirsa, 9.5 MLD
56 | Sirsa | Rania, 6 MLD
Ghaggar River
Markanda River
Tangri Nadi
Begna River
Panchkula
Ambala
Kurukshetra
Kaithal
Jind
Fatehabad
Sirsa
Nisar
Legend
STP Existing
Ghaggar River
Markanda River
Tangri River
Begna River
Drain
0 10 20 40 60 80
Kilometers

Annexure-XII

Analysis results of the Treated Effluent from STPs located in Haryana State

S. No.	STP	Report No. & date	BOD in mg/l	COD in mg/l	pH	TSS in mg/l	O & G in In mg/l	Remarks
1	3.25 MLD STP Naya Gaon, Unit-I, Ambala City	4074 dt. 30.01.2018	10	36.4	7.52	22	ND	Complying
		4566 dt. 03.05.2018	8	48.8	7.31	11	ND	Complying
		4673 dt. 18.05.2018	12	57.6	7.36	15	ND	Complying
		4958 dt. 09.08.2018	14	49.2	7.59	13	ND	Complying
		5250, 26.10.2018	10	44	7.16	7	ND	Complying
2	3.25 MLD STP Naya Gaon, Unit-II Ambala City	4073 dt. 30.01.2018	12	37.2	7.23	20	ND	Complying
		4567 dt. 03.05.2018	11	39.6	7.34	10	ND	Complying
		4674 dt. 18.05.2018	16	52.4	7.11	23	ND	Complying
		4959, 09.08.2018	9	38.4	7.39	14	ND	Complying
		5251, 26.10.2018	14	58	7.11	13	ND	Complying
3	2 MLD STP Sec-7, Urban Estate, Ambala City	4072 dt. 30.01.2018	12	39.6	8.36	19	ND	Complying
		4571 dt. 03.05.2018	12	47.2	7.38	15	ND	Complying
		4966 dt. 09.08.2018	12	50	7.46	15	ND	Complying
4	5 MLD Baldev Nagar, Unit-I, Ambala City	4078 dt. 30.01.2018	11	38.4	8.4	10	ND	Complying
		4568 dt. 03.05.2018	19	102.8	7.5	15	ND	Complying
		4668 dt. 18.05.2018	52	180.8	7.6	22	4.5	Non Complying
		4761 dt. 19.06.2018	21	129.6	7.61	31	2.5	Complying
		4965 dt. 09.08.2018	15	67.2	7.62	12	ND	Complying
		5253, 26.10.2018	9	42	7.17	9	ND	Complying
5	3.25 Baldev Nagar, Unit-II, Ambala City	4079 dt. 30.01.2018	12	39.2	7.26	33	ND	Complying
		4569 dt. 03.05.2018	21	107.6	7.54	39	ND	Complying
		4669 dt. 18.05.2018	56	200.4	7.71	32	8	Non Complying
		4760 dt. 19.06.2018	20	105	7.35	72	2	Complying
		4964, 09.08.2018	14	51.2	7.63	14	ND	Complying
		5252, 26.10.2018	9	39.6	7.12	8	ND	Complying
6	5 MLD Moti Nagar, Unit-I, Ambala City	4077 dt. 30.01.2018	9	35.2	8.2	11	ND	Complying
		4563 dt. 03.05.2018	10	43.2	7.31	18	ND	Complying
		4671 dt. 18.05.2018	12	46	7.21	14	ND	Complying
		4960 dt. 09.08.2018	11	35.6	7.82	13	ND	Complying

S. No.	STP	Report No. & date	BOD in mg/l	COD in mg/l	pH	TSS in mg/l	O & G in In mg/l	Remarks
		5249, 26.10.2018	11	45.6	7.14	9	ND	Complying
7	5 MLD STP Moti Nagar, Unit-II, Ambala City	4076 dt. 30.01.2018	13	36	7.64	32	ND	Complying
		4565 dt. 03.05.2018	9	39.6	7.34	13	ND	Complying
		4672 dt. 18.05.2018	13	47.6	7.24	12	ND	Complying
		4961, 09.08.2018	17	59.6	7.41	10	ND	Complying
		5248, 26.10.2018	15	59.2	7.08	10	ND	Complying
8	6 MLD STP Modal Town, Ambala City	4071 dt. 30.01.2018	8	47.2	7.18	24	ND	Complying
		4572 dt. 03.05.2018	13	48.8	7.55	17	ND	Complying
		4670 dt. 18.05.2018	14	48.8	7.41	27	3	Complying
		4963 dt. 09.08.2018	14	59.6	7.66	12	ND	Complying
		5246, 26.10.2018	11	66	7.14	8	ND	Complying
9	3.25 Nasirpur Ambala City	4080 dt. 30.01.2018	15	57.6	7.44	36	2	Complying
		4563 dt. 30.05.2018	16	59.2	7.61	32	ND	Complying
		4675 dt. 18.05.2018	17	56.8	7.79	34	2	Complying
		4969 dt. 09.08.2018	13	46.8	7.55	11	ND	Complying
		5247, 26.10.2018	12	57.6	7.16	11	ND	Complying
10	0.25 MLD Sadopur, Ambala	4092 dt. 07.02.2018	13	52.8	7.67	15	2	Complying
		4570 dt. 03.05.2018	15	53.2	7.63	14	ND	Complying
		4677dt.18.05.2018	18	58.8	7.58	12	2	Complying
		4968 dt. 09.08.2018	10	42.8	7.68	11	ND	Complying
		5244, 26.10.2018	10	38.4	7.13	12	ND	Complying
11	3.25 MLD Devinagar, Ambala	4070 dt. 30.01.2018	10	30.8	7.59	15	ND	Complying
		4573 dt. 03.05.2018	12	44.8	7.68	9	ND	Complying
		4676 dt.18.05.2018	64	185	7.58	38	4.5	Non Complying
		4762 dt.19.06.2018	18	102.4	7.45	60	2	Complying
		4962 dt. 09.08.2018	18	66.4	7.5	12	ND	Complying
		5245, 26.10.2018	10	38	7.15	9	ND	Complying
12	3 MLD STP Nariangarh, Ambala	4075 dt. 30.01.2018	14	44.8	7.85	21	ND	Complying
		4574 dt. 03.05.2018	18	88.4	7.46	58	ND	Complying
		4957 dt. 09.08.2018	12	39.6	7.63	35	ND	Complying
		5293, 12.11.2018	12	42	6.58	14	ND	Complying
13	8 MLD STP Model Town, Pehowa Kurukshetra	3996 dt. 16.01.2018	9	42	7.51	32	ND	Complying
		4557 dt. 04.05.2018	12.5	48.2	7.73	14	ND	Complying
		4906 dt. 01.08.2018	11.5	43.6	7.63	13	ND	Complying
		5254, 31.10.2018	9	38	7.29	8	ND	Complying

S. No.	STP	Report No. & date	BOD in mg/l	COD in mg/l	pH	TSS in mg/l	O & G in In mg/l	Remarks
		22 dt. 16.01.2019	20	92	7.37	52	ND	Complying
14	11.5 MLD STP Ladwa Road, Shahbad Kurukshetra	3995 dt. 16.01.2018	8	48	7.83	9	ND	Complying
		4578 dt. 04.05.2018	11	48.8	8.03	12	ND	Complying
		4908 dt. 01.08.2018	14.5	44	7.39	12	ND	Complying
		5255, 31.10.2018	11	44.8	6.46	10	ND	Complying
		23 dt. 16.01.2019	13	51.2	7.42	22	ND	Complying.
15	18 MLD STP Panchkula	4002 dt. 17.01.2018	12	56.8	7.53	22	ND	Complying
		4512 dt. 26.04.2018	8	36	7.49	10	ND	Complying
		4866 dt. 18.07.2018	9	40.4	7.62	42	2.5	Complying
		5277, 05.11.2018	7	34	6.86	18	ND	Complying
		30 dt. 17.01.2019	14	58	7.29	15	ND	Complying.
16	39 MLD STP Panchkula	4002 dt. 17.01.2018	9	46.8	7.35	11	ND	Complying
		4511 dt. 26.04.2018	9	38.8	7.84	9	ND	Complying
		4865 dt. 18.07.2018	10	60.4	7.87	25	ND	Complying
		5275, 05.11.2018(39 MLD)	10	47.2	6.83	14	ND	Complying
		30 dt. 17.01.2019	13	55.6	7.28	12	ND	Complying
17	15 MLD STP Panchkula	4001 dt. 17.01.2018	15	46.4	7.35	31	2	Complying
		4510 dt. 26.04.2018	9	40.4	8.3	10	ND	Complying
		4864 dt. 18.07.2018	9	36.4	7.6	12	ND	Complying
		5276, 05.11.2018	8	36.4	6.84	17	ND	Complying
		5325, 12.11.2018	13.5	39.2	7.01	13	ND	Complying
		82 dt.23.01.2019	18	69.2	6.89	24	ND	Complying.
18	4.5 MLD Kalka Panchkula	4039 dt. 23.01.2018	15	52.4	7.33	22	2	Complying
		4522 dt. 30.04.2018	9	36.4	7.46	18	ND	Complying
		4868 dt. 18.07.2018	9	60	7.61	18	ND	Complying
		5273, 05.11.2018	7.5	35.6	6.85	23	ND	Complying
19	0.25 MLD Kalka Panchkula	4040 dt. 23.01.2018	23	105.2	7.72	39	2.5	Complying
		4525 dt. 30.04.2018	10	38.8	7.4	10	ND	Complying
		4871 dt. 23.07.2018	9	36.8	7.48	14	ND	Complying
		5271, 05.11.2018	11	40	6.68	13	ND	Complying
20	5 MLD STP Nalagarh Road, Manakpur, Pinjore Panchkula	4041 dt. 23.01.2018	18	83.2	7.73	17	ND	Complying
		4524 dt. 30.04.2018	9	36.8	7.55	17	ND	Complying
		4862 dt. 18.07.2018	16	63.6	7.73	20	ND	Complying
		5274, 05.11.2018	8.5	34.8	6.71	10	ND	Complying
		81 dt. 21.01.2019	9.5	58	7.15	25	ND	Complying.

S. No.	STP	Report No. & date	BOD in mg/l	COD in mg/l	pH	TSS in mg/l	O & G in In mg/l	Remarks
21	15 MLD STP by PHED Jind	4118 dt. 19.02.18	21	116.4	7.32	60	2.5	Complying
		4441 dt. 10.04.18	110	368	7.33	164	8.5	Non complying
		4797 dt. 26.06.2018	20	85.2	7.49	25	N.D	Non complying
		122 dt. 14.08.18	14	56	7.7	-	N.D	Complying
22	10 MLD by HUDA Jind	4119 dt. 19.02.18	17	95.2	8.23	26	ND	Complying
		4440 dt. 10.04.18	17	74.4	7.41	18	ND	Complying
		120 dt. 14.08.18	10	32	7.6	10	ND	Complying
23	3.5 MLD Patiala Road, Narwan	4125 dt. 19.02.18	14	58.4	7.28	27	ND	Complying
		4436 dt. 10.04.18	22	101.6	7.31	42	2	Complying
		130 dt. 14.08.18	18	64	7.6	18	ND	Complying
24	3.75 MLD STP Narwana Jind	4126 dt. 19.02.18	15	70	7.33	21	ND	Complying
		4434 dt. 10.04.18	20	80.4	7.39	26	ND	Complying
		131 dt. 14.08.18	16	48	7.5	20	ND	Complying
25	02 MLD STP, PHED, Dablain Road, Narwana, Jind	4124 dt. 19.02.18	16	98	7.3	40	ND	Complying
		4435 dt. 10.04.18	18	74.4	7.27	33	ND	Complying
		132 dt. 14.08.18	18	48	7.8	20	ND	Complying
26	2 MLD STP Uchana Jind	4123 dt. 19.02.18	20	108	7.38	64	2	Complying
		4439 dt. 10.04.18	24	108	7.46	52	2.5	Complying
		134 dt. 14.08.18	18	48	7.5	18	ND	Complying
27	1.5 MLD Uchana	4122 dt.19.02.18	21	94	7.3	45	2.5	Complying
		4438 dt. 10.04.18	18	73.6	7.28	17	ND	Complying
		133 dt. 14.08.18	16	48	7.7	18	ND	Complying
28	5 MLD STP Jind	4121 dt. 19.02.18	18	93.6	7.29	54	ND	Complying
		4442 dt. 10.04.18	16	69.2	6.83	52	ND	Complying
		123 dt. 14.08.18	16	64	7.8	-	ND	Complying
29	9 MLD STP Safidon, Jind	4796 dt. 26.06.18	17	59.2	7.77	37	ND	Complying
30	10 MLD STP Cheeka, Kaithal	4114 dt. 16.02.18	9.5	28	8.24	8	ND	Complying
		4446 dt. 11.04.18	13	42.8	7.87	13	ND	Complying
		4681 dt. 28.05.18	7	12.4	7.98	10	ND	Complying
		4980 dt. 09.08.2018	12	38.4	7.41	28	ND	Complying
		5380 dt. 26.11.18	18	85.6	6.68	21	ND	Complying
31	10 MLD STP, Jind Road Kaithal	4110 dt.16.02.18	9	33.2	8.19	14	ND	Complying
		4449 dt. 11.04.18	15	54.4	7.97	11	ND	Complying
		4814 dt. 09.07.18	12	38.4	7.63	17	ND	Complying

S. No.	STP	Report No. & date	BOD in mg/l	COD in mg/l	pH	TSS in mg/l	O & G in In mg/l	Remarks
		4987 dt. 09.08.2018	12	48	7.36	46	ND	Complying
		5382 dt. 26.11.18	19	86.8	6.76	37	2	Complying
32	10 MLD STP Manas Road, Kaithal	4111 dt. 16.02.18	9	37.2	8.37	8	ND	Complying
		4448 dt. 11.04.18	12	39.2	7.88	14	ND	Complying
		4683 dt. 28.05.18	18	87.2	7.75	9	ND	Complying
		4815 dt. 09.07.18	14	52.4	7.71	25	ND	Complying
		4985 dt. 09.8.2018	15	68.8	7.47	10	ND	Complying
		5381 dt. 26.11.18	14	50.4	6.76	24	ND	Complying
33	10 MLD Manas Road, Kaithal	4115 dt. 16.02.18	10	24.8	7.2	9	ND	Complying
		4448 Dt. 11.04.18	12	39.2	7.88	14	ND	Complying
		4683 Dt. 28.05.18	18	87.2	7.75	9	ND	Complying
		4986 dt. 09.08.2018	13	56.8	7.36	24	ND	Complying
		5384 dt. 26.11.18	18	111.6	6.86	23	ND	Complying
34	7.5 MLD Kaithal	4112 dt. 16.02.18	10	33.6	8.09	28	ND	Complying
		4444 dt. 11.04.18	15	55	7.73	18	ND	Complying
		4982 dt. 09.08.2018	9	31.2	7.67	28	ND	Complying
		5379 dt. 26.11.18	19	66.4	7.22	24	ND	Complying
35	5 MLD STP Kalayat, Kaithal	4113 dt. 16.02.18	8.5	33.6	7.5	13	ND	Complying
		4445 dt. 11.04.18	14	48	7.92	12	ND	Complying
		4685 dt. 28.05.18	14	60	7.49	20	ND	Complying
		4984 dt. 09.08.2018	14	64.8	7.13	19	ND	Complying
		5385 dt. 26.11.18	17	110.8	6.32	22	ND	Complying
36	3.5 Pundri Kaithal	4116 dt. 16.02.18	11	36	8.2	11	ND	Complying
		4447 dt. 11.04.18	13	44.8	8.08	9	ND	Complying
		4686 dt. 28.05.18	15	60	7.73	6	ND	Complying
		4980 dt. 09.08.2018	11	41.2	7.38	24	ND	Complying
		5383 dt. 26.11.18	20	70.4	6.73	17	2	Complying
37	15 MLD STP Azad Nagar, Rajgarh Road Hisar	216 dt.08.01.18	6	16	7.4	10	ND	Complying
		278, dt. 06.03.18	8	32	7.6	10	ND	Complying
		68, 22.06.18	8	32	7.4	12	ND	Complying
		194, 03.10.18	8	24	7.9	12	ND	Complying
38	40 MLD STP Rishi Nagar, Hisar	215 dt. 08.01.18	4	8	7.2	10	ND	Complying
		277 dt. 06.03.18	6	24	7.9	10	ND	Complying
		69, dt. 22.06.18	4	16	7.4	10	ND	Complying
		139, 14.09.18	8	24	7.7	10	ND	Complying

S. No.	STP	Report No. & date	BOD in mg/l	COD in mg/l	pH	TSS in mg/l	O & G in In mg/l	Remarks
39	15 MLD STP Dabara Tosham Road, Hisar	217 dt. 08.01.18	ND		7	10	ND	Complying
		285, dt. 16.03.18	9	24	7.6	10	ND	Complying
		67, 22.06.18	6	24	7.8	10	ND	Complying
		140, 14.09.18	6	16	7.5	10	ND	Complying
40	4 MLD STP Hisar	Recently commissioned						
41	4 MLD STP Narnaund, Hisar	Recently commissioned						
42	15 MLD STP, Shamsabad patti, Kalania Road, Sirsa	198 dt. 08.01.18	6	16	7.6	12	ND	Complying
		290 dt. 16.03.18	8	32	8.2	12	ND	Complying
		45, dt. 05.06.18	14	48	7.7	18	ND	Complying
		181, 03.10.18	16	48	7.9	20	ND	Complying
43	5 MLD STP, Vill. Nattar 1, Sirsa	196 dt. 08.01.18	6	24	7.6	10	ND	Complying
		288 dt. 16.03.18	14	32	8.3	12	ND	Complying
		44, dt. 05.06.18	18	56	7.9	22	ND	Complying
		179, 03.10.18	18	56	7.7	20	ND	Complying
44	5 MLD STP, Vill. Nattar 2, Sirsa	289 dt. 16.03.18	10	48	8	16	ND	Complying
		46, dt. 05.06.18	12	48	8	20	ND	Complying
		180, 03.10.18	14	40	8.2	18	ND	Complying
45	7.5 MLD STP Ellenabad Sirsa	197 dt. 08.01.18	8	32	7	14	ND	Complying
		287 dt. 16.03.18	12	40	8.2	14	ND	Complying
		47, dt. 05.06.18	12	40	7.9	16	ND	Complying
		188,03.10.18	16	56	6.9	24	ND	Complying
46	9.5 MLD STP, Daddu Road, Kalanwali, Sirsa	291 dt. 16.03.18	8	24	8.1	10	ND	Complying
		42 dt. 05.06.18	10	32	7.2	12	ND	Complying
		189, 03.10.18	8	24	7.2	10	ND	Complying
47	6 MLD STP Rania Sirsa	185, 03.10.18	6	24	7.2	10	ND	Complying
48	16.5 MLD STP Dabwali, Sirsa	261, 262 dt. 24.01.18	6	24	7.2	10	ND	Complying
		43 dt. 05.06.18	8	24	7.6	10	ND	Complying
		203, 11.10.18	36	104	8.8	120	4	Non complying
49	10 MLD STP Vill. Bhodia Khera, Bhattu Road, Fatehabad	297 dt. 30.03.18	12	40	7.9	16	ND	Complying
		64, 20.06.18	18	40	7.2	22	ND	Complying
		167, 21.09.18	12	40	8	18	ND	Complying
50	10 MLD STP Vill.Amani, Tohana, Distt. Fatehabad	248 dt 08.01.18	12	24	7.8	18	-	Complying
		295 dt. 30.03.18	12	40	7.9	14	ND	Complying
		66, 20.06.18	56	128	7.2	120	6	Non complying

S. No.	STP	Report No. & date	BOD in mg/l	COD in mg/l	pH	TSS in mg/l	O & G in In mg/l	Remarks
		135, 14.08.2018	16	48	7.6	18	ND	Complying
51	6.5 MLD STP Ratia, Fatehabad	247 dt. 08.01.18	12	32	7.6	16	ND	Complying
		296 dt. 30.03.18	14	48	8.2	18	ND	Complying
		63, 20.06.18	16	48	7.6	20	ND	Complying
		166, 21.09.18	10	24	8.2	12	ND	Complying
52	10 MLD STP Majra, Fatehabad	65, 20.06.18	5	16	7.6	10	ND	Complying
		168, 21.09.18	6	16	8	10	ND	Complying
53	% MLD Fatehabad	Recently commissioned						

Annexure-XIII

A. Ground Water Analysis results- collected by HPSPCB and I & PH, Govt. of H.P from the Sukhna Nallah Catchment area (During November to December 2018)

S. No.	Locations	TEST Parameter /Unit	Date of Test	Temp.	Turbidity	pH	TDS (mg/l)	Total Alkallnity (mg/l)	Cl (mg/l)	Total Hardness (mg/l)	Nitrate (mg/l)	F in mg/l	Sulahate in mg/l	NH_3 in mg/l	Iron in mg/l	Mn in mg/l	Total As In mg/l
1		Hand Pump Near Shiv Mandir, Near Parawanoo	Date of Test: 17-12-2018	16.9^{0}C	6.70	8.70									0.164	0.0	0.0
2		Hand Pump Nr. Parwanoo HRTC	Date of Test: 17-12-2018	16.9°C	11.80	7.70	497.1	**520**	28.4	20	0.66	**1.5**	43.40	0	**0.584**	0.0	0.0
3		Hand Pump Upper Nr. Gurudwara Parwanoo	Date of Test: 17-12-2018	16.4°C	35.60	7.15									**1.0**	0.118	0.0
4		Hand Pump Nr. Balaka Devi Mandir Taksal	Date of Test: 17-12-2018	13°C	18.80	7.83	329.3	**312**	42.6	160	3.05	0.002	27.10	0.0	**0.484**	0.0	0.0
5		Hand Pump Nr. Middle School Taksal	Date of Test: 17-12-2018	17.5°C	19.50	7.50									**0.452**	0.0	0.0
6		Hand Pump Nr. Sector- V Parwanoo	Date of Test: 17-12-2018	16.4C	7.30	8.50									**0.38**	0.0	0.0
7		Hand Pump Sector-I	Date of Test: 18-12-2018	14.3C	0.00	9.39	390.6	**300**	71.0	200	22.54	0.046	121.90	0.034	0.024	0.0	0.0
8		Hand Pump Sector-IV Parwanoo	Date of Test: 18-12-2018	14.4°C	0.00	8.62									**0.78**	0.0	0.0
9		Hand Pump Nr. HRTC Work Shop Parwanoo	Date of Test: 18-12-2018	14.6°C	0.00	9.24	270	**240**	28.4	172	23.74	0.196	9.70	0.0	0.148	0.0	0.0
10	**Water Sampling of Borewell/ Hand pumps and Water Supply Schemes Near Parwanoo area**	Hand Pump Nr. House of Sh. Raghu Raj Parwanoo	Date of Test: 18-12-2018	14.6°C	0.00	7.80									**0.68**	0.0	0.0
11		Hand Pump Nr. Ex MLA Parwanoo	Date of Test: 18-12-2018	14.6°C	0.00	7.60	355.3	**380**	48.28	**208**	0.87	0.13	24.50	0.0	**0.744**	0.0	0.0
12		Hand Pump/ Bore Well Purla Parwanoo	Date of Test: 18-12-2018	14.4°C	0.00	8.50	**621.1**	**780**	31.24	60.0	0.41	**1.5**	18.01	0.0	**1.0**	0.0	0.0
13		Spring Source Datyar	Date of Test: 18-12-2018	14.7°C	0.00	7.30											
14		Hand Pump Kamli Nr. Primary School	Date of Test: 20-12-2018	12.9°C	5.00	8.84	**531.6**	**572**	14.2	10.0	0.23	1.2	87.60	0.0			
15		Hand Pump/Borewell Papoli	Date of Test: 20-12-2018	13.1°C	25.80	7.96	**524.7**	**604**	39.76	8.0	0.64	0.212	15.10	0.0			

16		Hand Pump Sector 4 Nr. Shiv Mandir Parwanoo	Date of Test: 20-12-2018	13.5°C	265.60	7.16											
17		Hand Pump Nr. Village Abhota	Date of Test: 20-12-2018	13.9°C	173.00	7.82											
18		Hand Pump tikkri Nr. Sector-4 Parwanoo	Date of Test: 20-12-2018	14.2°C	2.80	7.90	**527.6**	**560**	14.2	12.0	0.3	1.06	88.70	0.0			
19		GWSS Taksal	Date of Test: 20-12-2018	14.2°C	0.00	8.21	408.5	**336**	82.36	**212**	44.3	0.17	18.10	0.048			
20		GWSS Dhaggar	Date of Test: 20-12-2018	14.1°C	0.00	7.80	405.9	**328**	85.2	196.0	45	0.23	15.40	0.028			
21	**Water Sampling of Borewell/Hand pumps and Water Supply Schemes Near Parwanoo area**	Hand Pump Naryal	Date of Test: 20-12-2018	14.3°C	63.50	7.90											
22		Hand Pump Chanderyani	Date of Test: 20-12-2018	14.7°C	1.00	7.94											
23		Hand Pump Nr. Kurla School	Date of Test: 20-12-2018	16.0°C	0.00	9.20											
24		Bore Well Dhaggar	Date of Test: 03-05-2018	26.9°C	0.00	7.50											
25		Bore Well Taksal	Date of Test: 03-05-2018	26.9°C	0.00	7.60											
26		LWSS Masool Khanna	Date of Test: 25-05-2018	31.7°C	0.00	8.50											
27		Bore Well Nr. Mangla Mata Mandir Dhaggar	Date of Test: 12-06-2018	30.4°C	0.00	7.10											
28		GWSS Khadeen	Date of Test: 15-06-2018	29.5°C	0.00	8.28											

B. Analysis Results of 22 Drinking Water Samples collected by H.P SPCB and I & PH Department, GoHP in River Markanda Catchment Area (carried out during November-December 2018)

S. No.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	*13.*	14.	15.	16.	17.	18.	19.	20.	21.	22.
Parameter	**Am bwa la**	**Satiw ala**	**Matt ar Bher on**	**Koon Makke r wali**	**Ruk hri**	**Konth ron**	**Sham bu wala**	**Ambw ala Sainw ala**	**Uttam wala Badava n**	**Bohli on**	**Dew ni**	**Nahan (Tube well 1)**	***Nahan (Tube well 4)***	**Nahan (Tubew ell)**	**Tirlok pur**	**Kher i**	**Johron**	**Nahan (Tubew ell 2)**	**Mogin a nad**	**Nag al Suke ti**	**Nahan (Tubewe ll 3)**	**Mogi nand**
Alkalinity (mg/l)	**193**	**189**	**194**	**189**	**195**	**189**	**189**	**193**	**189**	**179**	**194**	**189**	***173***	**184**	**179**	**195**	**194**	**189**	**191**	**179**	**194**	**194**
Hardness (mg/l)	**196**	**194**	**198**	**194**	**192**	**81**	**171**	**186**	**194**	**194**	**153**	**178**	***132***	**192**	**126**	**165**	**138**	**142**	**134**	**66**	**116**	**157**
TDS (mg/l)	**264**	**352**	**370**	**319**	**347**	**389**	**320**	**266**	**355**	**353**	**426**	**324**	***326***	**344**	**314**	**317**	**469**	**325**	**273**	**477**	**324**	**408**
Turbidity (NTU)	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	***<0.1***	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
Ammonia (mg/l)	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	***<0.3***	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**
Chloride (mg/l)	**15**	**14**	**13**	**12**	**12**	**12**	**11**	**15**	**11**	**13**	**24**	**20**	***20***	**17**	**14**	**41**	**53**	**15**	**16**	**50**	**17**	**20**
Fluoride (mg/l)	**0.26**	**0.11**	**0.27**	**0.24**	**0.52**	**<0.1**	**<0.1**	**0.31**	**0.3**	**0.32**	**0.41**	**0.41**	***0.29***	**<0.1**	**0.27**	**0.14**	**<0.1**	**0.32**	**0.19**	**<0.1**	**0.15**	**0.18**
Nitrate (mg/l)	**6.1**	**3.9**	**6.7**	**5.5**	**3**	**<1**	**4**	**3.7**	**3.4**	**1.9**	**16**	**11.4**	***12.5***	**11.8**	**16**	**13**	**27**	**12.5**	**13**	**9.7**	**13**	**4.8**
pH	**7.27**	**7.21**	**7.35**	**7.29**	**7.21**	**7.43**	**7.23**	**7.27**	**7.23**	**7.07**	**7.17**	**7.08**	***7.22***	**7.27**	**7.32**	**7.47**	**7.23**	**7.34**	**7.44**	**7.15**	**7.22**	**7.65**
Sulphate (mg/l)	**46**	**143**	**121**	**25**	**156**	**10.8**	**32**	**43**	**144**	**133**	**47**	**29**	***27***	**33**	**30**	**69**	**105**	**33**	**60**	**44**	**32**	**54**
Arsenic (mg/l)	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	***<0.01***	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**
Aluminium (mg/l)	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	***<0.1***	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
Copper (mg/l)	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	***<0.02***	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**

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Analysis results of the Ground Water in H.P. – River Markanda Catchment contd...

S. No.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.
Parameter	**Ambwala**	**Satiwala**	**Mattar Bheron**	**Koon Makkerwali**	**Rukhri**	**Konthron**	**Shambuwala**	**Ambwala Sainwala**	**Uttamwala Badavan**	**Bohlion**	**Dewni**	**Nahan (Tube well 1)**	**Nahan (Tube well 4)**	**Nahan (Tubewell)**	**Tirlokpur**	**Kheri**	**Johron**	**Nahan (Tubewell 2)**	**Mogina nad**	**Nagal Suketi**	**Nahan (Tubewell 3)**	**Mogi nand**
Chromium (mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Iron (mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	0.08	0.15	<0.05	<0.05	0.09	0.16	0.08
Lead (mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Manganese (mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Mercury (mg/l)	<0.0005	<0.00005	<0.00005	<0.0005	<0.00005	<0.0005	<0.00005	<0.0005	<0.0005	<0.00005	<0.00005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00005	<0.0005	<0.0005	<0.00005	<0.0005	<0.0005	<0.00005
Nickel (mg/l)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium (mg/l)	1.4	1.4	1.4	1.6	1.5	2.4	1.4	1.5	1.7	1.2	2.9	22.2	1.9	2.3	1.9	2	1.5	2.3	1.7	3.6	2.1	1.8
Selenium (mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver (mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium (mg/l)	24.9	17.9	22.8	24.5	22.5	30	28	22	22	23.6	23	24.5	27	29.4	26	27	30	26	25	23	27	31
Zinc (mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
T.Coli (MPN/100ml)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
E.Coli (MPN/100ml)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

C. Ground Water Aanlysis Results of 07 Drinking Water Suppy Schemes carriedout by HP SPCB and I & PH Department, GoHP (during November to December 2018) in catchment area of Kala Amb

S. No	Point of Collection	pH	Cond. (µS/ cm)	COD (mg/l)	BOD (mg/l)	TSS (mg/l)	TDS (mg/l)	Total Hardness (mg/l)	Cl (mg/l)	Ca++ (mg/l)	Mg++ (mg/l)	PA (mg/l)	TA (mg/l)	SO4 (mg/l)	Bo (mg/l)	F^- (mg/l)	PO_4 (mg/l)	NH3-N (mg/l)	NO3- N (mg/l)	Phenol (mg/l)	Na+ (mg/l	K+ (mg/l	Cd (mg /l)	Cu (mg /l)	Zn (mg /l)	Ni (mg /l)	Pb (mg/l)
1	M/s Ruchira Papers (P) Ltd., Trilokpur Raod, Kala Amb (Borewell No.7)	7.11	379.0	2.4	0.1	2.0	288.0	172.0	32.66	62.4	3.9	Nil	345.0	36.9	0.15	0.180	ND	Nil	0.40	Nil	21.48	1.52	ND	ND	0.12	ND	ND
2	M/s Ruchira Papers (P) Ltd., Trilokpur Raod, Kala Amb (Borewell No.5)	7.08	432.0	3.2	0.1	1.0	316.0	216.0	21.30	73.6	7.8	Nil	385.0	44.8	0.18	0.209	ND	Nil	0.49	Nil	23.88	1.24	ND	ND	0.29	ND	ND
3	M/s Ruchira Papers (P) Ltd., Trilokpur Raod, Kala Amb (Borewell No.8)	7.13	395.0	2.8	0.1	2.0	302.0	188.0	21.30	71.2	2.4	Nil	355.0	33.1	0.18	0.156	ND	Nil	0.45	Nil	24.32	1.49	ND	ND	ND	ND	ND
4	M/s Ruchira Papers (P) Ltd., Trilokpur Raod, Kala Amb (Borewell No.4)	7.16	473.0	3.6	0.1	3.0	344.0	214.0	35.50	76.8	5.4	Nil	425.0	41.7	0.17	0.173	ND	Nil	0.48	Nil	27.67	1.55	ND	ND	0.07	ND	ND
5	M/s Pashupati Spinning & Weaving (P) Ltd., Trilokpur Raod, Kala Amb (Borewell)	7.01	899.0	7.2	0.2	2.0	598.0	216.0	32.66	76.0	6.3	Nil	455.0	30.7	0.16	0.213	ND	Nil	0.50	Nil	33.36	2.17	ND	ND	0.37	ND	ND
6	M/s Pioneer Embroideries, Trilokpur Raod, Kala Amb (Borewell)	7.31	438.0	4.8	0.1	4.0	358.0	162.0	21.30	46.4	11.2	Nil	415.0	23.4	0.09	0.205	ND	Nil	0.43	Nil	32.67	1.71	ND	ND	0.61	ND	ND
7	M/s United Biscuits (P), Ltd., Trilokpur Raod, Kala Amb (Borewell)	7.47	566.0	11.2	0.3	8.0	426.0	180.0	42.60	68.8	1.9	Nil	445.0	61.1	0.14	0.279	ND	Nil	0.50	Nil	54.62	2.14	ND	ND	0.42	ND	ND

Annexure-XIV

Analysis Results of Ground Water Samples collected in Chandigarh (For General Parameters)
(Collected during pre and post-monsoon in the year 2018)

S.No.	Parameters	Acceptable Limit as per IS 10500-2012	Units	Dadu Majra		SEC-15		SEC-22		VILL PALSORA		DHANAS		Sec -35		Sec -20	
				April	Oct	April	Oct	April	Oct	April	Oct	April	Oct	April	Oct	April	Oct
1	Temp.	--	^{0}C	21.5	24.0	22.0	24.5	22.0	--	22.0	24.0	22.5	24.0	22.0	24.0	20.5	24.0
2	pH	**6.5 to 8.5**	--	7.6	7.6	7.0	7.6	7.0	--	7.0	7.2	7.3	7.7	7.0	7.3	7.2	7.4
3	Conductivity	--	µs/cm	746	753	938	878	853	--	1181	1210	664	647	905	863	721	662
4	BOD	--	mg/l	<1	<1	<1	<1	<1	--	<1	2	<1	<1	<1	<1	<1	<1
5	COD	--	mg/l	9	21	4	21	8	--	7	28	10	17	8	24	7	21
6	NO_3-N	**45**	mg/l	2.80	2.50	1.70	5.9	1.60	--	0.40	<1	2.60	2.6	5.20	4.70	4.60	4.90
7	NH_3-N	**0.5**	mg/l	BDL	**0.85**	**1.03**	**0.92**	0.15	--	**0.76**	**1.44**	0.49	**0.77**	BDL	**0.55**	BDL	**1.03**
8	Turbidity	**1**	NTU	**3**	**2**	**132**	**44**	**4**	--	**50**	**13**	**46**	**18**	**4**	**5**	**6**	**4**
9	P-alk	--	mg/l	14	NIL	28	NIL	18	--	16	NIL	12	NIL	18	NIL	20	NIL
10	T-alk	**200**	mg/l	**322**	**354**	**366**	**374**	**352**	--	**450**	**496**	**310**	**328**	**412**	**412**	**288**	**280**
11	Hardness as $CaCO_3$	**200**	mg/l	294	240	262	180	294	--	244	160	204	180	**314**	200	278	260
12	Ca as $CaCO_3$	-	mg/l	224	146	142	90	274	--	212	72	182	116	256	116	228	174
13	Mg as $CaCO_3$	-	mg/l	70	94	120	90	20	--	32	88	22	64	58	84	50	86
14	Sulphate	**200**	mg/l	35	39	55	50	33	--	66	72	18	22	34	39	51	51
15	TDS	**500**	mg/l	394	**656**	**590**	**769**	421	--	**627**	**765**	353	368	489	**528**	388	398
16	Total Fixed Solid	--	mg/l	355	370	567	460	436	--	616	552	270	258	398	378	331	310
17	TSS	--	mg/l	4	4	147	8	9	--	8	7	17	7	2	4	3	5
18	Fluoride	**1**	mg/l	0.85	0.77	0.14	0.31	0.46	--	0.34	0.28	BDL	BDL	0.20	0.37	0.90	0.88
19	Chloride	**250**	mg/l	50	35	45	45	45	--	80	85	20	18	27	28	23	16
20	Phosphate	--	mg/l	0.02	BDL	0.35	BDL	0.01	--	0.05	BDL	0.01	BDL	0.02	BDL	0.04	BDL
21	Colour	**5 Hazaen**		<5	<5	**10**	**10**	<5	--	**10**	**10**	**10**	<5	<5	<5	<5	<5
22	Boron	**0.5**	mg/l	0.07	<1	0.05	<1	0.06	--	0.11	<1	0.07	<1	0.07	<1	0.06	<1
23	TKN	-	mg/l	BDL	<1	BDL	<1	BDL	--	BDL	<1	BDL	<1	BDL	<1	BDL	<1
24	Sodium	-	mg/l	51	49	38	32	42	--	128	128	41	36	38	28	44	39
25	Potassium	-	mg/l	BDL	1	3	3	1	--	5	5	2	2	2	2	BDL	<1
26	Fecal Coliform	**ND**	In 100ml	**34**	<2	--	<2	**22**	--	--	**11**	**84**	<2	<2	<2	<2	<2
27	Total Coliform	**ND**	In 100ml	**39**	<2	--	7	**26**	--	--	**32**	**94**	<2	<2	<2	<2	<2

Annexure-XV

Analysis Results of Ground Water Samples Collected in the Caatchment of River Ghaggar in Punjab (Collected during November and December 2018)

S. No.	Location of sampling	Date of sampling	Analysis results in mg/l										Whether conforming to the Drinking Water Standards or not. (Yes/No)
			F	SO_4	Cd	Cu	Pb	Ni	Zn	As	Hg	O & G	
	Prescribed Drinking Water Standards as per IS:10500-2012	**Acceptable limits (in mg/l)**	1.0	200	0.003	0.05	0.01	0.02	05	0.01	0.001	-	
		Permissible limits (in mg/l)	1.5	400	0.003	1.5	0.01	0.02	15	0.05	0.001		
1.	Groundwater sample collected from the tubewell exists near the ETP of M/s Nahar Industrial Enterprises Ltd. (Process House-1), Village Jalalpur, Dera Bassi	17.12.2018	0.53	21	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	Yes
2.	Groundwater sample collected from the tubewell within the premises of M/s Rainbow Denim Ltd., Village Chaundheri, Dera Bassi	04.12.2018 Tubewell-1	0.48	17	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	Yes
		04.12.2018 Tubewell-2	0.39	23	BDL	0.006	BDL	BDL	BDL	BDL	BDL	--	Yes
3.	Groundwater sample collected from tubewell within the premises M/s Nahar Industrial Enterprises Ltd. (Process House-2), Village Jalalpur, Dera Bassi	10.12.2018 Tubewell-1	0.41	15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	Yes
		10.12.2018 Tubewell-2	0.58	16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	Yes
		10.12.2018 Peizometric well	0.55	6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	Yes
4.	Groundwater sample collected from tubewell within the premises M/s Bhandari Export Industries Ltd., Village Sarsini, Dera Bassi	14.12.2018 Tubewell	0.57	28	BDL	0.006	BDL	BDL	BDL	BDL	BDL	--	Yes
5.	Groundwater sample collected from tubewell within the premises M/s Rama Industries Ltd., Village Chaundheri, Dera Bassi	10.12.2018 Tubewell-1	0.65	24	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	Yes
		10.12.2018 Tubewell-2	0.42	23	BDL	BDL	BDL	0.007	BDL	BDL	BDL	--	Yes

6.	Groundwater sample collected from tubewell within the premises M/s TC Terrytex Ltd., Village Sarsini, Dera Bassi	05.12.2018 Tubewell	0.48	33	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	Yes
7.	Groundwater sample collected from tubewell within the premises M/s SHL Agro Foods Ltd., Village Jaula Khurd, Dera Bassi	13.12.2018 Tubewell	0.56	12	BDL	BDL	BDL	0.009	BDL	BDL	BDL	--	Yes
8.	Groundwater sample collected from tubewell within the premises M/s Rana Polycot (Dyeing Division), Village Alamgir, Dera Bassi	05.12.2018 Tubewell 1	0.77	60	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
9.	Groundwater sample collected from tubewell within the premises M/s Kamal Hi-tech Engineers (P) Ltd., Plot No. 10-11, Focal Point. Dera Bassi	29.11.2018	0.28	9	BDL	BDL	BDL	0.008	BDL	BDL	BDL	--	Yes
10.	Ground water samples taken from M/s Cad Chem Laboratories Ltd., Village Daula Kalan, Tehsil Dera Bassi, Distt. SAS Nagar	28.12.2018	0.36	35	BDL	BDL	BDL	BDL	0.90	BDL	BDL	-	Yes
11.	Ground water samples taken from M/s Nahar Spinning Mills Ltd. (Mercerising & Dyeing Unit), Village Jalalpur, Tehsil Dera Bassi, Distt. SAS Nagar	26.12.2018 Hand pump near Residential ETP	0.39	29	BDL	0.009	BDL	BDL	2.26	BDL	BDL	-	Yes
		26.12.2018 Tubewell No. 2	1.37	45	BDL	BDL	BDL	BDL	0.20	BDL	BDL	-	Concentration of Fluoride is more than the acceptable limit but below the permissible limit.
12.	Ground water samples taken from M/s Oswal Denim Ltd. (Nahar Complex), PO Dappar, Tehsil Dera Bassi, Distt. SAS Nagar	28.12.2018 Tubewell No. 2	2.08	72	BDL	BDL	BDL	BDL	0.28	BDL	BDL	-	Concentration of Fluoride is more than the acceptable as well as permissible limits
13.	Ground water samples taken from M/s Panacea Biotech Ltd. Village Samalheri, Lalru, Tehsil Dera Bassi, Distt. SAS Nagar	25.12.2018 Tubewell No. 1	1.89	51	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Concentration of Fluoride is more than the acceptable as well as permissible limits
14.	Ground water samples taken from M/s Vishal Papertech (India) Ltd., VPO Mubarakpur, Tehsil Dera Bassi, Distt. SAS Nagar	25.12.2018 Tubewell No. 2	0.23	11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
15.	Ground water samples taken from M/s Molsoon Coors India Pvt. Ltd., Village Bhankharpur, Tehsil Dera Bassi, Distt. SAS Nagar	28.12.2018 Piezometric well in plantation area	0.26	30	BDL	BDL	BDL	0.010	0.14	BDL	BDL	-	Yes
		28.12.2018 Tubewell	0.19	20	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes

16.	M/s Mittal Cardboard Mills, Vill. Dudhar, Tehsil & Distt. Patiala From the tube well located within the industry **Lat. 30.259377 Long.76.344968**				04.12.2018	0.85	34	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Yes
17.	M/s S.S.G Paper Mills LLP, Village Khusropur, Tehsil & Distt. Patiala. From the tube well located in the unit. **Lat. 30.2798 Long. 76.35952**				04.12.2018	0.59	24	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Yes
18.	Shree Swami Card Board Mills, Bhanri Road, Vill. Main, Distt. Patiala. From the tube well located in the unit. **Lat. 30.272617 Long. 76.349077**				04.12.2018	1.01	16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Yes
19.	DSG Paper Mill, Vill. Bhanri Road, Maine Road, Patiala. From the tubewells located around the boundary of the industry.				10.12.2018											
	No.	**Distance**	**Latitude**	**Longitude**												
	P-1	83 m	30.252628	76.333456		0.44	9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Yes
	P-2	4.2 m	30.253732	76.33447		0.35	8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Yes
	P-3	1.7 m	30.25236	76.33577		0.50	11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Yes
	P-4	56 m	30.255437	76.336703		0.51	8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Yes
	P-5	160 m	30.252575	76.332705		0.46	6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Yes
20.	Patiala Distillers & Mfrs. Pvt. Ltd., Vill. Main, Patiala.				03.12.2018											
	No.	**Distance**	**Latitude**	**Longitude**												
	P-1	161 m	30.269622	76.341135		0.56	43	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Yes
	P-2	12 m	30.267787	76.340538		0.53	30	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Yes

	P-3	38 m	30.266235	76.337808		0.47	36	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Yes
	P-4	4 m	30.266347	76.335942		0.48	28	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Yes
21.	Vishal Paper Industries Pvt. Ltd., Vill. Khusropur, Patiala & Vishal Coater Pvt. Ltd., Vill. Khusropur, Patiala				07.12.2018											
	No.	**Distance**	**Latitude**	**Longitude**												
	P-1	Within the industry	30.274253	76.357107		0.57	111	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Yes
	P-2	Within the industry	30.273735	76.356975		0.59	112	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Yes
	P-3	Within the industry	30.273768	76.356283		0.53	143	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Yes
	P-4	Within the industry	30.273933	76.355717		0.23	96	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Yes
	P-5	Within the industry	30.271843	76.357807		0.59	112	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Yes
22	Tubewell in the premises of M/s Kesri Nandan, Khanouri, Distt. Sangrur				04.12.2018	BDL	18	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
23	Tubewell in the premises of M/s Shiv Shakti Rice Mill, Moonak, Distt. Sangrur				04.12.2018	BDL	7	BDL	0.008	BDL	BDL	0.15	BDL	BDL	-	Yes
24	Tubewell in the premises of M/s Guru Nanak Rice Ind., Khanouri, Distt. Sangrur				04.12.2018	BDL	22	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
25	Tubewell in the premises of M/s Shiv Shankar Rice Mills, Khanouri, Distt. Sangrur				04.12.2018	BDL	25	BDL	0.006	BDL	BDL	BDL	BDL	BDL	-	Yes
26	Tubewell in the premises of M/s Ricela Foods, Sunam, Distt. Sangrur				05.12.2018	BDL	8	BDL	BDL	BDL	BDL	0.29	BDL	BDL	-	Yes
27	Tubewell in the premises of M/s Karan Rice Mills, Sunam, Distt. Sangrur				05.12.2018	BDL	11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
28	Tubewell in the premises of M/s Jai Durga Perfect Foods, Sunam, Distt. Sangrur				05.12.2018	BDL	14	BDL	0.006	BDL	BDL	BDL	BDL	BDL	-	Yes
29	Tubewell in the premises of M/s Malwa & Modern Rice & Gen. Mills, Jakhal Road, Sunam Distt. Sangrur				05.12.2018	BDL	8	BDL	BDL	BDL	BDL	0.11	BDL	BDL	-	Yes

30	Tubewell 1 in the premises of M/s Sangrur Distt. Milk Producers Union Ltd., Sangrur	06.12.2018	BDL	10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
31	Tubewell 2 in the premises of M/s Sangrur Distt. Milk Producers Union Ltd., Sangrur	06.12.2018	BDL	13	BDL	BDL	BDL	BDL	0.28	BDL	BDL		Yes
32	Tubewell in the premises of M/s Laurus Industries, Sangrur	06.12.2018	BDL	26	BDL	BDL	BDL	BDL	0.15	BDL	BDL	-	Yes
33	Tubewell in the premises of M/s Maghan Paper Mills, Sangrur	06.12.2018	BDL	29	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
34	Submersible pump near boiler house in the premises of M/s A.P. Organics, Vill. Manwala, Dhuri, Distt. Sangrur	07.12.2018	0.11	10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
35	Tubewell in the premises of M/s Ricela Health Foods, Dhuri, Distt. Sangrur	07.12.2018	BDL	13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
36	Tubewell near Boiler House in the premises of M/s A.P. Oraganics II, Vill. Manwala, Dhuri, Distt. Sangrur	07.12.2018	0.11	14	BDL	BDL	BDL	BDL	0.49	BDL	BDL	-	Yes
37	Tubewell in the premises of M/s Pranshu Foods P Ltd., Dehla Road, Moonak	10.12.2018	BDL	39	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
38	Tubewell near main office in the premises of M/s Shiv Shakti Rice Mills, Khokhar Kalan, Lehra, Distt. Sangrur	10.12.2018	BDL	47	BDL	0.014	BDL	BDL	BDL	BDL	BDL	-	Yes
39	Tubewell in the premises of M/s Bansal Rice Mills, Jhallon, Distt. Sangrur	10.12.2018	BDL	66	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
40	Tubewell in the premises of M/s Goyal Rice Mills, Dehlan Road, Moonak, Distt. Sangrur	10.12.2018	BDL	32	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
41	Tubewell in the premises of M/s Bansal Agro Products, Dehla Road, Moonak, Distt. Sangrur	10.12.2018	BDL	34	BDL	0.006	BDL	BDL	BDL	BDL	BDL	-	Yes
42	Tubewell-1 near Boiler House in the premises of M/s Golden Paper Board Mill, Vill. Bordwal, Dhuri, Distt. Sangrur	11.12.2018	BDL	13	BDL	0.011	BDL	BDL	BDL	BDL	BDL	-	Yes
43	Tubewell near Boiler House in the premises of M/s Gahir Paper Mills, Sunam, Distt. Sangrur	11.12.2018	BDL	8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
44	Tubewell near washing area in the premises of M/s Rock & Storm Distilleries, Vill. Chajjli, Sunam, Distt. Sangrur	11.12.2018	BDL	66	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
45	Tubewell near Cane Handling area in the premises of M/s Bhagwanpura Sugar Mill, Dhuri, Distt. Sangrur	11.12.2018	BDL	83	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes

46	Tubewell near Residential Handling area in the premises of M/s Bhagwanpura Sugar Mill, Dhuri, Distt. Sangrur	11.12.2018	BDL	15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
47	Tubewell near main gate of M/s Pepsico (Fritolay), Bhawanigarh, Distt. Sangrur	13.12.2018	0.30	11	BDL	0.008	BDL	0.008	0.16	BDL	BDL	-	Yes
48	Tubewell near boiler area in the premises of M/s Pepsico (Fritolay), Bhawanigarh, Distt. Sangrur	13.12.2018	BDL	12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
49	Tubewell near Guest house in the premises of M/s Indian Acrylics Ltd., Village Harkrishanpura, Sangrur	13.12.2018	BDL	22	BDL	BDL	BDL	0.006	BDL	BDL	BDL	-	Yes
50	Tubewell near ware house in the premises of M/s Indian Acrylics Ltd., Village Harkrishanpura, Sangrur	13.12.2018	BDL	21	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
51	Tubewell in the premises of M/s International Fresh Farm Products Ltd., Vill. Channo, Bhawanigarh, Distt. Sangrur	13.12.2018	BDL	10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
52	Tubewell no. 2 near utility area in the premises of M/s Pepsico (Concentrate), Bhawanigarh, Distt. Sangrur	13.12.2018	BDL	8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
53	Tubewell near ware housein the premises of M/s Moonak Distillery, Moonak, Distt. Sangrur	14.12.2018	BDL	6	BDL	BDL	BDL	BDL	0.25	BDL	BDL	-	Yes
54	Tubewell in the premises of M/s Arihant Industries, Khadial Road, Sunam, Distt. Sangrur	14.12.2018	BDL	6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	Yes
55	From tubewell no.1 near River Sardulgarh	20.12.2018	0.35	14	BDL	BDL	BDL	BDL	BDL	-	BDL	-	Yes
56	From tubewell no.2 near River Sardulgarh	20.12.2018	0.32	12	BDL	BDL	BDL	BDL	BDL	-	BDL	-	Yes
57	M/s Bhikhi Surgicare,Bhikhi,District Mansa	04.12.2018	0.74	57	BDL	BDL	BDL	BDL	BDL	-	BDL	-	Yes
58	M/s Viaton Energy P Ltd, Village Khokhar, District Mansa	03.12.2018	**1.94**	**326**	BDL	BDL	BDL	BDL	BDL	-	BDL	-	Not conforming to acceptable limit but conforming to permissible limit in respect of sulphate. However, concentration of

													Fluoride is beyond the acceptable as well as permissible limits.
59	M/s Doctor Surgical,New Focal Point,Dabwali Road,Bathinda	06.12.2018	**5.7**	196	BDL	BDL	BDL	BDL	BDL	-	BDL	-	Not conforming to acceptable as well as permissible limits in respect of Fluoride.
60	M/s AVC Motors, Sri Muktsar Sahib	14.12.2018	**4.64**	80	BDL	BDL	BDL	BDL	BDL	-	BDL	-	Not conforming to acceptable as well as permissible limits in respect of Fluoride.
61	M/s Ekam Agro P Ltd, Sri Muktsar Sahib	14.12.2018	**1.25**	**522**	BDL	0.01	BDL	BDL	BDL	-	BDL	-	Not conforming to acceptable limit but conforming to permissible limit in respect of Fluoride. However, concentration of Sulphate is beyond the acceptable as well as permissible limits.
62	M/s Aggarwal Agro Industries, Sri Muktsar Sahib	14.12.2018	0.29	**1039**	BDL	BDL	BDL	BDL	BDL	-	BDL	-	Not conforming to acceptable as well as permissible limits in respect of Sulphate.

Annexure-XVI

Ground Water Water Quality in the catchment of river Ghaggar in Haryana State (Carriedout by HSPCB during (Pre and post monsoon 2018)

1. Panchkula Region

Sr. No.	Sampling location	Analysis Report No.	Date of collection	Colour & Intensity	Odor	Human activities around station	pH (6.5 to 8.5 limit)	Conductivity	BOD mg/l	COD mg/l	Ammonia	Total Dissolved Solids mg/l (500 limits)	Total Suspended Solids mg/l
1	Hand Pump 500 m from Ghaggar River Near Pir Khwaja At Sarala Khurd.	4897, 11.05.2018	2.05.2018	Colourless	**Odourless**	--	7.92	2330	ND	33.2	ND	1416	15
2	Hand Pump 12 meter away from River Ghaggar at Vill- Tiwana	4592, 11.05.2018	2.05.2018	Light Yellowish	Odourless	--	7.71	666	ND	16.4		410	7
3	Borewell of Sh. Ram Chander Leather Units, Shiwala Mandi, Ambala.	4652, 14.05.2018	7.05.2018	Colourless	Odourless	--	7.51	8800	ND	139.2		5300	ND
4	Hand Pump no. 1 at Vill-Tiwana	4598, 11.05.2018	2.05.2018	Colourless	Odourless	--	7.94	2350	ND	48.4		1422	15
5	Hand Pump Sh. Mehar Singh, at vil- Rampur, Ambala	4593, 11.5.2018	2.05.2018	Yellowish	Odourless	--	8.26	840	ND	14.8		520	ND
6	Hand Pump Sh. Surinder Singh At vill Rampur, Ambala	4594, 11.05.2018	02.05.2018	Colourless	Odourless	--	8.26	835	ND	15.6	ND	530	ND
7	Tubewell NO. 2, Sector-24, HUDA, Panchkula	5365, 14.11.2018	02.11.2018	Colourless	Odourless	--	7.54		ND	8.8			ND
8	Tubewell NO. 3, Sector-24, HUDA, Panchkula	5319, 12.11.2018	30.10.2018	Colourless	Odourless	--	7.21		ND	17.2			ND
9	Tubewell No. 1, (HUDA division No. 3) Near dumping ground sector-23, Panchkula	5318, 12.11.2018	30.10.2018	Colourless	Odourless	--	6.91		ND	14			ND

Sr. No.	Sampling location	Analysis Report No.	Date of collection	Colour & Intensity	Odor	Human activities around station	pH (6.5 to 8.5 limit)	Conductivity	BOD mg/l	COD mg/l	Ammonia	Total Dissolved Solids mg/l (500 limits)	Total Suspended Solids mg/l
10	Tubewell No. 5, Sector-24, HUDA, Panchkula	5321, 12.11.2018	30.10.2018	Almost Colourless	Almost Odourless	--	7.18		ND	14.8			ND
11	Tubewell No. 4, Sector-24, HUDA, Panchkula	5320, 12.11.2018	30.10.2018	Almost Colourless	Almost Odourless	--	7.02		ND	15.6			ND
12	Tubewell No. 9, Sector-4, HUDA, Panchkula	5366, 14.11.2018	02.11.2018	Almost Colourless	Odourless	--	7.52		ND	10.4			ND
13	Tubewell No. 6, Div-II, Sector-24, Panchkula	5322, 12.11.2018	30.10.2018	Almost Colourless	Almost Odourless	--	6.9		ND	16	--		ND

	Sampling location	Total Hardness mg/l (300 limit)	Fluoride mg/l (1.0 limits)	Chloride mg/l (250 limits)	Sulphate mg/l (200 limits)	Calcium mg/l (75 limits)	Magnesium mg/l	Nickel mg/l	Copper mg/l (0.05 limits)	Chromium mg/l (0.05 limits)	Zinc mg/l (5 limits)	Lead mg/l(0.05 limits)	Iron mg/l (0.3 limits)
1a	Hand Pump 500 m from Ghaggar River Near Pir Khwaja At Sarala Khurd.	684		262		149.6	75.33	ND	ND	-	0.017		0.04
2a	Hand Pump 12 meter away from River Ghaggar at Vill- Tiwana	222		20		71.2	10.692	ND	ND		0.007		ND
3a	Borewell of Sh. Ram Chander Leather Units, Shiwala Mandi, Ambala.	1070		2630		252	106.92	ND	ND		0.054		0.062
4a	Hand Pump no. 1 at Vill-Tiwana	554		262		121.6	60.75	ND	ND		0.017		0.028
5a	Hand Pump Sh. Mehar Singh, at vil- Rampur, Ambala	242		68		76	12.636	ND	ND		0.015		ND
6a	Hand Pump Sh. Surinder Singh At vill Rampur, Ambala	200		72		41.6	23.328	ND	ND		0.014		ND
7a	Tubewell NO. 2, Sector-24, HUDA, Panchkula	266		14		65.6	24.786	ND	ND		0.076		0.38

	Sampling location	Total Hardness mg/l (300 limit)	Fluoride mg/l (1.0 limits)	Chloride mg/l (250 limits)	Sulphate mg/l (200 limits)	Calcium mg/l (75 limits)	Magnesium mg/l	Nickel mg/l	Copper mg/l (0.05 limits)	Chromium mg/l (0.05 limits)	Zinc mg/l (5 limits)	Lead mg/l(0.05 limits)	Iron mg/l (0.3 limits)
8a	Tubewell NO. 3, Sector-24, HUDA, Panchkula	242		38		56	24.786	ND	ND		0.002		0.07
9a	Tubewell No. 1, (HUDA division No. 3) Near dumping ground sector-23, Panchkula	107.2		32	-	88	11.664	ND	ND		0.037		ND
10a	Tubewell No. 5, Sector-24, HUDA, Panchkula	184		28		42.4	18.954	ND	ND		0.006		0.05
11a	Tubewell No. 4, Sector-24, HUDA, Panchkula	180		32		48.8	14.094	ND	ND		0.007		0.08
12a	Tubewell No. 9, Sector-4, HUDA, Panchkula	248		20		62.4	22.356	ND	ND		0.095		0.06
13a	Tubewell No. 6, Div-II, Sector-24, Panchkula	182	--	20	--	52.8	12.15	ND	ND	-	0.009	-	0.06

Jind Region

S. No.	Samplimg location	Analysis Report No.	Date of collection	Colour & Intensity (5 limits)	Odor	Human activities around station	pH (6.5 to 8.5 limit)	Conductivity	BOD mg/l	COD mg/l	Ammonia	Total Dissolved Solids mg/l(500 limits)	Total Suspended Solids mg/l
1	**Outlet of Hand pump installed by PHED near Rani Talab, Taxi Stand, Jind**	4420	28-Mar-18	Colourless	Odourless	Adjacent Commercia Market	7.56	305	Not Detected	8.8	Not Tested	190	4
2	Tubewali no. 1, Near upstream Ghaggar River at Village Chiali	4924	24.07.18	Colourless	Odourless	agriculture Fields	ND		13.2	8.70		ND	5
3	Tubewali no. 1, Near upstream Ghaggar River at Village Chiali	5036	21.08.18	Colourless	Odourless	agriculture Fields	ND		17.6	8.08		ND	7

S. No.	Samplimg location	Analysis Report No.	Date of collection	Colour & Intensity (5 limits)	Odor	Human activities around station	pH (6.5 to 8.5 limit)	Conductivity	BOD mg/l	COD mg/l	Ammonia	Total Dissolved Solids mg/l(500 limits)	Total Suspended Solids mg/l
4	Tubewali no. 1, Near upstream Ghaggar River at Village Chiali	5156	27.09.18	Colourless	Odourless	agriculture Fields	ND		29.6	8.38		ND	ND
5	Tubewali no. 1, Near upstream Ghaggar River at Village Chiali	5295	29.10.18	Colourless	Odourless	agriculture Fields	ND		18.8	6.76		ND	ND

Sr. No.	Samplimg location	Total Hardness mg/l (300 limit)	Fluoride mg/l (1.0 limits)	Chloride mg/l (250 limits)	Sulphate mg/l (200 limits)	Calcium mg/l(75 limits)	Magnesium mg/l	Nickel mg/l	Copper mg/l (0.05 limits)	Chromium mg/l(0.05 limits)	Zinc mg/l (5 limits)	Lead mg/l(0.05 limits)	Iron mg/l (0.3 limits)
1a	**Outlet of Hand pump installed by PHED near Rani Talab, Taxi Stand, Jind**	174	Not Tested	16	Not Tested	50.4	11.664	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested	
2a	Tubewali no. 1, Near upstream Ghaggar River at Village Chiali												
3a	Tubewali no. 1, Near upstream Ghaggar River at Village Chiali												
4 a	Tubewali no. 1, Near upstream Ghaggar River at Village Chiali												
5a	Tubewali no. 1, Near upstream Ghaggar River at Village Chiali												

Hisar

Sr. No.	Sampling location	Analysis Report No.	Date of collection	Colour & Intensity	Odor	Human activities around station	pH (6.5 to 8.5 limit)	Conductivity	BOD mg/l	COD mg/l	Ammonia	Total Dissolved Solids mg/l (500 limits)	Total Suspended Solids mg/l
1	Near Budhwana Ghat, Amandeep Tubewell, Farwai Kalan, Sirsa	258	19.11.18		odorless		8.6		ND	ND		92	12
2	Near point source, Village Kelania, Sirsa	259	19.11.18		odorless		8		ND	ND		120	14
3	Near point source, Gopal tubewell, Sirsa	260	19.11.18		odorless		8.3	-	ND	ND		120	12
4	Near Bridge, Sirsa - Dabwali Road, Sirsa, 1025 GH-1	261	19.11.18		odorless		8		ND	ND			
5	Near Chandpur Syphen, GH-2 1026, Fatehabad	262	19.11.18		odorless		8	-	ND	ND		190	14
6	Near ottu wier (1887) Sirsa	263	19.11.18		odorless		7.6	-		ND		170	16

Sr. No.	Sampling location	Total Hardness mg/l (300 limit)	Fluoride mg/l (1.0 limits)	Chloride mg/l(250 limits)	Sulphate mg/l (200 limits)	Calcium mg/l (75 limits)	Magnesium mg/l	Nickel mg/l	Copper mg/l (0.05 limits)	Chromium mg/l(0.05 limits)	Zinc mg/l (5 limits)	Lead mg/l (0.05 limits)	Iron mg/l(0.3 limits)
1a	Near Budhwana Ghat, Amandeep Tubewell, Farwai Kalan, Sirsa	190	ND	210	16	130	60	ND	ND	ND	ND	ND	ND
2a	Near point source, Village Kelania, Sirsa	100	ND	120	12	70	30			ND	ND		ND

Sr. No.	Sampling location	Total Hardness mg/l (300 limit)	Fluoride mg/l (1.0 limits)	Chloride mg/l(250 limits)	Sulphate mg/l (200 limits)	Calcium mg/l (75 limits)	Magnesium mg/l	Nickel mg/l	Copper mg/l (0.05 limits)	Chromium mg/l(0.05 limits)	Zinc mg/l (5 limits)	Lead mg/l (0.05 limits)	Iron mg/l(0.3 limits)
3a	Near point source, Gopal tubewell, Sirsa	130	ND	90	10	90	40			ND			
4a	Near Bridge, Sirsa - Dabwali Road, Sirsa, 1025 GH-1												
5a	Near Chandpur Syphen, GH-2 1026, Fatehabad	140	ND	190	16	100	40			ND	ND		ND
6a	Near ottu wier (1887) Sirsa	170	ND	180	16	110	60				ND		ND

Annexure-XVII to Annexure-XX

(Action Plans Submitted by the Punjab, Himachal Pradesh, Haryana State Governments and Chandigarh UT Administration for rejuvenation of River Ghaggar)

Annexure-XVII

(Action Plan For Rejuvenation of River Ghaggar Submitted by Himachal Pradesh)

Original Application. No. 138 of 2016 (T_{NHRC})
AND
Original Application No. 139 of 2016 (T_{NHRC}) dated 07.08.2018

in the matter of

"Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) and Yogender Kumar)

Comprehensive Report

on

Prevention and Control of Pollution in Ghaggar River: An Action Plan

for Rejuvenation of River Markanda at Kala Amb, District- Sirmour and Sukhna Nallah, District- Solan, HP

(Submitted in compliance to the Hon'ble National Green Tribunal (NGT) order dated August 07, 2018)

HP State Pollution Control Board

Him Parivesh, Phase – III, New Shimla - 171009

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Report on Prevention and Control of Pollution in River Ghaggar:
An Action Plan for Rejuvenation of River Markanda at Kala Amb, District-Sirmour and Sukhna Nallah at Parwanoo District Solan, HP

1.0 BACKGROUND:-Hon'ble National Green Tribunal passed the following orders in OA No. 138/2016 and 139/2018 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) and Yogender Kumar on 07.08.2018 as per excerpts below.

> *"In view of above disappointing scenario and utter failure of the Authorities in spite of pendency of these proceedings for the last 4 years and clean violation of law, there is no evidence of action taken against persons for responsible for the violation of law at large scale, we accordingly direct the Chief Secretaries of the States of Himachal Pradesh, Haryana, Punjab and also the Administrator of UT Chandigarh to constitute Special Task Force (STFs) comprising of District Magistrate, Superintendent of Police, Regional Officer of the State Pollution Control Boards in concerned District and one person to be nominated by the District Judge in every District in his capacity of Head of the District Legal Services Authority. Such STF may identify persons responsible for violation of law so that action can be taken. At the State level, the STF will comprise of the Chief Secretary, the Environment Secretary, the Secretary of Urban Development and Secretary of Local Bodies. The District level STFs will submit a monthly action taken report to the State STFs and the State STFs will furnish a 3 monthly report or the action taken to the Central Pollution Control Board. Such reports be uploaded on the websites of State Pollution Control Boards as well as the Environment Department of the States. Such STFs may be constituted within one month from today.*
>
> *Having regard to the alarming situation depicted in the joint inspection report apart from perusal action as above, an action plan with firm timelines is required to be prepared for preventing discharge of untreated effluents in the river by setting up appropriate anti-pollution device such as STP/ETP/CETP or any other such instruments. Wherever required polluting units have to be closed. The action plan must be realistic and provide for speedy mechanism……."*

2.0 About River Ghaggar and its tributaries in the State of Himachal Pradesh:

(a) The Ghaggar

It is an intermittent river in India, flowing during the monsoon season. It originates in the Shivalik Hills of Himachal Pradesh and flows through Punjab, Haryana and Rajasthan. In Himachal Pradesh, River Kaushalya is one of the main tributaries of River Ghaggar. Further, River Markanda, the second major tributary of River Ghaggar joins it at Ismailabad downstream of Shahbad. The main districts of Himachal Pradesh in Ghaggar basin are Solan and Sirmaur.

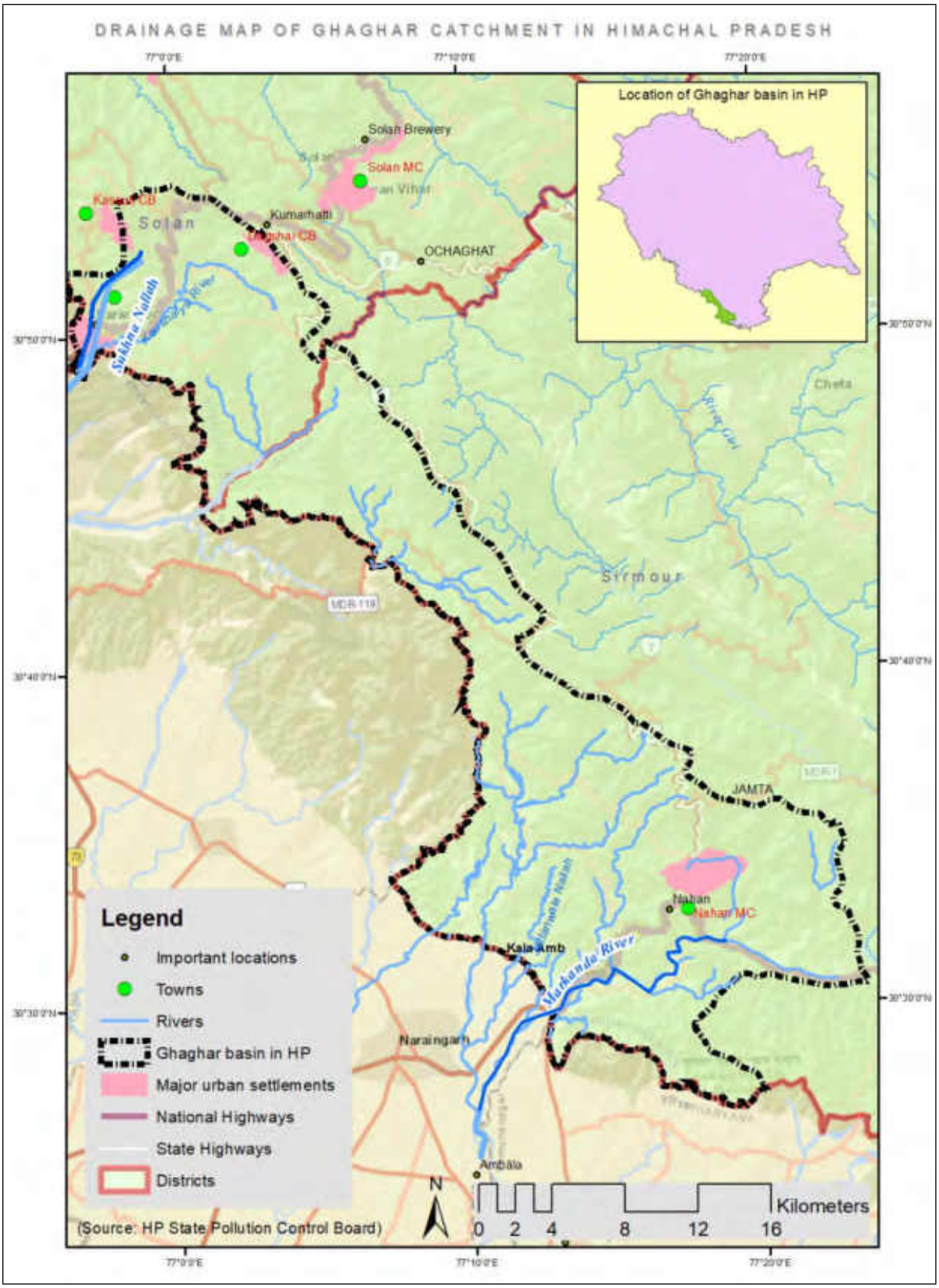

Figure 1: Digital Map showing Catchment Area of River Ghaggar in Himachal Pradesh

(b) **River Markanda**

It is a tributary of the River Ghaggar, which is supposed to be a part of the ancient Vedic Saraswati River basin system. There is a large historic temple on the bank of the river, which is called Markandeshwar, after the name of the famous Maharshi Markandeya. This is a small river of Nahan area, in the Sirmaur District, Himachal Pradesh. River Markanda enters Kala Amb at Bikram Bag and leaves at Sadhora Bridge. It covers a distance of about 24 KM in Himachal Pradesh from Rukhri to Kala Amb, thereafter the river covers a distance of approx. 130 KM in Haryana before joining River Ghaggar at Ismailabad downstream of Shahbad.

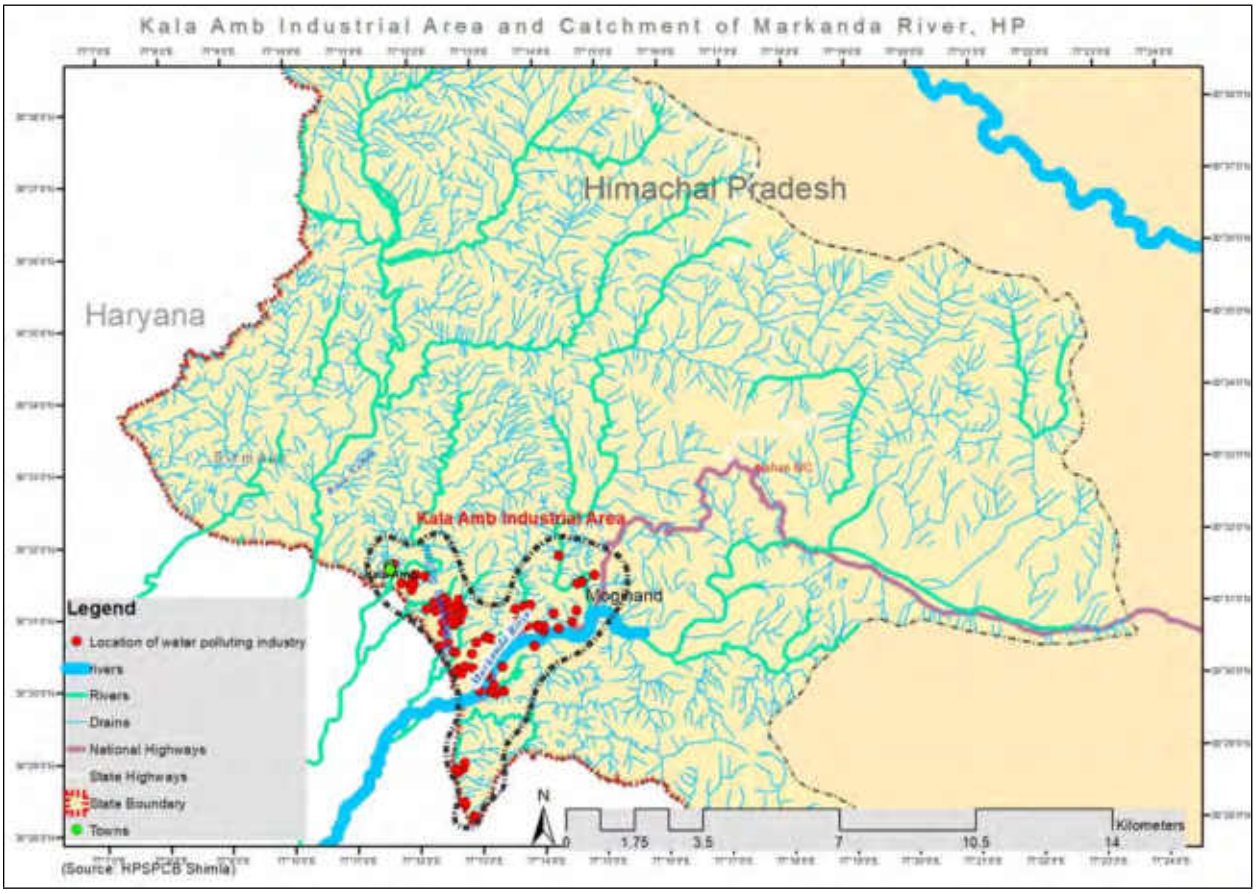

Figure 2: Digital Map showing Catchment Area of River Markanda at Kala Amb

(b) Sukhna Nallah

It is a tributary of the River Kaushalya and sub-tributary of River Ghagar. Sukhna Nallah originates in Kasauli hills and is a non-perennial intermittent Nallah which traverses through Parwanoo town. Parwanoo is a municipal council in Solan district in the Indian state of Himachal Pradesh. It is an industrial town. Parwanoo borders Panchkula district of Haryana, and is near to the towns of Pinjore and Kalka on the Chandigarh Shimla Highway. Sukhna Nallah forms a boundary between Kalka and Parwanoo. Sukhna Nallah traverses through Parwanoo, Kalka and Pinjore before meeting Ghaggar River

in Panchkula. Sukhna Nallah traverses a stretch of about 2.4 km in the state of Himachal Pradesh before entering Haryana at Kalka town.

Figure 3: Digital Map showing Catchment Area of Sukhna Nallah along with River Kaushalya

3.0 Water Quality Goals as per the existing provisions or guidelines/ specifications of Central Pollution Control Board (CPCB)

It is an important aspect for revival of River Markanda and Sukhna Nallah in context of their utility as both streams are non-perennial river/nallah. The ultimate goal for beneficial use of river will determine the level of actions to be taken for maintaining the water quality. Under the present circumstances, it appears that River Markanda and Sukhna nallah may serve the purpose of outdoor bathing (organized) and for this objective; generated domestic sewage should be treated to meet the outdoor bathing standards. Also, the industrial effluents generated from various industries in the catchment of River Markanda & Sukhna nallah, which are ultimately joining and contributing to the pollution load in river/nallah should be treated to meet the effluent discharge standards stipulated under Schedule-VI of the Environment (Protection) Rules, 1986 which is given as **Annexure-I.**

The requirement of river water quality for outdoor bathing (organized) also requires more stringent conditions and river water quality has to maintain adequate Dissolved Oxygen (DO) content. Suggested criteria for outdoor bathing (organized) in River Markanda and Sukhna nallah are given in the following **Table - 1**.

Table 1: Designated Water Quality Criteria for Outdoor Bathing of CPCB

Sr. No.	Parameters	Class 'B' Water Quality Criteria –for Outdoor Bathing (Organized)
1	pH	6.5 to 8.5
2	Dissolved Oxygen (DO)	5mg/l or more
3	Biochemical Oxygen Demand 5 days 20C	3mg/l or less
4	Faecal Coliforms Organism	MPN/100ml shall be 500 or less

4.0 Sources of Pollution of River Markanda and Sukhna Nallah and its tributaries within the jurisdictions of Himachal Pradesh.

4.1 Sources of Pollution of River Markanda and its Tributaries

The Kala Amb industrial area can be divided into four small zones as per drainage pattern.

A. Industries located on the right and left bank of River Markanda from Moginand to Kala Amb barrier.
B. Industries located in Jattan Wala Drain/Nallah catchment.
C. Industries located in Khairi area.
D. Industries located on Kala Amb - Sadhora Road in village Khari.

In Kala Amb area industrial development is mainly on the left and right bank of River Markanda along Kala Amb-Nahan Road and Kala Amb-Trilokpur Road. The main source of pollution in River Markanda includes Municipal, Commercial and Industrial waste from various industries and Kala Amb area. The Jattan Wala Drain is the major contributor in degrading the water quality of River Markanda. Jattan Wala Drain receives municipal waste water from Kala Amb area as well as treated effluent from various industries. Area wise pollution load of various catchments has been given in **Table 2**.The water quality of River Markanda upstream of Jattan Wala Drain is meeting the water quality parameters of class A. At the downstream of the Jattan Wala Drain, water quality is of B Class of CPCB designated Water Quality Criteria. M/s Ruchira Paper Mill is the only industry in Kala Amb that falls under 17 categories of highly polluting industries and the unit has installed real time online continuous water quality monitoring station at the outlet of the ETP. The results of treated effluent are being displayed on the CPCB and State Pollution Control Board servers on real time basis. In the catchment of Jattan Wala Drain other industries operating are of Pharmaceutical Formulation, Chemical Formulation, Metal Finishing etc. There are total 94 water polluting industries located in the catchment of River Markanda. Out of total industries, 86 Nos of industries have provided their individual Effluent Treatment Plants and also 06 nos of Captive Sewage Treatment Plants installed wherever the manpower is more than 150. Two industries have provided common ETP cum STP in their premise. The sector wise list of water polluting industries along with their estimated effluent discharge has been given in **Table 3**.

Table 2: Flow and Pollution Load of Different Catchments, Kala Amb Area

Sr.No.	Drain/Catchment	Flow in KLD	Avg. BOD(mg/l)	BOD load KG/day
1.	Left and Right Bank of River Markanda Moginand to Kala Amb			
	(i) Moginand area	172	40	6.8
	(ii)Ogli Area	50	20	1
	(iii) Suketi Area	34	30	1.5
2.	Jattawala Drain/Nala	7586	90	683
3.	Kheri	400	20	8
4.	Sadhora Road	183	15	2.2

Table 3: Water Polluting Industries in Kala Amb (An Overview)

Sr. No.	Type of unit	Number of units	Effluent generated in KLD	ETP capacity provided in KLD
1	Cosmetic	4	7	28
2	Food Products	3	70	165
3	Glass unit	3	2.5	10
4	Katha Factory	1	5	10
5	Lime and chemicals	2	35	45
6	Metal Finishing	18	50	163.25
7	Miscellaneous Chemical	5	31	112
8	Pharmaceutical Formulation only	49	89.9	262.75
9	Pulp & Paper	2	5000	6000
10	Spinning & Dying Products	1	200	300
11	STP	6	50	100
Total		**94**	**5540.4**	**7196**

Sewage and Sullage generation of Kala Amb Area:- As per Census 2011, the population of Kala Amb & Moginand area in 2011 was 6,695 and the present population of the area is 7,280. The projected population after 20 years will be 10,010 considering the present growth rate of area. For this population sewage load calculations as per water demand of 135 liters per capita will be 1,081 KLD. In addition to this considering a floating population of around 10,000 in Kala Amb, sewage generation as per water demand of 45 liters per capita will be around 360 KLD (*Source: IS 1172:1993 Indian Standard Code of Basic Requirements for basic supply, drainage and sanitation)*. Details are attached as **Annexure-II.**

4.2 Sources of Pollution of Sukhna Nallah and its Tributaries

As per the information available, inspections of the entire area were carried out and trend analysis of the data is available, the following major contributors of Pollution in Sukhna Nallah can be clearly identified:-

A. Inadequate infrastructure for domestic waste water treatment in the entire town.
B. Industrial activities in Sukhna Nallah catchment.
C. Inadequate waste water treatment facilities in the adjoining Panchayat areas.
D. Very little or even no dilution available at times to the treated waste waters.

The main source of pollution in Sukhna Nallah includes inadequate infrastructure for domestic waste water treatment in the entire town and particularly the under capacity septic tanks maintained by MC Parwanoo. The septic tanks, 16 in number are under capacity, never emptied till date and have been rendered ineffective due to enhanced load over a period of time. Municipal and Industrial waste from floating workforce and industrial activity are also a major factor contributing to generation of waste water and in the absence of adequate treatment facility, add to the deterioration in the surface water quality of the entire area. The water quality of Sukhna Nallah upstream of Parwanoo town it upstream of Shivloti temple is meeting the water quality parameters of class A.

In the catchment of Sukhna Nallah the type of industries operating include of Pharmaceutical Formulation, Engineering Industries, Metal Surface Treatment etc. All the industries have provided their individual captive Effluent Treatment Plants wherever required and also Decentralized Sewerage Treatment Plants wherever the manpower is more than 150 persons. Flow and pollution loads of the concerned drains/rivers are placed at **Table 4**. The sector wise list of water polluting industries along with their estimated effluent discharge has been given in **Table 5**.

Table 4: Flow and Pollution Load of Drains, Parwanoo Area

Sr.No.	Drain/Catchment	Flow in KLD	Avg. BOD(mg/l)	BOD load Kg/day
1.	Sukhna Nallah	2592	12.4	32.14
2.	Sector 4 nallah	86.4	20	1.72
3.	Samtel Nallah	86.4	15	1.3

Table 5: Waste Water Generating Industries in Parwanoo Area along the Catchment of Sukhna Nallah

	Type of Unit	Number of the units	Waste Water Generation in KLD	ETP (KLD)	STP (KLD)
1	Pharmaceutical Formulation	14	31.2	81.3	0.0
2	Cosmetics	2	3	15.0	0.0
3	Electroplating	6	153	158.0	20.0
4	Phosphating	5	10.5	16.0	5.0
5	Engineering	9	221.2	141.0	125.0
6	Electrical &Electronics	6	28.5	0.0	40.0
7	Ink Printing	1	3.3	5.0	0.0
8	Confectionary	1	9	3.0	10.0
9	Pesticide Formulation	1	0.1	1.0	0.0
10	LPG Stoves	1	5	0.0	8.0
11	Fruit Processing	1	15	1000.0	0.0
12	Iron & Steel	1	0	0	10
Total		**48**	**479.8**	**1420.3**	**218.0**
Grand Total				**1638.3**	

Sewage and Sludge Generation: - As per Census 2011, the population of Parwanoo area is 8758 persons and the present population including the floating population for employment and non-permanent residents is around 20,000 persons. At present all the rural water supply schemes has been designed on the water requirement of 70 liters per capita per day demand (norm set for rural water supply system). As per the information provided by the HIMUDA Parwanoo, the water supplied is about 2.27 MLD and the Sewage Load of Parwanoo comes around 05 million gallon i.e. about 1.9 MLD.

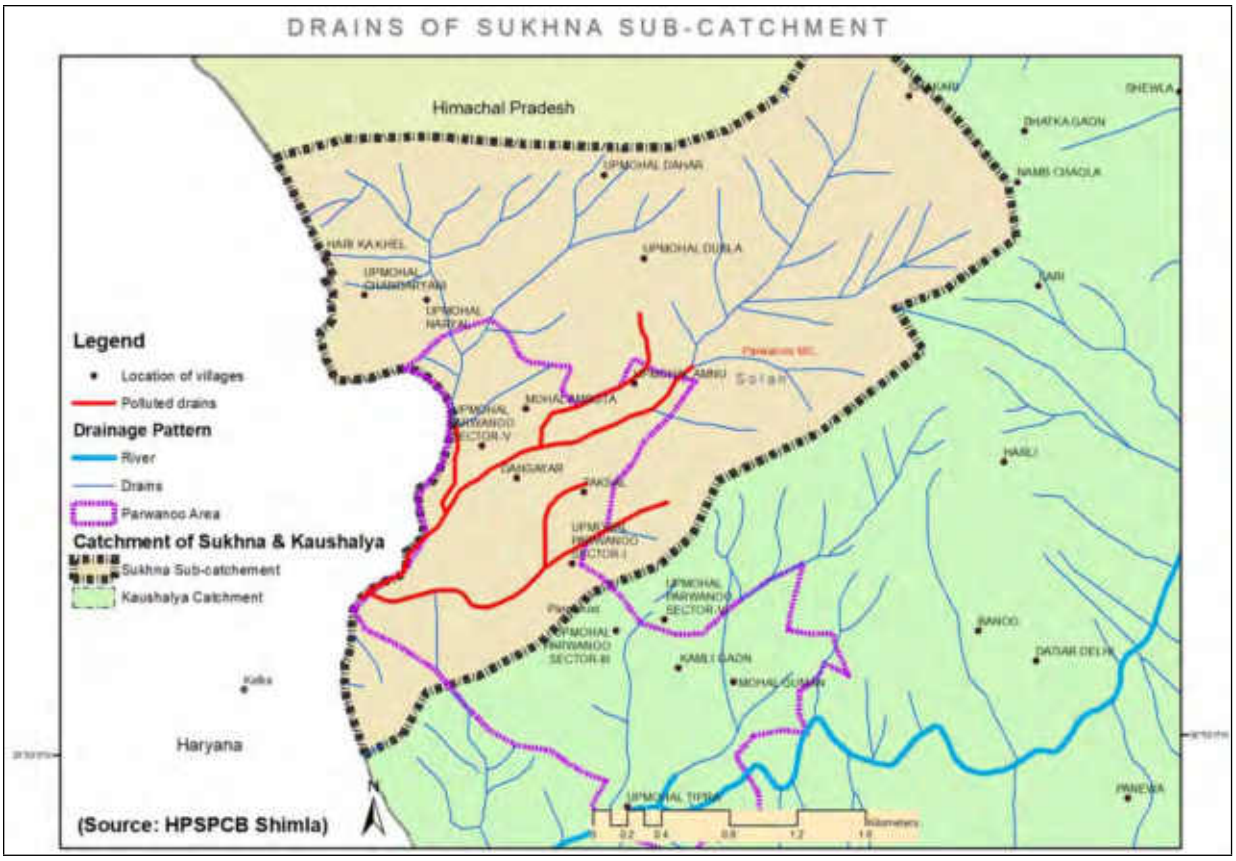

Figure 4: Digital Map showing the locations of Drains of Sukhna Nallah Catchment

5. Action initiated for ensuring compliance to the Hon'ble NGT, Principal Bench, Delhi order dated 07.08.2018 vide O.A. No. 138 of 2016 (T_{NHRC}) & O.A. No 139 of 2016 (T_{NHRC}).

I. In pursuance to orders passed by Hon'ble National Green Tribunal, Special Task Forces at State Level and District level have been constituted *vide* the notification no. STE-E(3)-22/2018 dated 7th September 2018 by the Govt. of Himachal Pradesh for the purpose of identifying the persons responsible for discharging effluents beyond standards into tributaries of river Ghaggar leading to water pollution (Details attached as **Annexure- III**).

II. District Level Special Task Force has conducted two meetings at Nahan on 12.10.2018, 26.11.2018 and 09.01.2019 to formulate the action plan of River Markanda and to review the progress in the matter. The minutes of meetings are attached as **Annexure-IV**.

III. District Level Special Task Force has conducted two meetings at Solan to formulate the action plan and to review the progress of Sukhna Nallah in the matter on 09.10.2018, 26.11.2018. The minutes of meetings are attached as **Annexure - V**.

IV. State Level Special Task Force has conducted a meeting on 31/12/2018 under the chairmanship of Chief Secretary to the Govt. of Himachal Pradesh. Minutes of the meeting is annexed at **Annexure – VI**.

River Markanda Catchment at Kala Amb in Sirmour District

V. There are around 94 water polluting industries in Kala Amb area. Inspection of all the water polluting industries in Kala Amb area has been carried out by the HP State Pollution Control Board Paonta Sahib as per inspection format provided by the Executive Committee and 72 no. of water samples were collected. The samples have been sent to the HPSPCB Regional Laboratory, Paonta Sahib and results of the 71 industries have been received so far. Out of 71 industries, results of 6 industries are above the prescribed limit. Notices for the same have been issued to the units. ETP was found out of order in one industry. Power supply of the unit has been disconnected under Section 33 of the Water (Prevention & Control of Pollution) Act, 1974. Further, one unit was challaned under HP Non-Biodegradable Garbage, Act 1995 for littering of plastic waste for Rs. 5000=00 on dated 29.12.2018.

VI. The Chairman-cum-Deputy Commissioner, Sirmaur of District Level Task Force also carried out surprise inspection of various industries in Kala Amb from time to time. Directions were issued to different industries regarding proper operation of their respective ETPs and Management of Solid Waste.

VII. Irrigation & Public Health (IPH) Sub Division Nahan have completed the sampling of 22 Drinking Water Supply Schemes and bore wells in Kala Amb and Moginand Area. The results of same are enclosed as **Annexure-VII.** Joint sampling of industrial borewells/tubewells is also being carried out by HPSPCB and I&PH. Seven samples have been collected from the borewells of different industries so far. Results of all the 29 samples are meeting the nroms for Drinking Water Quality. .

VIII. I&PH Sub Division Nahan have assessed the Sewage Generation of Kala Amb and Moginand area which comes around 1.0 MLD. I&PH Nahan will provide the Sewerage Lines and Primary treatment to the domestic sewage generated from the Kala Amb and Moginand Area. Secondary treatment will be provided in the proposed Common Effluent Treatment Plant (CETP) of 10 MLD capacity with tentative cost of installation is 20 Crores. I&PH Deptt has prepared the preliminary estimate for the laying of Sewerage Lines and primary treatment having tentative cost of Rs. 30.41 Crores.

IX. The process of installation of CETP at Kala Amb is under progress. Land for CETP has already been identified. M/s Environ Technology Ltd., Ankleshwar has been assigned the task of preparation of DPR. An advance of Rs. 3.5 Lakhs has already been issued to the agency for preparation of DPR by the Special Purpose Vehicle i.e. M/s Kala Amb Infrastructure Ltd. The matter regarding acquisition of land is under the consideration of Director, Industries.

X. HPSPCB, Paonta Sahib is already collecting samples of River Markanda upstream Kala Amb, downstream Kala Amb and Jattan Wala Drain on monthly basis. River Markanda upstream and downstream Kala Amb is meeting the "*Water Quality Criteria- Class A*". Results of River

Markanda upstream Kala Amb, downstream Kala Amb and Jattan Wala Drain for 2017 & 2018 are placed in Tables at appropriate places.

XI. I&PH Sub Division Nahan has submitted the DPR for the channelization of Markanda River from Rukhri to Kala Amb (24 KM) amounting to **Rs. 114.02 Crore to the Chairman Ganga Flood Control Commission, Patna for approval**. Channelization of drains leading to Markanda will be done by Himachal Pradesh State Industrial Development Corporation (HPSIDC).

XII. Deptt. of Health and Family Welfare, Distt. Sirmaur organized the multi-specialty health camp in Kala Amb area on 07.12.2018.

Sukhna Nallah Catchment at Parwanoo in Solan District

XIII. There are total 61 water polluting industries in Parwanoo area. Out of these 48 fall in the Sukhna Nallah catchment, 11 fall in the Kaushalya River catchment and 02 fall in isolated area. There are total 23 captive STPs in Parwanoo area out of which 18 fall in the catchment of Sukhna Nallah, 04 fall in the catchment of Kaushalya river and 01 falls in isolated area. Inspection of the water polluting industries in Parwanoo area has been carried out by the HP State Pollution Control Board Parwanoo as per inspection format provided by the Executive Committee and 39 no. of water samples have been collected. The samples have been sent to the HPSPCB Regional Laboratory. Parwanoo and results of the 30 industries have been received so far. Out of these 30 industries, results of 27 are within the prescribed limits. 04 results are not conforming to the prescribed limits. Directions were issued to different industries regarding proper operation of their respective ETPs nd Management of Solid Waste. Disconnection of 11 such units (ETPs not confirming to the prescribed norms and units operating without valid consents) has been initiated and compliance ensured.

XIV. Installation of new captive Sewage Treatment Plant or upgradation in the existing one has been initiated in 14 industrial units.

XV. Further, 06 units have been Challaned under HP Non-Biodegradable Garbage, Act 1995, of Rs 5000/- each for littering of plastic waste.

XVI. I&PH Sub Division Solan has completed the sampling at 28 locations of Drinking Water Supply Schemes and Bore wells in Parwanoo Area. Joint sampling at 11 locations other Borewells/Tubewells is also being carried out by HPSPCB and I&PH. 07 samples have also been collected from the Borewells of different industries.

XVII. As per the information provided by the HIMUDA Parwanoo, the water supplied is about 2.27 MLD and the Sewage generation of Parwanoo comes around 1.893 MLD. I&PH Solan has been entrusted the task of providing Sewage Treatment Plant at Parwanoo. I&PH Deptt. has prepared a DPR for providing 02 Sewage Treatment Plants in Parwanoo area and submitted the DPR to a French agency for funding. The estimated Cost of the project is 50 Crore.

XVIII. HPSPCB Parwanoo is already collecting samples of Sukhna Nallah up stream of Parwanoo, downstream Parwanoo i.e. near Kalka barrier on monthly basis. Sukhna Nallah water quality upstream of Parwanoo is meeting the "*Water Quality Criteria- Class A*".

XIX. I&PH division Solan has informed that as on date there is no requirement of providing channelization works in the catchment of Sukhna Nallah as this has a small catchment and it is a non-perinnial Nallah.

XX. Deptt. of Health and Family Welfare, Distt. Solan has organized the two multi-specialty health camps in Parwanoo area on 30.11.2018 and 11.01.2019.

XXI. The matter regarding the installation of CETP for industrial wastewater treatment was discussed in the second meeting of the District Level Special Task Force and it was decided that considering the topography of the area, scattered geographical nature of the trade effluent generating units it is more advisable to provide captive Wastewater Treatment plants in the respective units.

XXII. 02 number of cleanliness drives have been organized in presence of Hon'ble Justice Pritam Pal to Clean Sukhna Nallah on 19.12.2018 and 11.01.2019 and collected the more than 50 MT of Solid waste along the stretch of Sukhna Nallah.

6.0 Existing Status in the catchment of River Markanda and Sukhna Nallah and their Tributaries.

6.1 Existing Status in the catchment of River Markanda and its Tributaries.

6.1.1 Sewage and Industrial Effluent Management in the catchment of River Markanda:

In Kala Amb, wastewater is being generated mainly from industrial, commercial and domestic activities. For the treatment of industrial effluents all the water polluting units have installed their respective ETPs. For the treatment of domestic sewage septic tanks/soak pits have been provided by individual households but due to inadequate capacity/improper design of septic tank/soak pits, sullage is flowing in the open drains and thereby degrading the water quality of River Markanda. Further, there are numerous road side *dhabas/butcher* shops/*sabji walas* who are dumping their solid/liquid waste into the drains nearby and thus choking them. Water stagnation and decaying biodegradable waste is also one of the contributing factors in deteriorating the water quality of River Markanda. Drains of Kala Amb area are not being cleaned regularly due to which water gets stagnated and its quality deteriorates. Solid waste not disposed of properly gets washed away in rain which finds its way into the drains thus degrading the water quality.

6.1.2 Water Quality of River Markanda and its Tributaries:

The Markanda River enters in industrial area of Kala Amb at Moginand and leaves at bridge on Sadhora Road at Kala Amb. Mainly there are two tributaries and one industrial drain/nallah discharging their water into River Markanda. The State Pollution Control Board is collecting the samples of Salani Khad, Markanda River downstream Salani Khad at Moginand, River Markanda upstream Kala Amb, Jattan Wala Drain before confluence to River Markanda and River Markanda Downstream Kala Amb on monthly basis. The water quality of these locations for parameters concerning to Outdoor Bathing (Organized) for 2017 & 2018 are in **Table – 6 to 10**.

The water at Salani Khad, Markanda River Downstream Salani Khad at Moginand and River Markanda Upstream Kala Amb is meeting the Water Quality Criteria Class-A. The River Quality downstream the Kala Amb is mostly of class A, however in 2018 it has slipped from Class-A to Class-B in the month of February and October.

Table 6: Water Quality of Salani Khad, a tributary of River Markanda

Month	Year	Parameters				Water Quality Criteria
		pH	DO (in mg/L)	BOD (in mg/L)	TC (MPN)	
January	2017	SAMPLING LOCATION NOT IDENTIFIED				
	2018	7.98	8.0	0.2	27.0	Class-A
February	2017	SAMPLING LOCATION NOT IDENTIFIED				
	2018	8.04	8.0	0.2	31.0	Class-A
March	2017	SAMPLING LOCATION NOT IDENTIFIED				
	2018	8.22	7.4	0.2	33.0	Class-A
April	2017	8.24	7.6	0.2	24	Class-A
	2018	8.12	7.2	0.2	22.0	Class-A
May	2017	8.09	7.2	0.2	21.0	Class-A
	2018	SOURCE DRIED				
June	2017	7.0	7.0	0.1	20.0	Class-A
	2018	SOURCE DRIED				
July	2017	7.83	6.8	0.1	21.0	Class-A
	2018	8.23	6.0	0.9	43.0	Class-A
August	2017	8.06	8.3	0.1	32	Class-A
	2018	8.38	7.9	2.0	43.0	Class-A
September	2017	7.9	7.2	0.2	32.0	Class-A
	2018	8.40	7.9	1.0	41.0	Class-A
October	2017	8.06	7.4	0.2	24.0	Class-A
	2018	8.05	7.4	1.2	39.0	Class-A
November	2017	8.0	7.8	0.2	24.0	Class-A
	2018	8.09	9.4	1.0	38.0	Class-A
December	2017	8.0	7.6	0.2	25.0	Class-A
	2018	RESULT AWAITED				

Table 7: Water Quality of Markanda River D/s of Salani Khad

Month	Year	Parameters				Water Quality Criteria
		pH	DO (in mg/L)	BOD (in mg/L)	TC (MPN)	
January	**2017**	SAMPLING LOCATION NOT IDENTIFIED				
	2018	7.95	7.9	0.4	34.0	Class-A
February	**2017**	SAMPLING LOCATION NOT IDENTIFIED				
	2018	8.02	7.9	0.4	34.0	Class-A

Month	Year	Parameters				Water Quality Criteria
		pH	DO (in mg/L)	BOD (in mg/L)	TC (MPN)	
March	**2017**	SAMPLING LOCATION NOT IDENTIFIED				
	2018	8.29	7.3	0.3	38.0	Class-A
April	**2017**	8.22	7.3	0.3	25.0	Class-A
	2018	8.29	7.2	0.3	26.0	Class-A
May	**2017**	8.21	7.1	0.3	24.0	Class-A
	2018	8.28	6.4	0.9	31.0	Class-A
June	**2017**	7.21	7.0	0.2	25.0	Class-A
	2018	8.14	6.6	0.5	25.0	Class-A
July	**2017**	8.02	6.6	0.2	24.0	Class-A
	2018	8.15	6.5	0.8	39.0	Class-A
August	**2017**	8.03	8.3	0.2	33.0	Class-A
	2018	8.19	7.9	0.6	40.0	Class-A
September	**2017**	7.93	7.2	0.1	34.0	Class-A
	2018	8.30	7.9	0.6	46.0	Class-A
October	**2017**	8.15	7.4	0.2	26.0	Class-A
	2018	8.07	8.6	0.6	34.0	Class-A
November	**2017**	8.08	7.8	0.2	27.0	Class-A
	2018	8.27	8.7	0.8	32.0	Class-A
December	**2017**	7.98	7.6	0.3	27.0	Class-A
	2018	RESULT AWAITED				

Table 8: Water Quality of Markanda River Upstream Kala Amb

Month	Year	Parameters				Water Quality Criteria
		pH	DO (in mg/L)	BOD (in mg/L)	TC (MPN)	
January	2017	8.07	7.4	0.2	31.0	Class A
	2018	7.82	7.7	0.4	32.0	Class A
February	2017	7.70	7.7	0.2	31.0	Class A
	2018	7.96	7.7	0.4	34.0	Class A
March	2017	7.80	7.4	0.2	21.0	Class A
	2018	8.01	7.2	0.3	40.0	Class A
April	2017	7.68	7.4	0.4	27.0	Class A
	2018	8.13	7.4	0.1	26.0	Class A
May	2017	7.96	7.6	0.1	26.0	Class A
	2018	8.34	6.3	1.8	32.0	Class A
June	2017	7.42	7.4	0.1	26.0	Class A
	2018	8.19	6.8	1.0	25.0	Class A
July	2017	7.73	6.7	0.4	26.0	Class A
	2018	7.92	6.8	1.0	40.0	Class A

Month	Year	Parameters				Water Quality Criteria
		pH	DO (in mg/L)	BOD (in mg/L)	TC (MPN)	
August	2017	7.73	7.4	0.2	32.0	Class A
	2018	8.36	7.6	0.6	40.0	Class A
September	2017	7.99	7.3	0.2	32.0	Class A
	2018	7.40	8.2	0.5	43.0	Class A
October	2017	8.04	7.4	0.3	26.0	Class A
	2018	7.86	8.2	0.6	41	Class A
November	2017	8.09	7.4	0.2	27.0	Class A
	2018	Result awaited				
December	2017	7.88	7.6	0.2	27.0	Class A
	2018	Result awaited				

Table 9: Water Quality of Jattan Wala Drain

Month	Year	Parameters			
		pH	DO (in mg/L)	BOD (in mg/L)	TC (MPN)
January	2017	7.28	0	140	>1600
	2018	6.95	2	120	>1600
April	2017	7.59	0	160	>1600
	2018	7.5	0	260	>1600
July	2017	7.95	1.1	20	>1600
	2018	6.9	2.6	38	>1600
October	2017	7.52	1.9	140	>1600
	2018	7.25	0.4	70	>1600

Table 10: Water Quality of Markanda River Downstream Kala Amb

Month	Year	Parameters				Water Quality Criteria
		pH	DO (in mg/L)	BOD (in mg/L)	TC (MPN)	
January	2017	7.98	7.3	0.4	39.0	Class A
	2018	8.08	7.7	0.8	48.0	Class A
February	2017	7.91	7.6	0.4	40.0	Class A
	2018	8.08	7.6	0.8	58.0	**Class B**
March	2017	8.20	7.2	0.3	79.0	**Class B**
	2018	8.38	7.0	0.6	48.0	Class A
April	2017	7.89	7.7	0.4	26.0	Class A
	2018	7.70	7.2	0.3	31.0	Class A
May	2017	7.68	7.4	0.4	27.0	Class A
	2018	Source was found dry				
June	2017	7.23	7.2	0.3	26.0	Class A
	2018	8.39	6.4	2.4	38.0	Class A

Month	Year	Parameters				Water Quality Criteria
		pH	DO (in mg/L)	BOD (in mg/L)	TC (MPN)	
July	2017	8.17	6.7	0.4	26.0	Class A
	2018	8.16	6.7	0.6	43.0	Class A
August	2017	7.85	7.4	0.4	38.0	Class A
	2018	8.32	7.7	0.7	46.0	Class A
September	2017	8.00	7.3	0.6	40.0	Class A
	2018	8.08	8.0	0.7	47.0	Class A
October	2017	8.05	7.4	0.4	32.0	Class A
	2018	8.11	9.2	0.9	70	**Class B**
November	2017	8.32	7.4	0.6	33.0	Class A
	2018	Result awaited				
December	2017	8.08	7.6	0.4	34.0	Class A
	2018	Result awaited				

6.1.3 Drinking Water Quality:

The ground water is the main source for domestic and industrial use in the Kala Amb area. I&PH have collected 22 Nos. of Ground Water Samples from different Tubewells and Borewells. The results are complying with the norms for *Indian Standards for Drinking Water Supply (IS: 10500:2004)*. The results have been enclosed as **Annexure-VII**.

6.1.4 Source of Water Consumption of Industries:

The source of water and its consumption in water polluting industries in Kala Amb area has been tabulated in **Table – 18.** In addition to this there is about 500 KLD of water consumption in other industries for human consumption, cooling, boilers and other activities.

6.1.5 Domestic Water Consumption:

As per Census 2011, the population of Kala Amb & Moginand area was 6,695 and the present population is 7,280. At present all the rural water supply schemes under I&PH division, Nahan have been designed on the water requirement of 70 liter per capita per day demand (norm set for rural water supply system). Therefore, the total domestic water consumption of Kala Amb and Moginand area comes out around 510 KLD. Further, considering the floating population of about 10,000 water requirement works out to be 450 KLD at the rate of 45 liters per capita for the workers etc. ***(Source: IS 1172:1993 Indian Standard Code of Basic Requirements for basic supply, drainage and sanitation).***

6.1.6 Health Status of Public

As per data received from the Deptt. of Health & Family Welfare, most of the cases received in Kala Amb area were of ARI/Influenza, Acute Diarrhoea, Dog Bite and Enteric Fever. The detailed list of cases received at ESI Dispensary Kala Amb during 2016-17 to 2018-19 (till Nov) have been given in **Table 11**.

Table 11: Diseases Prevalent in Kala Amb (Data Source: ESI Kala Amb)

Sr. No.	Diseases	2016-17	2017-18	2018-19 (Till Nov)
1	ARI/Influenza	1103	1114	852
2	Acute Diarrhoeal Disease	122	81	63
3	Dog Bite	42	42	25
4	Enteric Fever	14	99	0
5	Chicken Pox	9	19	8
6	Viral Hepatitis	0	4	0
7	Malaria	0	5	1
8	Dengue/DHF	0	15	0

6.2 Existing Status in the catchment of Sukhna Nallah:

6.2.1 **Sewage and Industrial Effluent Management in the catchment of Sukhna Nallah:**

In Parwanoo, wastewater is being generated mainly from industrial, commercial and domestic activities. For the treatment of industrial effluents all the water polluting units have installed their respective ETPs. For the treatment of domestic sewage, septic tanks/soak pits have been provided by individual households but due to inadequate capacity/improper design of septic tank/soak pits, septage/sullage is flowing in the open drains at several places and thereby causing degrading the water quality of Sukhna Nallah. Water stagnation and decaying biodegradable waste is also one of the contributing factors in deteriorating the water quality of Sukhna Nallah. Drains of Parwanoo area are not being cleaned regularly due to which water gets stagnated and its quality deteriorates. Solid waste not disposed of properly gets washed away in rain find its way into the drains also depletes the water quality of the river.

6.2.2 Water Quality of Sukhna Nallah:

The Sukhna Nallah enters in industrial area of Parwanoo at below Shivloti temple and leaves at Kalka Bridge near the Kalka barrier at the interstate boundary. Mainly there are two small drains discharging their water into Sukhna Nallah i.e. Sector 04 Nallah and Samtel nallah. Results of Sukhna Nallah up stream Parwanoo, from 2014-2018 and downstream Parwanoo i.e. at Kalka barrier are tabulated below.

Table 12: Lab Analysis Results of Sukhna Nallah at Shivloti Temple at Village Ambota upstream of Parwanoo Town

Month/Year	pH	D.O. mg/l	COD mg/l	BOD mg/l	FC MPN /100ml	TC MPN /100ml	Water Quality Criteria of CPCB
Jan, 2018	7.72	9.0	8.0	0.8	<1.8	6.0	Class A
July, 2018	7.4	8.6	12	1.8	<1.8	4	Class A
April, 2018	7.7	8.5	4.0	0.2	8.3	<1.8	Class A

Table 13: Water Quality of Sukhna Nallah at Kalka Barrier, downstream of Parwanoo

	Month/Year	pH	D.O. mg/l	COD mg/l	BOD mg/l	F.C. MPN /100ml	T.C. MPN /100ml
2014	Jan, 2014	7.26	4.4	136.0	33.0	136	264
	Feb, 2014	7.18	6.3	76.0	22.0	144	240
	March, 2014	6.55	5.5	144.0	41.0	44	110
	April, 2014	6.87	0.0	78.0	3.8	24	82
	May, 2014	7.17	5.6	72.0	3.2	48	160
	June, 2014	7.72	2.4	68.0	4.0	125	460
	July, 2014	6.80	5.8	52.0	4.0	22	71
	Aug, 2014	6.64	4.6	104.0	8.0	88	240
	Sep, 2014	7.80	4.3	72.0	4.4	116	344
	Oct, 2014	6.80	6.0	484.0	195.0	110	260
	Nov, 2014	7.29	2.4	72.0	5.2	164	280
	Dec, 2014	7.26	4.3	148.0	14.0	62	142
2015	Feb, 2015	7.21	3.6	116.0	12.0	70	164
	March,2015	7.27	2.6	160.0	24.0	110	212
	April, 2015	8.17	1.9	160.0	18	112	280
	May, 2015	8.82	3.1	172.0	22.0	88	310
	June, 2015	7.90	3.9	72.0	10.0	68	240
	July, 2015	8.36	7.4	8.0	2.0	210	540
	Aug, 2015	7.84	6.2	32.0	12.0	8	240
	Sep, 2015	7.60	5.9	40.0	10.0	116	344
	Oct, 2015	7.53	4.9	18.0	1.5	11	50
	Dec, 2015	6.97	5.5	72.0	2.8	40	120
2016	Jan, 2016	7.33	2.5	208.0	54.0	80	>1600
	Feb, 2016	8.16	3.2	72.0	8.0	41	540
	March, 2016	7.95	3.0	108.0	14.0	33	540
	April, 2016	8.07	2.5	72.0	14	70	>1600
	May, 2016	8.11	3.0	164.0	4.4	130	540
	June, 2016	8.79	2.5	120.0	3.6	21	220
	July, 2016	7.05	2.1	104.0	10.0	63	350

	Aug, 2016	7.03	2.6	68.0	8.0	10	170
	Sep, 2016	7.39	2.4	84.0	12.0	10	170
	Oct, 2016	7.81	2.6	64.0	6.0	47	920
	Nov, 2016	8.22	2.8	72.0	5.8	25.0	1600
	Dec, 2016	7.84	3.0	72.0	6.0	34	220
2017	March, 2017	7.98	3.1	64.0	8.0	31	210
	May, 2017	7.98	3.1	64.0	8.0	31	210
	Sep, 2017	7.33	2.8	124.0	10	40	350
	Nov, 2017	6.69	3.3	88.0	10.0	46	430
	Dec, 2017	7.24	2.8	76.0	8.0	49	540
2018	Jan, 2018	7.59	3.5	60	10	21	94
	Feb, 2018	7.50	4.0	72.0	12	46	540
	March, 2018	7.43	3.5	92.0	12	70	350
	Arpil, 2018	7.52	3.9	72.0	8.0	350	32
	May, 2018	7.45	3.2	104.0	18.0	70	920
	June, 2018	7.05	3.0	104.0	18	>1600	>1600
	July, 2018	6.64	3.2	76	12	49	350
	Sep, 2018	8.06	2.5	68	8.4	46	170

6.2.3 Drinking Water Quality:

The ground water is the main source for domestic and industrial use in the Parwanoo area. I&PH have collected 28 nos of Ground Water Samples from different bore-wells and ground water sources. The results are attached as **Annexure -VIII**. The results are complying with norms for Indian Standards fror Drinking Water Supply (IS 10500: 2004). The HPPCB has also carried out ground water sampling along with the IPH department and the results are tabulated below –

Table 14: Groundwater Quality of Borewells and Hand Pumps at the stretch of Sukhna Nallah

Sr. No.	Point of Collection	Coordinates		pH	BOD mg/l	TC MPN/100 ml
		N	E			
1	Hand pump at Kamli (Near Primary School)	$30^0$50'0''	$76^0$57'49''	8.4	0.4	<1.1
2	Hand Pump near M/s Total HealthCare, Ambota	$30^0$50'56''	$76^0$57'22''	8.38	1.2	<1.1
3	Borewell at M/s Sunrise Packaging, Khadeen	$30^0$49'59''	$76^0$57'51''	8.68	2.8	<1.1
4	Hand pump sector -4, Village Ambota	$30^0$51'5''	$76^0$57'51''	8.03	0.4	<1.1
5	Hand pump near Shiv MandirAmbota	$30^0$50'59''	$76^0$57'51''	8.65	1	<1.1
6	Hand pump Tikkri (Sector -4)	$30^0$51'5''	$76^0$57'12''	8.12	1.2	<1.1

7	Hand pump at GMSS Taksal	30^{0}50’58’’	76^{0}57’44’’	8.07	0.6	<1.1
8	Bore well at Sector -3	30^{0}50’18’’	76^{0}57’51’’	8.05	0.4	<1.1
9	Borewell at Village Naryal (Near M/s Micro Turner)	30^{0}51’6’’	76^{0}57’20’’	7.59	0.8	<1.1
10	Hand pump near Shivalik cafe	30^{0}50’25’’	76^{0}56’57’’	8.65	1	<1.1
11	Bore well at HPMC	30^{0}50’25’’	76^{0}56’58’’	8.06	0.4	<1.1

***As per the analysis of parameters available till date no contamination of ground water is observed.**

Figure 5: Digital Map showing the locations of Ground Water Sampling of Handpumps at the catchment of Sukhna Nallah

6.2.4 Domestic Water Consumption:

As per Census 2011, the population of Parwanoo area is 8758 persons and the present population including the floating population for employment and non-permanent residents is around 20,000 persons. At present all the rural water supply schemes has been designed on the water requirement of 70 liters per capita per day demand (norm set for rural water supply system). As per the information provided by the

HIMUDA Parwanoo the water supplied is about 2.271 MLD and the Sewage Load of Parwanoo comes around about 1.893 MLD.

6.2.5 Health Status of Public:

Deptt. of Health and Family Welfare, Distt. Solan has organized the multi-specialty health camps in Parwanoo area on 30.11.2018 and 11.01.2019 and information available from Health Department is tabulated below:-

Table 15: Diseases Prevalent in Parwanoo Area during 2015-18

2015	NAME OF DISEASE	NO OF CASES
Water Borne Diseases	DYSENTRY & DIARRHOEA	7100
	TYPHOID	490
	HAV	3
	HEV	5
	JAUNDICE	16
Vector Borne Diseases		
	DENGUE	460
	MALARIA	79
2016	**NAME OF DISEASE**	**NO OF CASES**
Water Borne Diseases	DYSENTRY & DIARRHOEA	6470
	TYPHOID	390
	HAV	0
	HEV	2
	JAUNDICE	20
Vector Borne Diseases		
	DENGUE	246
	MALARIA	63
2017	**NAME OF DISEASE**	**NO OF CASES**
Water Borne Diseases	DYSENTRY & DIARRHOEA	8250
	TYPHOID	510
	HAV	3
	HEV	2
	JAUNDICE	32
Vector Borne Diseases		
	DENGUE	320
	MALARIA	38
JAN TO NOV 2018	**NAME OF DISEASE**	**NO OF CASES**
Water Borne Diseases	DYSENTRY & DIARRHOEA	7175
	TYPHOID	419
	HAV	0
	HEV	3
	JAUNDICE	23
Vector Borne Diseases		

	DENGUE	1085
	MALARIA	8

Table 16: Data of Health camp organised at Village Kamli by the Health Department.

DETAIL DATA OF CAMP ORGNISED AT VILLAGE KAMLI,PARWANOO		
TOTAL PATIENTS EXMINED		413
Details of patients specialty wise		
Medicine	Gastroenteritis	46
	Respiratory tract infection	53
	Urinary tract infection	21
skin	Scabies	42
	Contact dermatitis	26
	Eczema	4
	Pediculosis	8
	Tinea pedis/corporis	9
ENT	Otitis media	22
	Rhinitis	12
	Coryza	8
	URTI	10
Gynae	Pelvic inflammatory disease	21
	Menorrhagia	8
	Irregular menses	6
EYE	Conjunctivitis	30
	Refractive error	59
Pediatric	Chest infection	11
	Pneumonitis	2
	Diarrhea	7
	Pain abdomen	8

7.0 Digital map showing the sources of pollution (area-wise information relating to – population, water consumption, sewage generation, drains contributing to pollution load in river/nallah.

7.1 River Markanda and its tributaries within the jurisdiction of Himachal Pradesh.

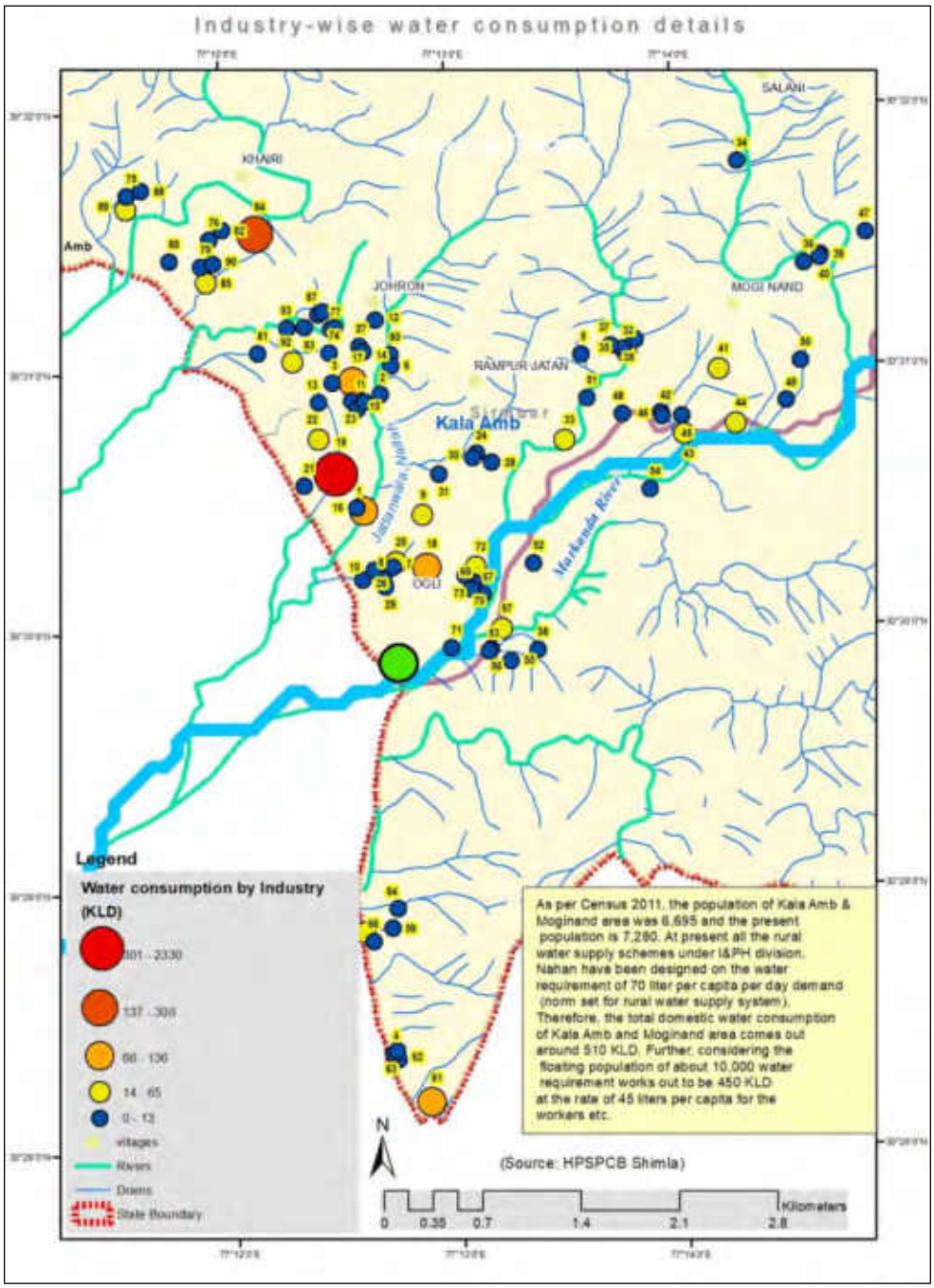

Figure 6: Digital Map showing location of Kala Amb Industrial Area along with water consumption by industry, population falling in Markanda Basin *(Label of the location of industries on map indicates the name of industry is as per the Sr. No. of Table No-18)*

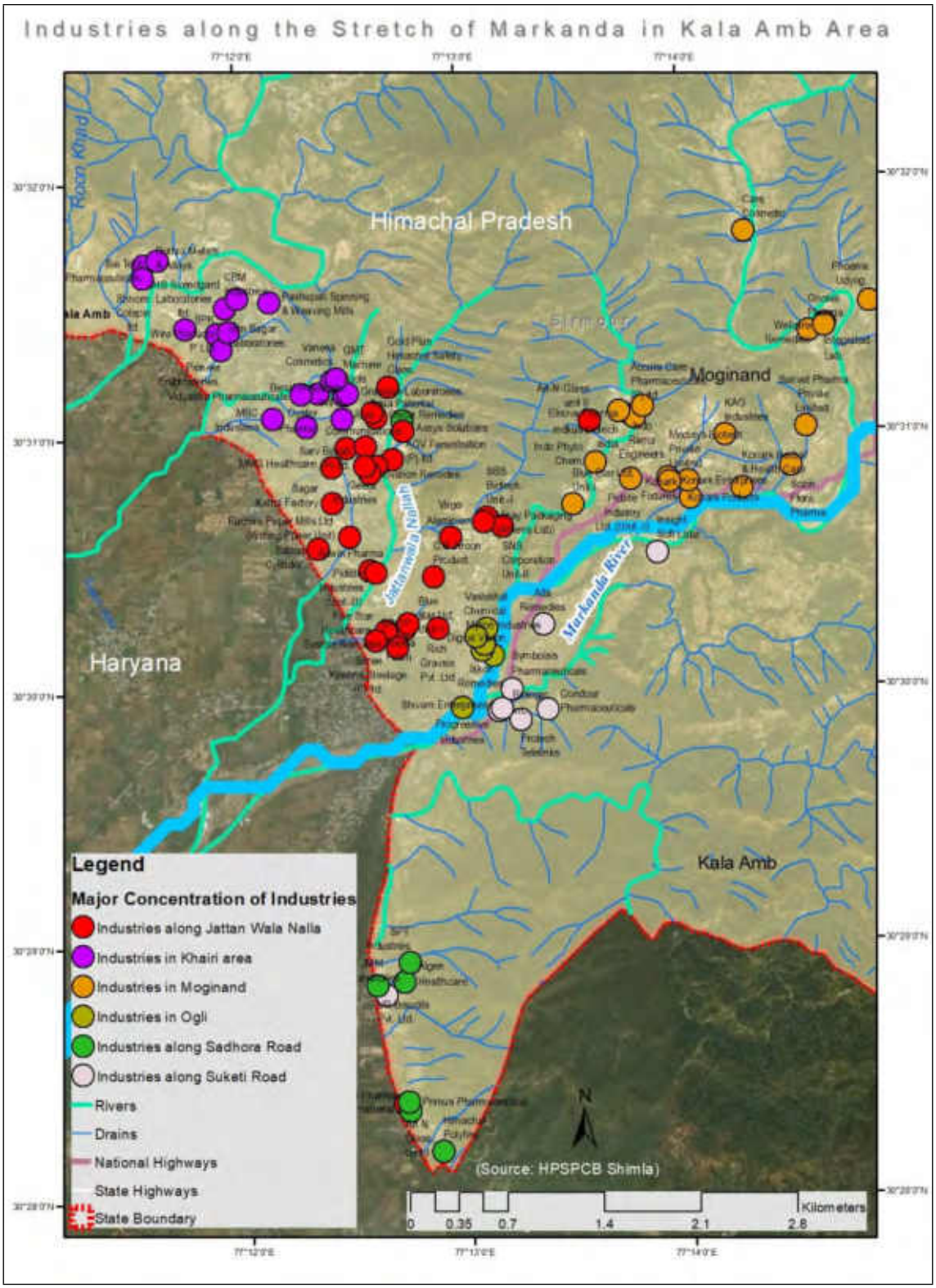

Figure 7: Digital Map showing location of industries contributing to Drains falling in Markanda Basin

7.2 Sukhna Nallah (Ghaggar) and Its tributaries within the jurisdiction of Himachal Pradesh.

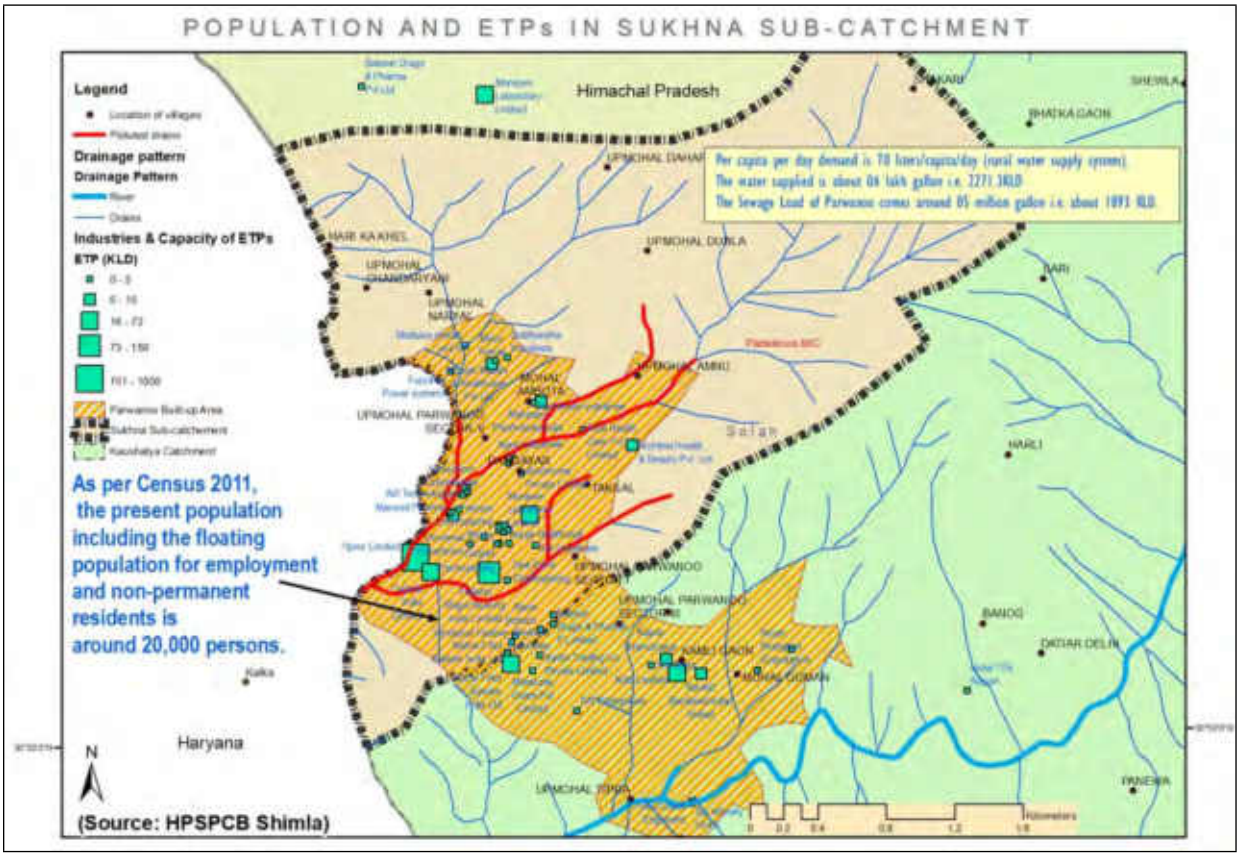

Figure 8: Digital Map showing the Populations, Capacity of ETPs along the stretch of Sukhna Nallah

8.0 Digital map showing the sources of industrial pollution (area-wise information relating to – sector-wise no. of industries, sector-wise total water consumption in MLD, sector-wise industrial effluent generation in MLD etc.

8.1 River Markanda

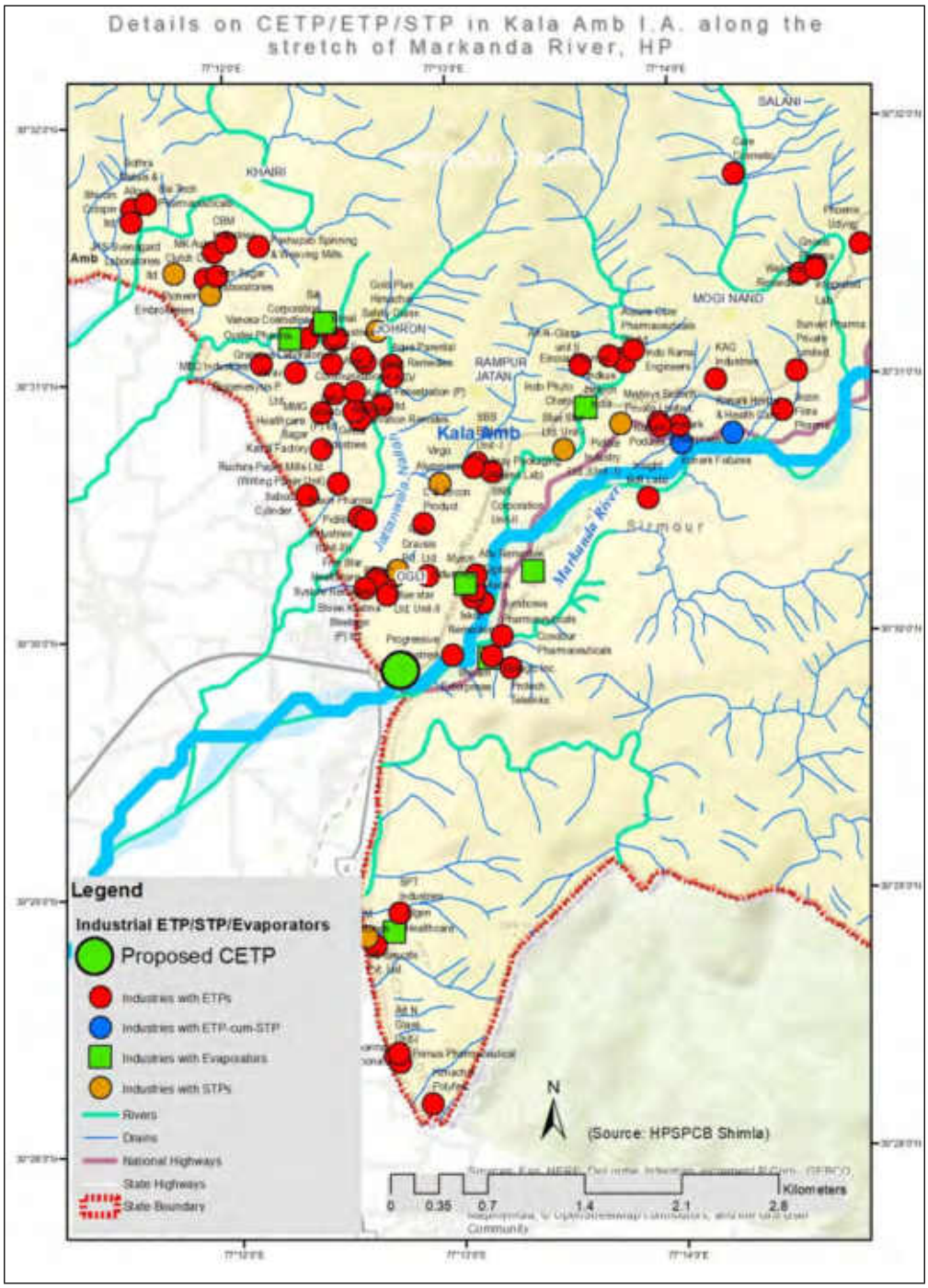

Figure 9: Digital Map showing locations of Proposed CETP, ETPs and STPs in Markanda Basin

8.2 Sukhna Nallah

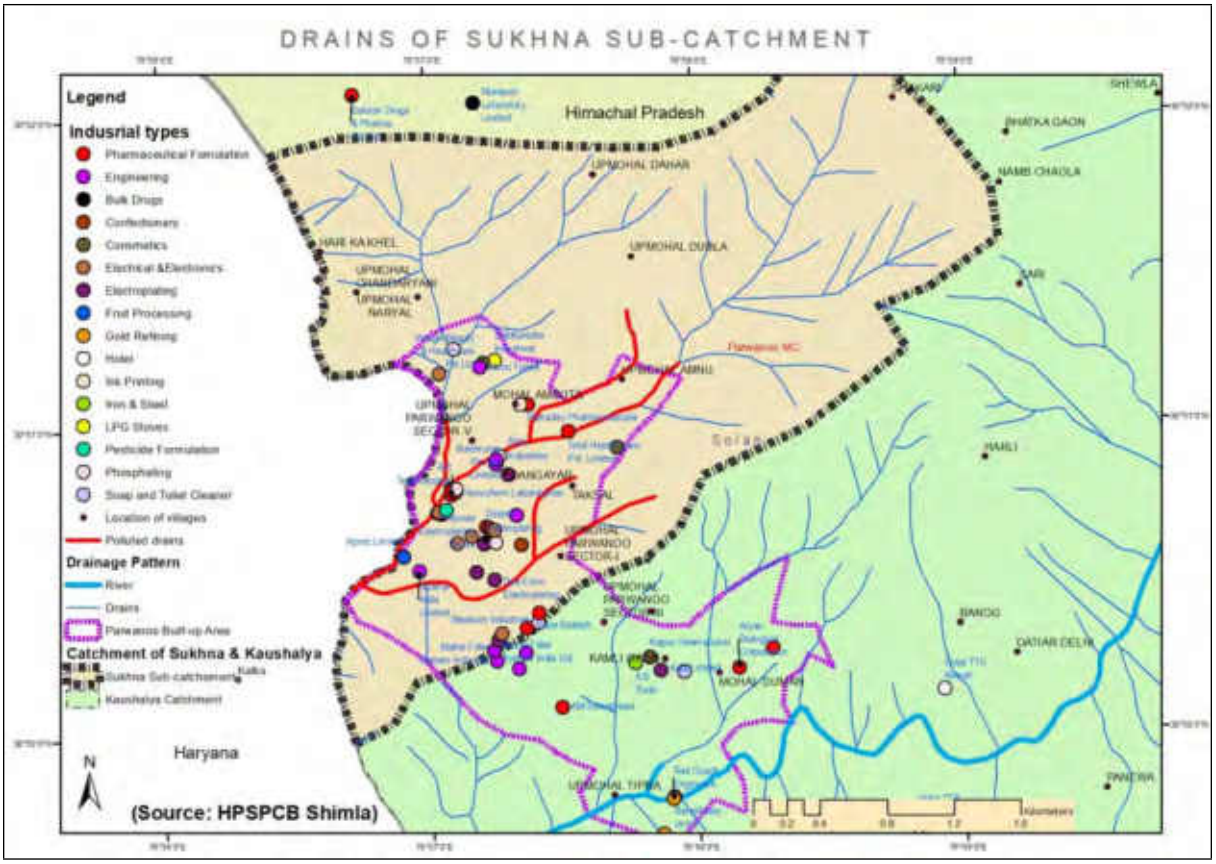

Figure 10: Digital Map showing the sector wise industries along the stretch of Sukhna Nallah

9.0 Observations on Gap Analysis w.r.t. (i) Sewage management; (ii) Industrial Effluent Management; (iii) Operation and Maintenance of existing STPs; (iv) Operation and Maintenance of existing captive ETPs; (v) Operation and Maintenance of existing CETPs; (vi) Compliance status w.r.t. the industries located in the catchment of the River Markanda and Sukhna Nallah

9.1 In the area of River Markanda

The industrial Area of Kala Amb is a rural area where industries are located on Trilokpur Road, Nahan Road, Sadhora Road and Saketi Road. There is no sewage treatment system or CETP in the area.

9 .1.1 Sewage Management - The individual households have the septic tank followed by soak pit. Total 06 industries have provided the captive Sewage Treatment Plants or Effluent cum Sewage Treatment Plant wherever manpower is more than 150. The sewage treatment system installed comprises of activated sludge process followed by sand and activated carbon filters. The treated sewage is being used by most of the industries in gardening, flushing and wetting of roads. List of industries having STPs have been tabulated in **Table 17.**

Table 17: List of Industries having STPs in Kala Amb

Sr. No.	Name of the unit	Address	Sub Catchment	Actual Discharge (in KLD)	STP Capacity (in KLD)
1	Blue Star Ltd, Unit-I	Village Moginand, Kala Amb	Moginand	8	15
2	Blue star Ltd, Unit-II	Village Manthapal, Kala Amb	Jattan Wala	8	15
3	Pidilite Industry Ltd.,(Unit -I)	Village Moginand, Kala Amb	Moginand	5	15
3	Pioneer Embroideries.	Vill. Kheri, Kala Amb.	Khairi	16	20
5	Sheela Foam.	Nahan Road, Kala Amb.	Jattan Wala	8	25
6	Shivom Cotspin ltd.	Vill. Kheri Kala Amb.	Khairi	5	10
Total				**50**	**100**

9.1.2 Effluent Treatment- All the 94 Nos of water polluting industries in the industrial area Kala Amb have installed effluent treatment plants or Sewage Treatment Plants in their respective industries. The treatment technology provided ranges from primary treatment system i.e. chemical treatment, precipitation/settling followed by dual media carbon filters, Activated sludge process followed by dual media carbon filters, the chemical recovery system has also been installed in a paper mill, few industries have also provided RO systems. The treated effluent is being used in the process, gardening, flushing, wetting of roads etc.

The list of industries along with mode of treatment and final disposal has been given in **Table 18**.

Table 18: List of Industries with Source of Water, Water Consumption, Daily Waste Water Generation, Mode of Treatment and Final Mode of Disposal of Generated Industrial Effluent

Sr. No.	Name of the unit	Address	Area	Source of Water	Water Consumption (in KLD)	Daily Waste Water Generation	Mode of Treatment	Final Mode of Disposal
1	Adwin Pharma.	Vill. Rampur Jattan, Kala Amb.	Jattan Wala	Public Supply	4	0.5	ETP of Capacity 5 KLD	Reused in Gardening and Wetting of floor
2	AGV Fenestration (P) ltd.	Vill. Johron, Kala Amb.	Jattan Wala	Borewell	4	0.5	ETP of Capacity 3 KLD	Reused in Gardening
3	Alps Communications	Village Jattan Wala, Trilokpur Road, Kala Amb	Jattan Wala	Water Tankers	6	5	ETP of Capacity 10 KLD	Reused in Gardening
4	Art N Glass, Unit-I	Village Johron, Kala Amb	Jattan Wala	Borewell	5	1	ETP of Capacity 4 KLD	Reused in Gardening

Sr. No.	Name of the unit	Address	Area	Source of Water	Water Consumption (in KLD)	Daily Waste Water Generation	Mode of Treatment	Final Mode of Disposal
5	Art-N-Glass unit II	Vill Johron, kala Amb	Jattan Wala	Public Supply	2	0.5	ETP of Capacity 4 KLD	Drain
6	Axsys Solutions	Village Johron, Kala Amb	Jattan Wala	Borewell	5	2	ETP of Capacity 4 KLD	Reused in Gardening
7	Blue star Ltd, Unit-II	Village Manthapal, Kala Amb	Jattan Wala	Public Supply	10	8	STP of Capacity 15 KLD	Reused in Gardening
8	BROP	Village Ogli, Trilokpur Road, Kala Amb	Jattan Wala	Public Supply	7	0	Evaporator	Evaporator
9	C S Zircon Product.	Village Rampur Jattan, Trilokpur Road, Kala Amb.	Jattan Wala	Borewell	20	10	ETP of Capacity 30 KLD	Drain
10	Five Star Healthcare.	Vill. Ogli, Trilokpur Road, Kala Amb.	Jattan Wala	Public Supply	2	0.2	ETP of Capacity 2 KLD	Reused in Flushing and Gardening
11	Geeta Industries	Vill. Ogli, Trilokpur Road, Kala Amb.	Jattan Wala	Public Supply	3	0.2	ETP of Capacity 1 KLD	Reused in Flushing
12	Gold Plus Himachal Safety Glass.	Village Johron, Kala Amb	Jattan Wala	Water Tankers	6	1	ETP of Capacity 2 KLD	Reused in Gardening
13	MMG Healthcare.	Vill. Johron Kala Amb.	Jattan Wala	Public Supply	5	1.8	ETP of Capacity 2 KLD	Drain
14	Oscar Remedies	Vill. Johron Kala Amb.	Jattan Wala	Water Tankers	2.5	0.5	ETP of Capacity 4.5 KLD	Drain
15	Ovation Remides.	Village Johron, Kala Amb.	Jattan Wala	Public Supply	6	1	ETP of Capacity 5 KLD	Reused in Gardening
16	Pidilite Industries (Unit-III)	Rampur Jattan, Kala Amb	Jattan Wala	Borewell	120	10	ETP of Capacity 50 KLD	Reused in Gardening
17	Pidilite Industry Ltd., (Unit-II)	Johoron, Kala Amb, Distt. Sirmour.	Jattan Wala	Borewell	136	10	ETP of Capacity 25 KLD	Reused in Gardening
18	Rich Gravsis Pvt. Ltd	Village Manthapal, Kala Amb	Jattan Wala	Public Supply & Water Tankers	100	50	ETP of Capacity 120 KLD	Reused in Gardening

Sr. No.	Name of the unit	Address	Area	Source of Water	Water Consumption (in KLD)	Daily Waste Water Generation	Mode of Treatment	Final Mode of Disposal
19	Ruchira Paper Mills Ltd. (Writing Ppaer Unit)	Trilokpur Road Kala Amb.	Jattan Wala	Borewell	2330	5000	ETP of Capacity 6000 KLD	Drain
20	Ruchira Paper Mills Ltd. (Kraft Paper Unit)	Kala Amb, Distt. Sirmour HP.	Jattan Wala		5700			
21	Saboo Cylinder.	Ind Area Kala Amb.	Jattan Wala	Borewell	9	3.5	ETP of Capacity 10 KLD	Drain
22	Sagar Katha Factory	Trilokpur Road Kala Amb.	Jattan Wala	Borewell	20	5	ETP of Capacity 10 KLD	Drain
23	Sarv Biolab (P) ltd.	Village Rampur Jattan, Trilokpur Road, Kala Amb.	Jattan Wala	Water Tankers	13	11	ETP of Capacity 30 KLD	Drain
24	SBS Biotech. Unit -I	Vill. Rampur Jattan, Nahan Road, Kala Amb.	Jattan Wala	Water Tankers	10	0.5	ETP of Capacity 5 KLD	Reused in Gardening
25	Sheela Foam.	Nahan Road, Kala Amb.	Jattan Wala	Public Supply	25	8	STP of Capacity 25 KLD	Reused in Gardening
26	Shree Krishna Steelage (P) ltd.	Trilokpur Road Kala Amb.	Jattan Wala	Borewell	8	5	ETP of Capacity 15 KLD	Drain
27	Sidhi Vinayak Industries	Village Johron, Kala Amb	Jattan Wala	Water Tankers	4	1	Evaporator	Evaporator
28	SNS Corporation Unit-II	Village Rampur Jattan, Nahan Road, Kala Amb	Jattan Wala	Water Tankers	3	1	ETP of Capacity 5 KLD	Reused in process
29	Systole Remidies.	Vill. Ogli, Trilokpur Road, Kala Amb.	Jattan Wala	Water Tankers	3	2	ETP of Capacity 15 KLD	Reused in Gardening and Wetting of floor
30	Vinay Packaging (Athens Lab)	Vill. Rampurjattan, Nahan Road, Kala Amb.	Jattan Wala	Water Tankers	6	4	ETP of Capacity 10 KLD	Drain
31	Virgo Aluminium	Village Rampurjattan, Kala Amb	Jattan Wala	Water Tankers	10	10	ETP of Capacity 60 KLD	Drain

Sr. No.	Name of the unit	Address	Area	Source of Water	Water Consumption (in KLD)	Daily Waste Water Generation	Mode of Treatment	Final Mode of Disposal
32	Accura Care Pharmaceuticals (P) ltd.	Vill. Moginand, Kala Amb.	Moginand	Water Tankers	9	2.5	ETP of Capacity 3 KLD	Drain
33	Blue Star Ltd, Unit-I	Village Moginand, Kala Amb	Moginand	Water Tankers	18	8	STP of Capacity 15 KLD	Reused in Gardening
34	Care Cosmetic.	Vill. Moginand Kala Amb	Moginand	Water Tankers	2.5	1	ETP of Capacity 5 KLD	Reused in Gardening
35	Elnova Pharma.	Village Moginand, Kala Amb.	Moginand	Water Tankers	19	6	ETP of Capacity 15 KLD	Drain
36	Gnosis Pharma.	Vill. Moginand Kala Amb.	Moginand	Water Tankers	10	8	ETP of Capacity 15 KLD	Reused in Gardening
37	Indkus biotech india	Village moginand, Kala Amb	Moginand	Water Tankers	7.5	2.5	ETP of Capacity 10 KLD	Drain
38	Indo Rama Engineers	Village Moginand, Kala Amb	Moginand	Water Tankers	4.5	1	ETP of Capacity 4 KLD	Drain
39	Integrated Lab.	Moginand Kala Amb.	Moginand	Water Tankers	3	1	ETP of Capacity 3 KLD	Reused in Gardening/Flushing
40	Welcure Remedies	Moginand Kala Amb.		Water Tankers	3	**0**		
41	KAG Industries	Village Moginand, Kala Amb	Moginand	Borewell	65	10	ETP of Capacity 25 KLD	Drain
42	Konark Enterprises.	Vill. Moginand Kala Amb	Moginand	Water Tankers	5	2	ETP of Capacity 5 KLD	Reused in Gardening
43	Konark Fixtures	Village Moginand, Kala Amb	Moginand	Water Tankers	15	12	ETP cum STP of Capacity 25 KLD	Reused in Gardening, cooling tower and toilet flushing
44	Konark Herbal & Health Care	Village Moginand, Kala Amb	Moginand	Water Tankers	15	3	ETP cum STP of Capacity 5 KLD	Reused in Gardening
45	Konark Poducts	village Moginand, Kala amb	Moginand	Water Tankers	6	3	ETP of Capacity 5 KLD	Reused in Flushing and Gardening

Sr. No.	Name of the unit	Address	Area	Source of Water	Water Consumption (in KLD)	Daily Waste Water Generation	Mode of Treatment	Final Mode of Disposal
46	Medisys Biotech Private Limited.	Moginand, Kala Amb.	Moginand	Borewell	3.5	1	ETP of Capacity 2 KLD	Reused in Gardening
47	Phoenix Udyog.	Kala Amb, Distt. Sirmour HP.	Moginand	Water Tankers	1	1	ETP of Capacity 5 KLD	Reused in Gardening
48	Pidilite Industry Ltd.,(Unit - I)	Village Moginand, Kala Amb	Moginand	Borewell	12	5	STP of Capacity 15 KLD	Reused in Gardening
49	Sozin Flora Pharma.	Village Moginand, Kala Amb.	Moginand	Borewell	7	3.5	ETP of Capacity 15 KLD	Reused in Gardening
50	Sunvet Pharma Private Limited.	Village Moginand, Kala Amb.	Moginand	Water Tankers	3.5	2	ETP of Capacity 5 KLD	Reused in Gardening
51	Indo Phyto Chem	Mauza Rampur Jattan, Nahan Road, Kala Amb	Moginand	Water Tankers	6	0	Evaporator	Evaporator
52	Alfa Remedies	Suketi Road Kala Amb	Suketi Road	Water Tanker	2	0	Evaporator	Evaporator
53	Biologic Inc.	Vill. Ogli, Suketi Road, Kala Amb.	Suketi Road	Borewell	2	0	Evaporator	Evaporator
54	Insight Soft Labz	Suketi Road Kala Amb	Suketi Road	Water Tanker	1	0.2	ETP of Capacity 1 KLD	Reused in Gardening
55	Protech Telelinks	Suketi Road Kala Amb	Suketi Road	Water Tanker	5	1	ETP of Capacity 5 KLD	Drain
56	Shivam Enterprises	Suketi Road Kala Amb	Suketi Road	Borewell	5	2.5	ETP of Capacity 5 KLD	Reused in Gardening
57	Symboisis Pharmaceuticals.	Suketi Road, Kala Amb.	Suketi Road	Water Tanker	15	10	ETP of Capacity 20 KLD	Drain
58	Candour Pharmaceuticals	Suketi Road, Kala Amb.	Suketi Road	Borewell	4	0.5	ETP of Capacity 5 KLD	Reused in flushing
59	Algen Healthcare.	Sadhora Road, Kala Amb (Near SPT Industries)	Sadhora Road	Water Tanker	4	0	Evaporator	Evaporator

Sr. No.	Name of the unit	Address	Area	Source of Water	Water Consumption (in KLD)	Daily Waste Water Generation	Mode of Treatment	Final Mode of Disposal
60	Aqua Parental	Village Khari, Sadhora Road, Kala Amb	Sadhora Road	Borewell	10	7	ETP of Capacity 10 KLD	Drain
61	Himachal Polyfins.	Village Khari, Sadhora Road, Kala Amb.	Sadhora Road	Purchased water	130	30	ETP of Capacity 40 KLD	Reused in process and gardening
62	Orison Pharma International.	Vill. Ogli, Sadhora Road, Kala Amb	Sadhora Road	Borewell	12	6	ETP of Capacity 10 KLD	Drain
63	Primus Pharmaceutical	Village Kheri, Sadhora Road, Kala Amb	Sadhora Road	Water Tanker	5	1.5	ETP of Capacity 10 KLD	Reused in Gardening and floor washing
64	SPT Industries	Village Ogli, Sadhora Road, Kala Amb	Sadhora Road	Water Tanker	5	1.5	ETP of Capacity 2 KLD	Reused in Gardening
65	UB Bisucits Pvt. Ltd.	Village Khari, Sadhora road, Kala Amb	Sadhora Road	Borewell	14	10	ETP of Capacity 20 KLD	Reused in Gardening
66	JMM Laboratories	Sadhora Road Kala Amb.	Sadhora Road	Water Tanker	3	1	ETP of Capacity 2 KLD	Drain
67	Digital Vision.	Village Ogli, Kala Amb	Ogli	Borewell	5	1	ETP of Capacity 2 KLD	Reused in road wetting
68	Helpzyn Pharma	Nahan Road, Kala Amb.	Ogli	Water Tanker	1	0	Evaporator	Evaporator
69	Iskon Remedies.	Village Ogli, Nahan Road, Kala Amb.	Ogli	Water Tanker	1.5	1	ETP of Capacity 2 KLD	Drain
70	Myron Industries	Village Ogli, Nahan Road, Kala Amb	Ogli	Water Tanker	5	1	ETP of Capacity 5 KLD	Drain
71	Progressive Industries	Village Ogli, Nahan Road, Kala Amb	Ogli	Water Tanker	6	0.3	ETP of Capacity 5 KLD	Reused in gardening
72	Vashishat Chemical.	Nahan Road Kala Amb.	Ogli	Surface Water	30	5	ETP of Capacity 20 KLD	Reused in process
73	Events Corporation, Unit-II	Village Ogli, Nahan Road, Kala Amb	Ogli	Water Tanker	3	0	Evaporator	Evaporator
74	Bimal Industries unit-II	IA kala amb	Khairi	Public Supply	8	2	ETP of Capacity 2.5 KLD	Reused in process

Sr. No.	Name of the unit	Address	Area	Source of Water	Water Consumption (in KLD)	Daily Waste Water Generation	Mode of Treatment	Final Mode of Disposal
75	Bothra Metals & Alloys.	Vill. Kheri, Trilokpur Road, Kala Amb.	Khairi	Water Tankers	8	1	ETP of Capacity 5 KLD	Drain
76	CBM Industries.	Village Kheri, Trilokpur Road, Kala Amb.	Khairi	Purchased water	3	0.5	ETP of Capacity 3.75 KLD	Drain
77	GMT Machine Tools	Village Johron, Kala Amb	Khairi	Water Tankers	6	2	ETP of Capacity 5 KLD	Drain
78	Grampus Laboratories.	Vill. Johoron, Kala Amb.	Khairi	Public Supply	3	1	ETP of Capacity 2 KLD	Drain
79	Him Sagar Laboratories.	Village Kheri, Trilokpur Road, Kala Amb.	Khairi	Public Supply	1.5	0.5	ETP of Capacity 2 KLD	Reused in Gardening
80	JHS Svendgard Laboratories ltd.	Village Kheri, Trilokpur Road, Kala Amb.	Khairi	Water Tankers	6	3	ETP of Capacity 10 KLD	Reused in Gardening
81	MBC Industries	Kala Amb	Khairi	Public Supply	1	1	ETP of Capacity 5 KLD	Reused in Gardening
82	MK Auto Clutch Co.	Villahe Kheri, Kala Amb	Khairi	Water Tankers	8	1	ETP of Capacity 2 KLD	Reused in Gardening
83	Oyster Pharma.	Plot No. 35, IA, Kala Amb.	Khairi	Public Supply	1	0.2	ETP of Capacity 2 KLD	Drain
84	Pashupati Spinning & Weaving Mills.	Village Kheri, Trilokpur Road, Kala Amb.	Khairi	Borewell	300	200	ETP of Capacity 300 KLD	Drain & Partially reused in gardening
85	Pioneer Embroideries.	Vill. Kheri, Kala Amb.	Khairi	Borewell	20	16	STP of Capacity 20 KLD	Reused in Gardening
86	Pushkar Pharma.	Village Kheri, Meerpur Road, Kala Amb.	Khairi	Borewell	4	1.5	ETP of Capacity 2 KLD	Reused in road wetting
87	Sai Corporation	Village Johron, Kala Amb	Khairi	Water Tankers	7	3	ETP of Capacity 10 KLD	Reused for irrigation
88	Sai Tech Pharmaceuticals.	Vill. Kheri Trilokpur Road, Kala Amb	Khairi	Water Tankers	6	2	ETP of Capacity 5 KLD	Drain

Sr. No.	Name of the unit	Address	Area	Source of Water	Water Consumption (in KLD)	Daily Waste Water Generation	Mode of Treatment	Final Mode of Disposal
89	Shivom Cotspin ltd.	Vill. Kheri Kala Amb.	Khairi	Borewell	18	5	STP of Capacity 10 KLD	Drain
90	SPK Wire Products P. Ltd	Village Kheri, Trilokpur Road, Kala Amb	Khairi	Water Tankers	1	0.5	ETP of Capacity 2 KLD	Reused in process
91	Vanesa Cosmetics.	Ind. Area Kala Amb.	Khairi	Water Tankers	4	0	Evaporator	Evaporator
92	Varav Biogenesysis P. Ltd	Village Johron, Kala Amb	Khairi	Public Supply	15	2	ETP of Capacity 6 KLD	Drain
93	Vidyasha Pharmaceuticals	Vilage Johron, Kala Amb	Khairi	Public Supply	1	0	Evaporator	Evaporator
94	Indo Herbal Extractions	Village Meerpur, Kala Amb	Meerpur	Water Tankers	1	0	Evaporator	Evaporator

9.1.3 Status of Consents under Water (Prevention & Control of Pollution) Act, 1974 /Air (Prevention & Control of Pollution) Act, 1981

There are 94 water polluting industries in Kala Amb area. All these industries started production after obtaining the consent to operate of the state board under Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981. Thereafter all these 94 industries applied for renewal of consent to operate, 91 are having valid Consent under Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981. The cases of three industries are under process. List of industries along with their consent status have been given in **Table 19.**

Table 19: Consent Status of Water Polluting Industries in Kala Amb

Sr. No.	Name of the unit	Address of Unit	Area	Consent Validity
1	Accura Care Pharmaceuticals (P) ltd.	Vill. Moginand, Kala Amb.	Moginand	31.03.2022
2	Adwin Pharma.	Vill. Rampur Jattan, Kala Amb.	Jattan Wala	31.03.2021
3	AGV Fenestration (P) ltd.	Vill. Johron, Kala Amb.	Jattan Wala	31.03.2020
4	Alfa Remedies	Suketi Road Kala Amb	Suketi Road	31.03.2020
5	Algen Healthcare.	Sadhora Road, Kala Amb (Near SPT Industries)	Sadhora Road	31.03.2022
6	Alps Communications	Village Jattan Wala, Trilokpur Road, Kala Amb	Jattan Wala	31.03.2019
7	Aqua Parental	Village Khari, Sadhora Road, Kala Amb	Sadhora Road	31.03.2019

Sr. No.	Name of the unit	Address of Unit	Area	Consent Validity
8	Art N Glass, Unit-I	Village Johron, Kala Amb	Jattan Wala	31.03.2021
9	Art-N-Glass unit II	Vill Johron, kala Amb	Jattan Wala	31.03.2021
10	Axsys Solutions	Village Johron, Kala Amb	Jattan Wala	31.03.2021
11	Bimal Industries unit-II	IA kala amb	Khairi	31.03.2020
12	Biologic Inc.	Vill. Ogli, Suketi Road, Kala Amb.	Suketi Road	31.03.2023
13	Blue Star Ltd, Unit-I	Village Moginand, Kala Amb	Moginand	31.03.2025
14	Blue star Ltd, Unit-II	Village Manthapal, Kala Amb	Jattan Wala	31.03.2020
15	Bothra Metals & Alloys.	Vill. Kheri, Trilokpur Road, Kala Amb.	Khairi	31.03.2019
16	BROP	Village Ogli, Trilokpur Road, Kala Amb	Jattan Wala	31.03.2019
17	C S Zircon Product.	Village Rampur Jattan, Trilokpur Road, Kala Amb.	Jattan Wala	31.03.2023
18	Care Cosmetic.	Vill. Moginand Kala Amb	Moginand	31.03.2023
19	CBM Industries.	Village Kheri, Trilokpur Road, Kala Amb.	Khairi	31.03.2019
20	Condour Pharmaceutical	Ogli, Suketi Road Kala Amb	Suketi Road	31.03.2019
21	Digital Vision.	Village Ogli, Kala Amb	Ogli	31.03.2020
22	Elnova Pharma.	Village Moginand, Kala Amb.	Moginand	31.03.2019
23	Events Corporation, Unit-II	Village Ogli, Nahan Road, Kala Amb	Ogli	31.3.2021
24	Five Star Healthcare.	Vill. Ogli, Trilokpur Road, Kala Amb.	Jattan Wala	31.03.2019
25	Geeta Industries	Vill. Ogli, Trilokpur Road, Kala Amb.	Jattan Wala	31.03.2019
26	GMT Machine Tools	Village Johron, Kala Amb	Khairi	31.03.2022
27	Gnosis Pharma.	Vill. Moginand Kala Amb.	Moginand	31.03.2019
28	Gold Plus Himachal Safety Glass.	Village Johron, Kala Amb	Jattan Wala	31.03.2021
29	Grampus Laboratories.	Vill. Johoron, Kala Amb.	Khairi	31.03.2023
30	Helpzyn Pharma	Nahan Road, Kala Amb.	Ogli	31.03.2021
31	Him Sagar Laboratories.	Village Kheri, Trilokpur Road, Kala Amb.	Khairi	31.03.2021
32	Himachal Polyfins.	Village Khari, Sadhora Road, Kala Amb.	Sadhora Road	31.03.2020
33	Indkus biotech india	Village moginand, Kala Amb	Moginand	31.03.2022
34	Indo Herbal Extractions	Village Meerpur, Kala Amb		31.03.2022
35	Indo Phyto Chem	Mauza Rampur Jattan, Nahan Road, Kala Amb	Moginand	31.3.2022

Sr. No.	Name of the unit	Address of Unit	Area	Consent Validity
36	Indo Rama Engineers	Village Moginand, Kala Amb	Moginand	31.03.2021
37	Insight Soft Labz	Suketi Road Kala Amb	Suketi Road	31.03.2019
38	Integrated Lab.	Moginand Kala Amb.	Moginand	31.03.2020
39	Iskon Remedies.	Village Ogli, Nahan Road, Kala Amb.	Ogli	31.03.2023
40	JHS Svendgard Laboratories ltd.	Village Kheri, Trilokpur Road, Kala Amb.	Khairi	31.03.2019
41	JMM Laboratories	Sadhora Road Kala Amb.	Suketi Road	31.03.2020
42	KAG Industries	Village Moginand, Kala Amb	Moginand	31.03.2019
43	Konark Enterprises.	Vill. Moginand Kala Amb	Moginand	31.03.2019
44	Konark Fixtures	Village Moginand, Kala Amb	Moginand	31.03.2020
45	Konark Herbal & Health Care	Village Moginand, Kala Amb	Moginand	31.03.2019
46	Konark Poducts	village Moginand, Kala amb	Moginand	31.03.2019
47	MBC Industries	Kala Amb	Khairi	31.03.2019
48	Medisys Biotech Private Limited.	Moginand, Kala Amb.	Moginand	31.03.2019
49	MK Auto Clutch Co.	Villahe Kheri, Kala Amb	Khairi	31.03.2021
50	MMG Healthcare.	Vill. Johron Kala Amb.	Jattan Wala	31.03.2022
51	Myron Industries	Village Ogli, Nahan Road, Kala Amb	Ogli	31.03.2019
52	Orison Pharma International.	Vill. Ogli, Sadhora Road, Kala Amb	Sadhora Road	31.03.2020
53	Oscar Remedies	Vill. Johron Kala Amb.	Jattan Wala	31.03.2018 **(Applied)**
54	Ovation Remides.	Village Johron, Kala Amb.	Jattan Wala	31.03.2022
55	Oyster Pharma.	Plot No. 35, IA, Kala Amb.	Khairi	31.03.2022
56	Pashupati Spinning & Weaving Mills.	Village Kheri, Trilokpur Road, Kala Amb.	Khairi	31.03.2020
57	Phoenix Udyog.	Kala Amb, Distt. Sirmour HP.	Moginand	31.03.2021
58	Pidilite Industries (Unit-III)	Rampur Jattan, Kala Amb	Jattan Wala	31.03.2019
59	Pidilite Industry Ltd., (Unit-II)	Johoron, Kala Amb, Distt. Sirmour.	Jattan Wala	31.03.2019
60	Pidilite Industry Ltd.,(Unit -I)	Village Moginand, Kala Amb	Moginand	31.03.2021
61	Pioneer Embroideries.	Vill. Kheri, Kala Amb.	Khairi	31.03.2021
62	Primus Pharmaceutical	Village Kheri, Sadhora Road, Kala Amb	Sadhora Road	31.03.2020
63	Progressive Industries	Village Ogli, Nahan Road, Kala Amb	Ogli	31.03.2021

Sr. No.	Name of the unit	Address of Unit	Area	Consent Validity
64	Protech Telelinks	Suketi Road Kala Amb	Suketi Road	31.03.2021
65	Pushkar Pharma.	Village Kheri, Meerpur Road, Kala Amb.	Khairi	31.03.2019
66	Rich Gravsis Pvt. Ltd	Village Manthapal, Kala Amb	Jattan Wala	31.03.2019
67	Ruchira Papers Ltd. (W & P Unit)	Kala Amb, Distt. Sirmour HP.	Jattan Wala	31.03.2020
68	Ruchira Papers Ltd. (Kraft Unit)	Kala Amb, Distt. Sirmour HP.	Jattan Wala	31.03.2020
69	Saboo Cylinder.	Ind Area Kala Amb.	Jattan Wala	31.03.2020
70	Sagar Katha Factory	Trilokpur Road Kala Amb.	Jattan Wala	31.03.2022
71	Sai Corporation	Village Johron, Kala Amb	Khairi	31.03.2023
72	Sai Tech Pharmaceuticals.	Vill. Kheri Trilokpur Road, Kala Amb	Khairi	31.03.2022
73	Sarv Biolab (P) ltd.	Village Rampur Jattan, Trilokpur Road, Kala Amb.	Jattan Wala	31.03.2019
74	SBS Biotech. Unit -I	Vill. Rampur Jattan, Nahan Road, Kala Amb.	Jattan Wala	31.03.2023
75	Sheela Foam.	Nahan Road, Kala Amb.	Jattan Wala	31.03.2023
76	Shivam Enterprises	Suketi Road Kala Amb	Suketi Road	31.03.2023
77	Shivom Cotspin ltd.	Vill. Kheri Kala Amb.	Khairi	31.03.2021
78	Shree Krishna Steelage (P) ltd.	Trilokpur Road Kala Amb.	Jattan Wala	31.03.2019
79	Sidhi Vinayak Industries	Village Johron, Kala Amb	Jattan Wala	31.03.2018 **(Applied)**
80	SNS Corporation Unit-II	Village Rampur Jattan, Nahan Road, Kala Amb	Jattan Wala	31.03.2020
81	Sozin Flora Pharma.	Village Moginand, Kala Amb.	Moginand	31.03.2020
82	SPK Wire Products P. Ltd	Village Kheri, Trilokpur Road, Kala Amb	Khairi	31.03.2021
83	SPT Industries	Village Ogli, Sadhora Road, Kala Amb	Sadhora Road	31.03.2021
84	Sunvet Pharma Private Limited.	Village Moginand, Kala Amb.	Moginand	31.03.2023
85	Symboisis Pharmaceuticals.	Suketi Road, Kala Amb.	Suketi Road	31.03.2023
86	Systole Remidies.	Vill. Ogli, Trilokpur Road, Kala Amb.	Jattan Wala	31.03.2020
87	UB Bisucits Pvt. Ltd.	Village Khari, Sadhora road, Kala Amb	Sadhora Road	31.03.2021
88	Vanesa Cosmetics.	Ind. Area Kala Amb.	Khairi	31.03.2023
89	Varav Biogenesysis Pvt. Ltd	Village Johron, Kala Amb	Khairi	31.03.2023
90	Vashishat Chemical.	Nahan Road Kala Amb.	Ogli	31.03.2020

Sr. No.	Name of the unit	Address of Unit	Area	Consent Validity
91	Vidyasha Pharmaceuticals	Vilage Johron, Kala Amb	Khairi	31.03.2020
92	Vinay Packaging (Athens Lab)	Vill. Rampurjattan, Nahan Road, Kala Amb.	Jattan Wala	31.03.2022
93	Virgo Aluminium	Village Rampurjattan, Kala Amb	Jattan Wala	31.03.2021
94	Welcure Remedies	Monginand Kala Amb	Moginand	31.03.2021

9.1.4 List of Industries complying/non complying with the Effluent Discharge Standards:

HPSPCB Paonta Sahib has collected 72 samples of different water polluting units from Kala Amb area during October to December, 2018. The results of 71 samples have been received so far. Out of 71 samples, parameters of 6 samples have been found above the prescribed limit. Notices have been issued to the defaulting units. Second samples of the units have been collected. The detailed lists of industries along with their compliance status have been tabulated in **Table 20**.

Table 20: List of Industries complying and non- complying to the effluent discharge norms prescribed under Environment (Protection) Rules, 1986

Sr. No.	Name of the unit	Area	Type of Industry	Date of Collection of Sample	Compliance Status	Remarks
1	Accura Care Pharmaceuticals (P) ltd.	Moginand	Pharmaceautical Formulation	17.11.2018	Complying	-
2	Adwin Pharma.	Jattan Wala	Pharmaceautical Formulation	03.11.2018	Non Complying	The parameters COD (360 mg/L against prescribed limit of 250 mg/L) and BOD (120 mg/L against prescribed limit of 30 mg/L) are not confirming to the limit. Second sample of the unit has been collected.
3	Aqua Parental	Sadhora Road	Pharmaceautical Formulation	12.12.2018	Non Complying	The parameters COD (272 mg/L against prescribed limit of 250 mg/L) and BOD (108 mg/L against the prescribed limit of 30 mg/L) are not confirming to the limit. Second sample of the unit has been collected.
4	Art N Glass, Unit-I	Jattan Wala	Glass Unit	30.10.2018	Complying	-

Sr. No.	Name of the unit	Area	Type of Industry	Date of Collection of Sample	Compliance Status	Remarks
5	Art-N-Glass unit II	Jattan Wala	Glass Unit	30.10.2018 & 15.12.2018	Complying	The parameter TSS (146 mg/L against the prescribed limit of 100 mg/L) was not confirming to the limit during first sampling. Second sample of the unit was collected on 15.12.2018 and is complying to the norms.
6	Axsys Solutions	Jattan Wala	Metal Finishing	30.10.2018 & 15.12.2018	Complying	For irrigation norms.
7	Bimal Industries unit-II	Khairi	Metal Finishing	01.11.2018	Complying	-
8	Blue Star Ltd, Unit-I	Moginand	STP	03.11.2018	Complying	-
9	Blue star Ltd, Unit-II	Jattan Wala	STP	25.10.2018	Complying	-
10	C S Zircon Product.	Jattan Wala	Miscellaneous Chemicals	03.11.2018	Complying	-
11	Care Cosmetic.	Moginand	Cosmetics	15.12.2018	Complying	-
12	Elnova Pharma.	Moginand	Pharmaceautical Formulation	17.11.2018	Complying	-
13	Five Star Healthcare.	Jattan Wala	Pharmaceautical Formulation	16.11.2018	Complying	-
14	Geeta Industries	Jattan Wala	Metal Finishing	01.11.2018	Complying	-
15	General Machine Tools	Khairi	Pharmaceautical Formulation	30.10.2018	Complying	-
16	Gold Plus Himachal Safety Glass.	Jattan Wala	Glass Unit	01.11.2018	Complying	-
17	Grampus Laboratories.	Khairi	Pharmaceautical Formulation	16.10.2018	Complying	-
18	Himachal Polyfins.	Sadhora Road	Lime & Chemicals	12.12.2018	Complying	-

Sr. No.	Name of the unit	Area	Type of Industry	Date of Collection of Sample	Compliance Status	Remarks
19	Indkus biotech india	Moginand	Pharmaceautical Formulation	22.11.2018	Complying	The parameters COD(1248 mg/L against prescribed limit of 250 mg/L), BOD (680 mg/L against prescribed limit of 30 mg/L) and TSS (153 mg/L against prescribed limit of 100 mg/L) were observed in the first sampling, However the unit has installed an evaporator thus ensuring zero discharge from the unit.
20	Indo Rama Engineers	Moginand	Pharmaceautical Formulation	17.11.2018	Complying	-
21	JHS Svendgard Laboratories ltd.	Khairi	Cosmetics	13.12.2018	Complying	-
22	Konark Herbal & Health Care	Moginand	Pharmaceautical Formulation	22.11.2018	Complying	-
23	MMG Healthcare.	Jattan Wala	Pharmaceautical Formulation	30.10.2018	Complying	-
24	Myron Industries	Ogli	Metal Finishing	30.11.2018	Non Complying	The parameter TSS (122 mg/L against the prescribed limit of 100 mg/L) is not confirming to the limit. Second sample of the unit has been collected.
25	Orison Pharma International.	Sadhora Road	Pharmaceautical Formulation	12.12.2018	Non Complying	The parameters COD (496 mg/L against prescribed limit of 250 mg/L), TSS (112mg/L against prescribed limit of 100 mg/L) and BOD (340 mg/L against the prescribed limit of 30 mg/L) are not confirming to the limit. Second sample of the unit has been collected.
26	Ovation Remides.	Jattan Wala	Pharmaceautical Formulation	01.11.2018	Complying	-

Sr. No.	Name of the unit	Area	Type of Industry	Date of Collection of Sample	Compliance Status	Remarks
27	Pashupati Spinning & Weaving Mills.	Khairi	Spinning & Dyeing	16.10.2018 & 13.12.2018	Complying	-
28	Phoenix Udyog.	Moginand	Metal Finishing	28.11.2018	Complying	-
29	Pidilite Industries (Unit-III)	Jattan Wala	Miscellaneous Chemicals	01.11.2018	Complying	-
30	Pidilite Industry Ltd., (Unit-II)	Jattan Wala	Miscellaneous Chemicals	16.10.2018	Complying	-
31	Pidilite Industry Ltd.,(Unit -I)	Moginand	STP	22.11.2018	Complying	-
32	Pioneer Embroideries.	Khairi	STP	13.12.2018	Complying	-
33	Progressive Industries	Ogli	Metal Finishing	30.11.2018	Complying	-
34	Rich Gravsis Pvt. Ltd	Jattan Wala	Food Products	25.10.2018	Complying	-
35	Ruchira Papers Ltd. (W & P Unit)	Jattan Wala	Pulp and Paper	01.11.2018 & 15.12.2018	Complying	-
36	Saboo Cylinder.	Jattan Wala	Metal Finishing	16.11.2018	Non Complying	The parameters COD (736 mg/L against prescribed limit of 250 mg/L), TSS (119 mg/L against prescribed limit of 100 mg/L) and Total Iron (8.68 mg/L against the prescribed limit of 3 mg/L) are not confirming to the limit. Second sample of the unit has been collected.
37	Sagar Katha Factory	Jattan Wala	Katha Factory	16.10.2018	Complying	
38	Sai Corporation	Khairi	Cosmetics	13.12.2018	Complying	
39	SBS Biotech. Unit -I	Jattan Wala	Pharmaceautical Formulation	26.10.2018	Complying	For irrigation norms.
40	Sheela Foam.	Jattan Wala	STP	26.10.2018	Complying	-
41	Shivom Cotspin ltd.	Khairi	STP	05.12.2018	Complying	-
42	Shree Krishna Steelage (P) ltd.	Jattan Wala	Metal Finishing	16.11.2018	Complying	-

Sr. No.	Name of the unit	Area	Type of Industry	Date of Collection of Sample	Compliance Status	Remarks
43	Sidhi Vinayak Industries	Jattan Wala	Pharmaceautical Formulation	30.10.2018	Complying	The parameters COD (492 mg/L against prescribed limit of 250 mg/L) and BOD (70 mg/L against prescribed limit of 30 mg/L) were observed in the first sampling. However now the unit has installed the evaporator thus ensuring zero discharge from the unit.
44	SNS Corporation Unit-II	Jattan Wala	Metal Finishing	22.11.2018	Complying	-
45	UB Bisucits Pvt. Ltd.	Sadhora Road	Food Products	15.12.2018	Complying	-
46	Vashishat Chemical.	Ogli	Lime & Chemicals	30.11.2018	Complying	-
47	Vinay Packaging (Athens Lab)	Jattan Wala	Pharmaceautical Formulation	26.10.2018	Complying	-
48	Virgo Aluminium	Jattan Wala	Metal Finishing	26.10.2018	Complying	-
49	Integrated Laboratories	Moginand	Pharmaceautical Formulation	28.11.2018	Complying	-
50	Systole Remedies	Jattan Wala	Pharmaceautical Formulation	16.11.2018	Complying	-
51	Konark Enterprises	Moginand	Metal Finishing	22.11.2018	Complying	-
52	Konark Products	Moginand	Metal Finishing	22.11.2018	Complying	-
53	Konark Fixtures	Moginand	Metal Finishing	22.11.2018	Complying	-
54	Medisys Biotech	Moginand	Pharmaceautical Formulation	22.11.2018	Complying	For irrigation norms
55	Sozin Flora Pharma	Moginand	Pharmaceautical Formulation	22.11.2018	Complying	-
56	Alps Communications	Jattan Wala	Pharmaceautical Formulation	27.11.2018	Complying	-
57	Gnosis Pharma	Moginand	Pharmaceautical Formulation	27.11.2018	Complying	-
58	Varav Biogenesis	Khairi	Pharmaceautical Formulation	30.11.2018	Complying	-
59	Sai Tech Medicare	Khairi	Pharmaceautical	04.12.2018	Complying	-

Sr. No.	Name of the unit	Area	Type of Industry	Date of Collection of Sample	Compliance Status	Remarks
			Formulation			
60	Primus Pharmaceuticals	Sadhora Road	Pharmaceautical Formulation	11.12.2018	Complying	-
61	Bothra Metals	Khairi	Metal Finishing	04.12.2018	Complying	-
62	Pushkar Pharmaceuticals	Khairi	Pharmaceautical Formulation	12.12.2018	Complying	-
63	SPK Wires	Khairi	Metal Finishing	12.12.2018	Complying	-
64	M K Auto Clutch	Khairi	Metal Finishing	12.12.2018	Complying	-
65	Digital vision	Ogli	Pharmaceautical Formulation	14.12.2018	Complying	-
66	Sunvet Pharmaceuticals	Moginand	Pharmaceautical Formulation	14.12.2018	Complying	-
67	SPT Industries	Sadhora Road	Metal Finishing	14.12.2018	Non Complying	The parameters total iron (320 mg/L against prescribed limit of 10 mg/L), pH (4.4) and TSS (146 mg/L against prescribed limit of 100 mg/L) were observed in the first sampling.

9.1.5 Status of Solid Waste, Hazardous Waste and Bio-medical Waste Management in Kala Amb Area :-

a) Solid Waste Management:

Total solid waste generation of Kala Amb area is approx. 3 to 4 Metric Tons per day. SADA, Trilokpur (Under District Administration) is the agency responsible for collection and disposal of solid waste. Dustbins have been provided by SADA, Trilokpur at various locations. Collected waste is then disposed of at Solid Waste Dumping Site of Municipal Council, Nahan.

In the First, Second and Third meetings of the District Level Special Task Force held under the chairmanship of Deputy Commissioner, Sirmaur it has been decided that Member Secretary SADA, Trilokpur shall identify suitable land confiscated under section 118 of H.P Land reforms and Tenancy Act, 1972 for setting up of a Solid Waste Management Site at Kala Amb in consultation with SDM, Nahan and GM, DIC. Further, Member Secretary, SADA, Trilokpur will invite Expression of Interest from interested parties by giving advertisement in leading newspapers for setting up a Solid Waste Management Site at Kala Amb.

- **Solid Waste Management for Rural Areas in Kala Amb, catchment of River Markanda:**

Gram Panchayat Satiwala, Banklan, Bikrambag, Kala Amb, Devri and Amwala Saniwala in development block Naha, district Sirmour and in the catchment area of river Markanda.

Director-cum- Spl. Secretary (RD) to the Govt. of H.P. vide letter no. SMG-19/2010-RDD- (SBM_G)-Review- dated 24th December, 2018 has informed that the Himachal Pradesh has achieved ODF status on 28th October, 2016. All the toilets in the state are Geo-tagged. No dysfunctional toilet reported so far. Presently, focus is to address the issues of Solid Liquid Waste Management (SLWM) in all Gram Panchayats falling in the catchment area of River Markanda having special focus on labour colonies, construction sites and peri-urban areas and to sustain ODF status. Further, it has been reported that waste audit along-with mapping of shit-flow daigoram (SFD) of all the Gram Panchayats falling in the catchment will be completed by 20th February, 2019. The Panchayats will prepare Action Plan on the basis of waste audit report. The Action Plan will be approved by District Swachh Bharat Mission Gramin and will be completed within six months of the approval of the plan.

b) Hazardous Waste Management:-

There are around 400 industrial units in Kala Amb. The industries generating hazardous waste have been covered under Hazardous & Other Waste (Management & Trans Boundary) Rules, 2016. The Hazardous Waste generated by various industries is disposed of to Common disposal facility at scientific landfill site at Dhabota, Nalagarh, District – Solan (H.P).

c) Biomedical Waste Management:-

There are only three medical Health care facilities in Kala Amb. All the facilities have been covered under Bio Medical Waste Management Rules, 2016. The bio medical waste generated is being disposed of to M/s Enviro Engineers, a Common Bio Medical Waste Disposal Facility located at Solan, H.P.

9.2 Observations on Gap Analysis in the Catchment of Sukhna Nallah

The industrial Area of Parwanoo is a semi urban area where industries are located in Sector 01, 02, 03 and 05. Apart from this industries are also located in non MC and Panchayat areas around the industrial sectors. There is no common STP or CETP in the area till date.

9.2.1 Sewage Management - The individual households have the septic tank followed by soak pit. 23 No of industries have provided the captive Sewage Treatment Plants where manpower is more than 150. The captive sewage treatment system installed comprises of activated sludge process followed by sand and activated carbon filters. The treated sewage is being used by most of the industries in gardening, flushing and wetting of internal roads etc. The sewage load from the sewer lines provided in industrial as well as residential sectors are treated in septic tanks provided by HIMUDA and now operated and maintained by MC Parwanoo.

It has been observed that out of the 16 septic tanks provided, 06 are either non-operational or defunct as on date. The rest are of inadequate capacity and have never been cleaned since inception and are highly

inadequate as on date to treat the sewage load. Untreated sewage from these septic tanks is discharging wastewater into the Sukhna Nallah leading to deterioration of surface water quality. The details of Septic tanks along with their status as received from HIMUDA is attached as **Annexure - IX.**

Table 21: Details of Septic Tanks Along With Design Capacity & GPS Co-ordinates

Sr. No	Location of septic Tank	Sector	GPS Coordinates	Design Capacity (Approximate) as per no of Users
1	Near Block No.10, near Soni Xen House, Sector -1, Parwanoo	Sector - 1	$30^0$50'11" $76^0$57'27"	**1200**
2	Near HIMUDA Store Shant Vihar Colony Nallah Side, Sector -1, Parwanoo	Sector - 1	$30^0$50'13" $76^0$57'29"	
3	Opposite to HIMFED Bottling Plant under MC Shops, Sector -1, Parwanoo	Sector - 1	$30^0$50'12" $76^0$57'29"	
4	Near Sirmour Chowk Back side of Rain Shelter adj to Saini Dhaba toward nallah side, Sector -1,	Sector - 1	$30^0$50'10" $76^0$57'36"	
5	Near Shivalik Café under Rain Shelter, Sector -2, Parwanoo	Sector -2	$30^0$50'11" $76^0$57'27"	**1000**
6	Back Side of HIMUDA Commercial Complex, Sector -2, Parwanoo	Sector -2	$30^0$50'29" $76^0$56'52"	
7	At back side of M/s AB Tools, Sector -3, Parwanoo	Sector -3	$30^0$50'15" $76^0$57'47"	**800**
8	Near Experimental Block No. 2 Sector -3, Parwanoo	Sector -3	$30^0$50'17" $76^0$57'42"	
9	In front of HIMUDA Single Room Flats, Block No. 8 towards nallah side, Sector -4, Parwanoo	Sector -4	$30^0$50'50" $76^0$57'1"	**4500**
10	Near M/s Allied Nippon Industry, Sector -5, Parwanoo	Sector -5	$30^0$50'51" $76^0$57'10"	**500**
11	Near MC Solid Waste Disposal Site, Adjoining to culvert, Sector -5, Parwanoo	Sector -5	$30^0$50'54" $76^0$57'20"	
12	Back Side of Block No. 5 toward nallah side, sector -5, Parwanoo	Sector -5	$30^0$50'57" $76^0$57'19"	
13	Near Cremation Ground adjoining to IHSDP HIMUDA Blocks, Sector- 5, Parwanoo	Sector -5	$30^0$50'54" $76^0$57'20"	
14	Near EWS House, Sector -6, Parwanoo	Sector – 6	$30^0$50'30" $76^0$58'13"	**1600**
15	Near Block No. 27 toward nallah side, Sector – 6, Parwanoo	Sector - 6	$30^0$50'27" $76^0$58'12"	
16	Near Negi Petrol Pump toward nallah side, Sector – 6, Parwanoo	Sector - 6	$30^0$50'17" $76^0$58'09"	
	Design for total population (in persons)			**9600**

In the absence of common STP, the entire sewage load of the town is on the septic tanks for treatment. The total population of Parwanoo town as per census 2011 census is 8758 persons and the present population including the floating population for employment and non-permanent residents is approximately 20,000 persons at peak. This is apart from population residing in adjoining village areas which includes labour force etc.

As a case of the Sector V of Parwanoo Town, which comprises of about 31 industrial plots with about 55 industrial units. The sector V also has 15 residential blocks comprising of 8 flats each. The entire load of the same is on the common septic tanks with 03 in number (01 being non-function) and designed for approximately 500 users in total (Approx. load of 54 KLD). As per current position, the waste-water load is about 100 KLD. There is clear gap of about 45 KLD. In addition to this, even the existing treatment facility in the form of septic tank, has not been cleaned till date and leading to discharge of partially treated sewage into Sukhna Nallah. All the septic tanks are under capacity and need urgent cleaning, upgradation and enhancement in the sewer network.

The industrial units have however provided captive STPs wherever the manpower is greater than 150 persons. The detail of capacitive STPs in Kaushalya, Sukhna catchment and isolated places is as below:-

Table 22: Captive Sewage Treatment Plants in Kaushalya/Sukhna River Catchments

Sr. No.	Name and address of Industry	Type	STP(KLD)
1	Kddl Limited-Sec -03 ,Town: Parwanoo	Electroplating	15.0
2	Hotel TTR Heights	Hotel	100.0
3	Kapco International	Cosmetics	10
4	Hotel TTR Resort	Hotel	50.0
Total Number of STPs is **04**		TOTAL	**175.0**
CAPTIVE STPs IN SUKHNA NALLAH CATCHMENT			
	Name and address of Industry	Type	STP(KLD)
1	S.K.Industries-Sec -2 PARWANOO ,Town:PARWANOO	Confectionary	10.0
2	Mahle Filter System India Ltd, Sec - 1, Parwanoo	Engineering	55
3	Micro Turner, Village Naryal, Prawanoo	Engineering	10
4	Gabrial India Limited , Parwanoo	Engineering	20
5	federal Mogul Bearing india Limited	Electroplating	20
6	Milestone Gears Pvt Limited Unit-V,	Engineering	10
7	Salico Trading Co. Private Limited, Sec -1, Parwanoo	Engineering	10
8	Tafe Motors & Tractors Ltd, Parwanoo	Engineering	10
9	Fujiyama Power systems	Electrical &Electronics	15
10	Balaji Powertronics	Electrical &Electronics	5
11	Modulus prefab unit II	Phosphating	5
12	Ind-Sphinx Limited	Engineering	10
13	Siddharatha Industries / Green Chef, Village Naryal, Parwanoo	LPG Stoves	8
14	Universal Powertronic	Electrical &Electronics	5
15	Himachal Power Products, Sec -1, Parwanoo	Electrical &Electronics	5
16	Shivalik Industries, Sec -2, parwanoo	Electrical &Electronics	5

Sr. No.	Name and address of Industry	Type	STP(KLD)
17	Microtek Infosoft Ltd, Sec -5, Parwanoo	Electrical &Electronics	5
18	A B Tools, Sec -3, Parwanoo	Iron & Steel	10
		TOTAL	**218.0**
	Total Number of STPs is **18**		
WATER POLLUTING INDUSTRIES IN PARWANOO AREA WITH STP (ISOLATED STRECHES)			
	Name and address of Industry	Type	STP(KLD)
1	Morepen Laboratory Limited-Kasauli Road ,Town:Masoolkhana	Bulk Drugs	20.0
	Total Number of STPs is **01**		**20.0**
	Total Number of STPs is **23**		**413.0**

9.2.2 Effluent Treatment- All the water polluting industries in the industrial area Parwanoo have installed their own captive effluent treatment plants in their respective industries. The treatment technology provided ranges from primary treatment system i.e. chemical treatment, precipitation/settling followed by dual media carbon filters, Activated sludge process followed by dual media carbon filters, the chemical recovery system has also been installed in a paper mill, few industries have also provided RO system. The treated effluents are being used in the process, gardening, flushing, wetting of roads etc. The list of industries along with mode of treatment and final disposal has already been given in **Table 23.**

9.2.3 Status of Consents under Water (Prevention & Control of Pollution) Act, 1974 /Air (Prevention & Control of Pollution) Act, 1981:-

There are 61 water polluting industries in Parwanoo area. All these industries started production after obtaining the consent to operate of the state board under Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981. All, 61 are having valid Consent to Operate Fresh under Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981. 12 Nos of industries have applied for renewal and the case is under process. 08 number of units have closed down operation as on date. Rest of the industrial units have a valid consent to operate as on date. List of industries along with their consent status have been given in **Table 23**.

Table 23: Water Polluting Industries in Parwanoo Area along with compliance of Consent under Water (Prevention and Control Pollution) Act, 1974

Sr. No.	Name and address of Industry	Catechment	Type of Industry	Source of Water	PCD provided		Total Treatment Capacity	Avg. Water consumption KLD	Avg. WW Gen KLD	Mode of Disposal	Consent Status	Authorization Status
					ETP (KLD)	STP (KLD)						
1	Kddl Limited-Sec -03 Town:Parwanoo	R. Kaushalya	Electroplating	HIMUDA & Hired Tankers	30.0	15.0	45.0	28.0	25.0	Drain	31.03.2021	31-03-2023
2	Reckitt Benkiser(India)limited-Sec -3, ,Town:Parwanoo	R. Kaushalya	Soap and Toilet Cleaner	closed	10.0		10.0	closed	0.0		closed	Closed
3	Aryan Biological Corporation-Town:Parwanoo	R. Kaushalya	Pharmaceutical Fomulation	HIMUDA & Hired Tankers	2.5		2.5	1.0	0.8	Drain	31.03.2020	31-03-2022
4	Clevus Lifesciences-Apple Terminal Market Nr Sec-6,Parwanoo	R. Kaushalya	Pharmaceutical Fomulation	HIMUDA & Hired Tankers	3.0		3.0	2.0	1.5	Drain	31.03.2023	renewal applied
5	Sai refinery Unit II, Industrial Estate IA Khadeen, Parwanoo	R. Kaushalya	Gold Refining	closed	3.0		3.0		0.0	Drain	31.03.2016	Closed
6	Real Care Lifesciences, Orion Complex, Sec-6, Parwanoo	R. Kaushalya	Pharmaceutical Fomulation	Hired Tankers	3.0		3.0	2.5	2.0	Drain	31.03.2020	31-03-2022
7	Hotel TTR Heights	R. Kaushalya	Hotel	Spring		100.0	100.0	12.0	6.0	Gardening	31.03.2021	renewal applied
8	Hotel TTR Resort	R. Kaushalya	Hotel	Spring		50.0	50.0	12.0	6.0	Gardening	31.03.2021	renewal applied
9	Kapco International	R. Kaushalya	Cosmetics	HIMUDA & Hired	8	10	18.0	12.0	9.5	Drain	31.03.2019	renewal applied

Sr. No.	Name and address of Industry	Catechment	Type of Industry	Source of Water	PCD provided		Total Treatment Capacity	Avg. Water consumption KLD	Avg. WW Gen KLD	Mode of Disposal	Consent Status	Authorization Status
					ETP (KLD)	STP (KLD)						
				Tankers								
10	Sunanda Polymer, IA Khadeen, parwanoo	R. Kaushalya	Gold Refining	HIMUDA & Hired Tankers	5		5.0	1.0	0.8	Drain	31.03.2020	renewal applied
11	Rail Coach Engineers, Village IA Khadeen, Parwanoo	R. Kaushalya	Gold Refining	closed	1.0		1.0		0.0	Drain	31.03.2018	31-03-2022
12	Daljeet Electroplating-Sec-2 Town:Parwanoo	Sukhna Nallah	Electroplating	HIMUDA & Hired Tankers	2.0		2.0	1.0	0.67	ZLD	31.03.2021	31-03-2022
13	Premier Electroplating Works-Sec -2 Town:Parwanoo	Sukhna Nallah	Electroplating	HIMUDA & Hired Tankers	1.0		1.0	1.0	0.7	ZLD	31.03.2021	31-03-2023
14	Solchrome Private Limited-Sec -V, Town:Parwanoo	Sukhna Nallah	Electroplating	HIMUDA & Hired Tankers	1.0		1.0	1.00	0.08	ZLD	31.03.2021	31-03-2021
15	Mahadev Pharmaceuticals -OLD KAUSALI ROAD OPP. Sec - 4	Sukhna Nallah	Pharmaceutical Fomulation	Hired Tankers	10.0		10.0	8.0	7.5	Drain	31.03.2020	31-03-2020
16	Morepen Laboratory Limited 12 B, Sec-2, Parwanoo	Sukhna Nallah	Pharmaceutical Fomulation	HIMUDA & Hired Tankers	5		5.0	8.5	6.0	Drain/ Sewer line	31.03.2022	31-03-2023
17	Huhtemati Industries,	Sukhna Nallah	Ink Printing	Hired Tankers	5		5.0	3.0	3.3	Drain	31.03.2020	31-03-2019

Sr. No.	Name and address of Industry	Catechment	Type of Industry	Source of Water	PCD provided		Total Treatment Capacity	Avg. Water consumption KLD	Avg. WW Gen KLD	Mode of Disposal	Consent Status	Authorization Status
					ETP (KLD)	STP (KLD)						
	Village Ambota, Parwanoo											
18	Maxwell Pharma- Plot 06, Sec 5, Parwanoo	Sukhna Nallah	Pharmaceutical Fomulation	HIMUDA & Hired Tankers	12.0		12.0	2.0	1.4	Drain/ Sewer line	31.03.2018	31-03-2021
19	Total Health Care Pvt. Limited-Sec 5, Vill Amobta-Town:Parwanoo	Sukhna Nallah	Pharmaceutical Fomulation	Hired Tankers	5.0		5.0	3.5	3.3	Drain	31.03.2022	31-03-2022
20	AVI Technologies, Sec -V, Parwanoo	Sukhna Nallah	Pharmaceutical Fomulation	HIMUDA & Hired Tankers	3.0		3.0	5.0	4.0	Drain/ Sewer line	31.03.2020	31-03-2019
21	Hanuchem Laboratories-Sec 5 - Town:Parwanoo	Sukhna Nallah	Pharmaceutical Fomulation	HIMUDA & Hired Tankers	3		3.0	1.0	1.5	Drain/ Sewer line	31.03.2019	31-03-2019
22	S.K.Industries-Sec -2 PARWANOO Town:PARWANOO	Sukhna Nallah	Confectionary	HIMUDA & Hired Tankers	3.0	10.0	13.0	9.0	8.3	Drain/ Gardening	31.03.2018	renewal applied
23	Krishnaav Engineering Limited-Industrial Area, Sec -5, Town: Parwanoo	Sukhna Nallah	Engineering	HIMUDA & Hired Tankers	3.0		3.0	3.0	2.5	Drain/ Sewer line	31.03.2020	31-03-2019
24	Visage Beauty & Healthcare Pvt Ltd, VILLAGE	Sukhna Nallah	Consmetics	Hired Tankers	5		5.0	5.7	3.0	Drain/ Gardening	31.03.2021	31-03-2022

Sr. No.	Name and address of Industry	Catechment	Type of Industry	Source of Water	PCD provided		Total Treatment Capacity	Avg. Water consumption KLD	Avg. WW Gen KLD	Mode of Disposal	Consent Status	Authorization Status
					ETP (KLD)	STP (KLD)						
	NARYAL, Parwanoo											
25	Mahle Filter System India Ltd, Sec - II, Parwanoo	Sukhna Nallah	Engineering	Hired Tankers	36		36.0	16.0	14.0	Drain/ Gardening	31.03.2018	31-03-2019
26	Mahle Filter System India Ltd, Sec - 1, Parwanoo	Sukhna Nallah	Engineering	HIMUDA & Hired Tankers		55	55.0	20.0	18.0	Drain/ Gardening	31.03.2018	31-03-2018
27	Micro Turner, Village Naryal, Prawanoo	Sukhna Nallah	Engineering	Hired Tankers	15	10	25.0	7.0	6.5	Drain/ Gardening	31.03.2022	31-03-2022
28	Gabriel India Limited , Parwanoo	Sukhna Nallah	Engineering	Bore Well	45	20	65.0	35.0	28.0	Drain/ Gardening	31.03.2021	31-03-2022
29	Federal Mogul Bearing india Limited	Sukhna Nallah	Electroplating	Bore Well	150	20	170.0	225.0	150.0	Drain/ Gardening	31.03.2021	renewal applied
30	Milestone Gears Pvt Limited Unit-V,	Sukhna Nallah	Engineering	HIMUDA & Hired Tankers		10	10.0	20.0	6.0	Drain/ Sewer line	31.03.2023	31-03-2019
31	Salico Trading Co. Private Limited, Sec -1, Parwanoo	Sukhna Nallah	Engineering	HIMUDA & Hired Tankers	2	10	12.0	8.0	6.5	Drain/ Sewer line	31.03.2019	31-03-2023
32	Tafe Motors & Tractors Ltd, Parwanoo	Sukhna Nallah	Engineering	HIMUDA & Hired Tankers	40	10	50.0	50.0	48.0	Drain/ Gardening	31.03.2020	31-03-2023
33	Legen health care, Sec - 5, Parwanoo	Sukhna Nallah	Pharmaceutical Fomulation	HIMUDA & Hired Tankers	3		3.0	1.5	0.7	Drain/ Sewer line	31.03.2020	31-03-2020
34	Aarge Healthcraft, Plot	Sukhna Nallah	Pharmaceutical	HIMUDA & Hired	10		10.0	9.0	7.5	Drain/ Sewer	31.03.2020	31-03-2021

Sr. No.	Name and address of Industry	Catechment	Type of Industry	Source of Water	PCD provided		Total Treatment Capacity	Avg. Water consumption KLD	Avg. WW Gen KLD	Mode of Disposal	Consent Status	Authorization Status
					ETP (KLD)	STP (KLD)						
	No. 12A, Sec - 2, Parwanoo		Fomulation	Tankers						line		
35	Fujiyama Power systems	Sukhna Nallah	Electrical &Electronics	Hired Tankers		15	15.0	4.5	3.5	Drain	31.03.2022	Not Applicable
36	Balaji Powertronics	Sukhna Nallah	Electrical &Electronics	HIMUDA & Hired Tankers		5	5.0	4.0	3.5	Drain/ Sewer line	31.03.2019	31-03-2022
37	Modulus prefab unit II	Sukhna Nallah	Phosphating	Hired Tankers	5	5	10.0	7.5	6.0	Drain/ Sewer line	31.03.2022	31-03-2022
38	Ind-Sphinx Limited	Sukhna Nallah	Engineering	HIMUDA & Hired Tankers		10	10.0	12.0	10.0	Sewer line	31.03.2019	renewal applied
39	Haimi Agro Products, Sec - 5, Parwanoo	Sukhna Nallah	Pesticide Formulation	HIMUDA & Hired Tankers	1		1.0	0.5	0.1	Drain/ Sewer line	31.03.2021	31-03-2022
40	Morepen Laboratory Limited 12 C, Sec-2, Parwanoo	Sukhna Nallah	Pharmaceutical Fomulation	HIMUDA & Hired Tankers	5		5.0	8.0	6.0	Drain/ Sewer line	31.03.2022	31-03-2021
41	Siddharatha Industries / Green Chef, Village Naryal, Parwanoo	Sukhna Nallah	LPG Stoves	Hired Tankers		8	8.0	5.0	4.5	Drain/ Sewer line	31.03.2025	renewal applied
42	Hpmc Limited, Fruit Processing Plant,-- - ,Town:PARWANOO	Sukhna Nallah	Fruit Processing	Borewell	1000.0		1000.0	18.0	15.0	Drain/ Gardening	31.03.2020	NA
43	Mace Biotech, Sec -1, Parwanoo	Sukhna Nallah	Pharmaceutical Fomulation	Borewell	0.5		0.5	2.0	1.5	Drain/ Sewer line	31.03.2022	31-03-2022
44	Bakson Drugs &	Sukhna	Pharmaceutic	HIMUDA	2		2.0	2.0	1.8	Drain/	31.03.2016	Not Applied

Sr. No.	Name and address of Industry	Catechment	Type of Industry	Source of Water	PCD provided		Total Treatment Capacity	Avg. Water consumption KLD	Avg. WW Gen KLD	Mode of Disposal	Consent Status	Authorization Status
					ETP (KLD)	STP (KLD)						
	Pharma P Limited (Unit Ii), Plot No. 6, Sec -1, Prw	Nallah	al Fomulation	& Hired Tankers						Sewer line		
45	Universal Powertronic	Sukhna Nallah	Electrical &Electronics	HIMUDA & Hired Tankers		5	5.0	4.0	3.0	Drain/ Sewer line	31.03.2018	Not Applicable
46	Himachal Fastner-Sec -1 Parwanoo,Town : Parwanoo	Sukhna Nallah	Electroplating	HIMUDA & Hired Tankers	2.0		2.0	1.5	1.0	Drain/ Sewer line	31.03.2021	renewal applied
47	Kamla Fabricator, Sec -5, Parwanoo	Sukhna Nallah	Phosphating	HIMUDA & Hired Tankers	5		5.0	3.0	2.8	Drain/ Sewer line	31.03.2019	31-03-2023
48	Himachal Power Products, Sec - 1, Parwanoo	Sukhna Nallah	Electrical &Electronics	HIMUDA & Hired Tankers		5	5.0	3.0	2.5	Drain/ Sewer line	31.03.2022	31-03-2021
49	Shivalik Industries, Sec - 2, parwanoo	Sukhna Nallah	Electrical &Electronics	HIMUDA & Hired Tankers		5	5.0	4.0	3.5	Drain/ Sewer line	31.03.2019	31-03-2019
50	Microtek Infosoft Ltd, Sec -5, Parwanoo	Sukhna Nallah	Electrical &Electronics	HIMUDA & Hired Tankers		5	5.0	3.5	3.0	Drain/ Sewer line	31.03.2022	31-03-2022
51	A B Tools, Sec -3, Parwanoo	Sukhna Nallah	Iron & Steel	HIMUDA & Hired Tankers		10	10.0	14.0	6.0	Drain/ Sewer line	31.03.2019	31-03-2021
52	Dee Emm Electroplating-Sec 2, Below Gabrial Road, Parwanoo	Sukhna Nallah	Electroplating	Hired Tankers	2.0		2.0	closed		CLOSED	closed	Closed
53	AM Enterprises, Uncha Parwanoo, Sec -	Sukhna Nallah	Pharmaceutical Fomulation	Hired Tankers	5		5.0	2.5	2.0	Drain	31.03.2020	31-03-2019

Sr. No.	Name and address of Industry	Catechment	Type of Industry	Source of Water	PCD provided		Total Treatment Capacity	Avg. Water consumption KLD	Avg. WW Gen KLD	Mode of Disposal	Consent Status	Authorization Status
					ETP (KLD)	STP (KLD)						
	1, Parwanoo											
54	Hilton Pricision Pvt. Limited-Sec 2, Parwanoo - Town:Parwanoo	Sukhna Nallah	Phosphating	closed	2.0		2.0	closed		CLOSED	closed	Closed
55	Richfeel Health & Beauty Pvt. Ltd-Vill Taksal - Town:Parwanoo	Sukhna Nallah	Consmetics	closed	10.0		10.0	closed		CLOSED	closed	Closed
56	Coral Healthcare Pvt. Ltd.- Industrial area - Town:Parwanoo	Sukhna Nallah	Pharmaceutical Fomulation	closed	3.0		3.0	closed		CLOSED	closed	Closed
57	Steelium Industries, Plot No. 8, Sec - 1, Parwanoo	Sukhna Nallah	Phosphating	closed	1		1.0	closed		CLOSED	closed	Closed
58	Himachal Soap & Detergents Private Limited, Town:PARWANOO	Sukhna Nallah	Pharmaceutical Fomulation	closed	15.0		15.0	closed		CLOSED	closed	Closed
59	Apex Industries, Plot No. 29, Sec -5, Parwanoo	Sukhna Nallah	Phosphating	closed	3		3.0	closed		CLOSED	closed	31-03-2023
60	Morepen Laboratory Limited-Kasauli Road Town: Masoolkhana	Isolated Strech	Bulk Drugs	Tube Well	72.0	20.0	92.0	80.0	14.3	Drain/ Gardening	31.03.2020	31-03-2023
61	Bakson Drugs & Pharma Pvt.Ltd, Shillu Patta Road,Parwanoo	Isolated Strech	Pharmaceutical Fomulation	Hired Tankers	2.0		2.0	2.0	1.5	Gardening	31.03.2017	renewal applied

Table 24: List of Industries complying/non complying with the Effluent Discharge Standards in Parwanoo

Sr. No.	Name of the Industrial unit	Sampling Pt	pH	TSS	COD	BOD	O&G	Phenol	Sulphide	T.P	NH3-N	Cr+6	CN	Fe	Pb	Zn	T.Cr	Cu.	Ni	NO3-N	Complying
	Standards of Discharge Norms Schedule-VI of the Environment (Protection) Rules, 1986		5.5-9.0	100.0	250.0	30.0	10.0	1.0	2.0	1.0	10	0.1	0.2	-	-	5.0	-	-	-	10	
1	Modulus Prefab Solutions Unit 2 Naryal Parwanoo	ETP FO	8.08	7	64	9	Nil	0.14	Nil	0.089	Nil	ND	ND	ND	ND	0.08	ND	ND	ND	**	Complying
2	Fujiyama Power Systam Naryal	STP FO	8.69	58	120	25	1.76	**	**	**	**	**	**	**	**	**	**	**	**	**	Complying
3	Microturner Sector 04 Village Naryal	STP FO	7.34	48	80	16	Nil	**	**	**	**	**	**	**	**	**	**	**	**	**	Complying
4	Microturner Sector 04 Village Naryal	ETP FO	8.06	21	64	10	Nil	Nil	NIL	0.054	Nil	ND	ND	ND	ND	3.85	ND	ND	ND	**	Complying
5	Visage Beauty & Health Care Village Naryal	FO -ETP cum STP	6.77	94	200	28	1.48	0.16	0.64	0.14	**	ND	ND	**	**	**	**	**	**	**	Complying
6	Total Healthcare, Vill Ambota, Sec 05 Parwanoo	ETP FO	7.25	14	160	20	1.96	0.37	Nil	0.32	**	ND	ND	**	ND	**	**	**	**	**	Complying
7	Hanuchem Labo unit-2, Plot no 13 Sector 05 Parwanoo	ETP FO	7.16	30	72	14	0.88	ND	ND	0.13	**	ND	ND	**	**	**	**	**	**	**	Complying
8	AVI Technologies, Plot no 16-17 Sector 05 Parwanoo	ETP FO	6.72	60	204	28	2.36	0.43	0.32	0.87	**	ND	ND	**	ND	**	**	**	**	**	Complying
9	Legen Healthcare, Plot no 20 Sec 05 Parwanoo	ETP FO	5.74	33	60	14	0.72	ND	Nil	0.094	**	ND	ND	**	ND	**	**	**	**	**	Complying
10	Haimi Agro Chemicals, Plot No 08 Sec 05 Parwanoo	ETP FO	8.32	54	104	25	Nil	0.19	Nil	0.11	**	ND	ND	**	ND	0.02	**	ND	**	0.324	Complying

Sr. No.	Name of the Industrial unit	Sampling Pt	pH	TSS	COD	BOD	O&G	Phenol	Sulphide	T.P	NH3-N	Cr+6	CN	Fe	Pb	Zn	T.Cr	Cu.	Ni	NO3-N	Complying
	Standards of Discharge Norms Schedule-VI of the Environment (Protection) Rules, 1986		5.5-9.0	100.0	250.0	30.0	10.0	1.0	2.0	1.0	10	0.1	0.2	-	-	5.0	-	-	-	10	**Complying**
11	Maxwell Pharma Plot 06 Sector 05 Parwanoo	ETP FO	7.75	10	52	10	Nil	ND	Nil	0.12	**	ND	ND	**	**	**	**	**	**	**	Complying
12	Gabriel India Sector - 02 Parwanoo	STP FO	8.25	4	1.3	28	Nil	**	**	**	**	**	**	**	**	**	**	**	**	**	Complying
13	Gabriel India Sector - 02 Parwanoo	ETP FO	8.07	2	2.8	24	Nil	ND	Nil	0.047	Nil	ND	ND	ND	ND	0.04	ND	ND	ND	**	Complying
14	Federal Mogul India, Sec- 02 Parwanoo	ETP FO	8.73	**247**	80	interference	Nil	**	**	**	**	**	**	**	**	**	**	**	**	**	Not Complying
15	Federal Mogul India, Sec- 02 Parwanoo	STP FO	6.45	10	32	4.5	Nil	Nil	Nil	0.074	Nil	ND	ND	ND	ND	ND	ND	ND	ND	**	Complying
16	Morepen Laboratories Ltd. Plot no 12 C Sec2 Parwanoo	ETP FO	6.52	11	104	25	2.16	1.16	Nil	0.21	**	ND	ND	**	**	**	**	**	**	**	Not Complying
17	Aaggee Healthcraft, Plot No 12A Sector 02 Parwanoo	STP FO	7.76	2	40	3.5	Nil	ND	Nil	0.057	**	**	ND	**	ND	**	**	**	**	**	Complying
18	Balaji Powertronics Plot no 12 Sector 02 Parwanoo	STP FO	7.88	34	64	12	Nil	**	**	**	**	**	**	**	**	**	**	**	**	**	Complying
19	Universal Power Products Sc 02 Parwanoo	STP FO	7.72	25	48	11	Nil	**	**	**	**	**	**	**	**	**	**	**	**	**	Complying
20	Tafe Motors & Tarctors Ltd. Plot no 29 Sec 02 Parwanoo	ETP FO	7.38	19	164	27	0.66	0.24	Nil	0.15	Nil	ND	ND	ND	ND	0.09	ND	ND	ND	**	Complying

Sr. No.	Name of the Industrial unit	Sampling Pt	pH	TSS	COD	BOD	O&G	Phenol	Sulphide	T.P	NH3-N	Cr+6	CN	Fe	Pb	Zn	T.Cr	Cu.	Ni	NO3-N	Complying
	Standards of Discharge Norms Schedule-VI of the Environment (Protection) Rules, 1986		5.5-9.0	100.0	250.0	30.0	10.0	1.0	2.0	1.0	10	0.1	0.2	-	-	5.0	-	-	-	10	
21	Real Care Life Sciences, Parwanoo	Final Outlet of the ETP	7.17	18.00	276.00	88.00	1.12	0.11	0.32	0.82	**	Nil	ND							0.82	Not Complying
22	KDDL, Parwanoo	Final Outlet of the STP	7.46	5.00	24.00	3.00	Nil			0	**				ND						Complying
23	Kapco International	Final Outlet of the ETP	7.91	10.00	28.00	4.00	Nil	Nil	Nil	0.28	**		ND		ND					0.28	Complying
24	Mile Stone Gears Pvt. Ltd	Final Outlet of the STP	7.38	7.00	80.00	16.00	0.64			0	**										Complying
25	Mahle Filters Pvt. Ltd. (Unit-II), Parwanoo.	Final Outlet of the ETP	6.53	1.00	16.00	2.00	Nil	Nil	Nil	0.32	**		ND	0.18	ND	0.10	ND	ND	ND	0.32	Complying
26	Mahle Filters Pvt. Ltd. (Unit-I), Parwanoo.	Final Outlet of the STP	7.72	26.00	124.00	20.00	1.04			0	**										Complying
27	Salico Trading Co. Parwanoo	Final Outlet of the ETP	7.79	5.00	28.00	2.00	Nil	Nil	Nil	0.22	**		ND	0.20	ND	0.12	ND	ND	ND	0.22	Complying
28	Mahadev Pharmaceuticals, Parwanoo	Final Outlet of the ETP	7.07	28.00	208.00	26.00	1.24	Nil	0.32	0.22	**		ND							0.22	Complying
29	Krishnav Engineering Ltd., Parwanoo	Final Outlet of the ETP	7.96	7.00	24.00	3.50	Nil			0.2	**		ND	0.20		ND	ND	ND	ND	0.20	Complying
30	Ind Sphinix Limited, Sector-5, Parwanoo	Final Outlet of the STP	8.85	55.00	140.00	24.00	1.48			0	**										Complying

9.2.4 List of Industries not complying with provisions of the Water (Prevention & Control of Pollution) Act, 1974

Power supply disconnection / closure of the units not complying with the provisions of the Water (Prevention & Control of Pollution) Act, 1974 has been initiated. Disconnection of 11 such units has been initiated and compliance ensured. The list of all such industrial units is as below-

Table 25: Electricity Disconnection / Closure directions implemented for non-compliance

1	M/s Shiv Industries, Village Ambota, Parwanoo.
2	M/s Mahle Filter System (India) Limted, Sector -1, Parwanoo.
3	M/s Ind-Sphinx Precision Ltd., Sector -5, Parwanoo.
4	M/s Salico Trading Co. Private Limited, Sector -1, Parwanoo.
5	M/s Apex Industries, Sector –V, Parwanoo.
6	M/s Clevus Lifesciences, Sector 06, Parwanoo
7	M/s Aargee Healthcraft, Sector 02, Parwanoo
8	M/s Anuspaa Heritage Products Khadeen
9	M/s RS Industries Khadeen
10	M/s SPA Ssoaps and Surfectants, Khadeen
11	M/s Raghuveer Washing Center, Old Kasauli Road Parwanoo

9.2.5 Modification in existing STPs under Operation and Maintenance of Sewage treatment Plants

Table 26: List of Industrial units provided new waste water treatment plant or carried out up gradation

List of Industrial units provided new waste water treatment plant or carried out up gradation				
1	Kapco International	Kaushalya River	Cosmetics	Upgraded ETP cum STP
2	S.K.Industries-Sec -2 PARWANOO ,Town:PARWANOO	Sukhna Nallah	Confectionary	New
3	Mahle Filter System India Ltd, Sec - 1, Parwanoo	Sukhna Nallah	Engineering	Upgraded
4	Salico Trading Co. Private Limited, Sec -1, Parwanoo	Sukhna Nallah	Engineering	New
5	Balaji Powertronics	Sukhna Nallah	Electrical &Electronics	New
6	Modulus prefab unit II	Sukhna Nallah	Phosphating	New
7	Ind-Sphinx Limited	Sukhna Nallah	Engineering	New
8	Siddharatha Industries / Green Chef, Village Naryal, Parwanoo	Sukhna Nallah	LPG Stoves	New
9	Hpmc Limited, Fruit Processing Plant,-- - ,Town:PARWANOO	Sukhna Nallah	Fruit Processing	Upgraded
10	Universal Powertronic	Sukhna Nallah	Electrical &Electronics	New

11	Himachal Power Products, Sec -1, Parwanoo	Sukhna Nallah	Electrical &Electronics	New
12	Shivalik Industries, Sec -2, parwanoo	Sukhna Nallah	Electrical &Electronics	New
13	Microtek Infosoft Ltd, Sec -5, Parwanoo	Sukhna Nallah	Electrical &Electronics	New
14	A B Tools, Sec -3, Parwanoo	Sukhna Nallah	Iron & Steel	under Installation

9.2.6 Solid Waste, Hazardous Waste and Bio-medical Waste Management of Parwanoo Town

a) Proposal of Solid Waste Management at Parwanoo Town

1. As per the statistics received from MC Parwanoo, estimated solid waste is to the tune 7-8 tonnes per day in sector 5 of Parwanoo, which is adjoining to Sukhna Nallah and has further informed that waste currently being haphazardly done shall be disposed of as detailed below:
   - Biodegradable waste will be converted into compost which will be sold to Governmental agencies or farmers.
   - Out of the non-biodegradable waste following materials will be recovered and will be recycled: -
     - Polythene or low graded Plastic: Tiles or bricks to be given free of cost to MC Parwanoo and rest at subsidized rates on no profit no loss basis.
     - Paper and card boards will be sent to paper mills for recycling.
     - Wrappers (Chips, Shampoo etc) will be sent to plastic industries for material recovery.
     - Clothes: will be sent to Panipat for recycling by cloth industry.
     - Metal will be sold to the scrap dealers for recycling.
     - Shoes etc will be sent to the agencies involved in recycling.
     - Pet bottles will be shredded and will be used in manufacturing of tiles or recarpeting of roads or making eco walls.
     - Glass bottles will be used for making decorative items or can be sold out to the glass recyclers.

2. The project at Parwanoo site will be setup and sustained under PPP mode that is Public Private Partnership mode whereby MC Parwanoo will be providing the necessary space to develop it into Integrated Solid Waste management Site along with provision of electricity connection and necessary water connection.

3. Project Consultant will develop the site at his own cost and no money will be charged from MC Parwanoo in any form for its development purposes unless mutually agreed upon in its expansion phase.

4. Necessary machinery for material recovery and recycling will be installed by project consultant at his own cost.

9.2.7 Solid Waste Management for Rural Areas in Parwanoo, catchment of Sukhna Nallah:

Gram Panchayats Anji Malta, Chammo, Jabli Banasar and Taksal in Development Block Dharampur, District- Solan are in the catchment of River Kaushalya.

Director-cum- Spl. Secretary (RD) to the Govt. of H.P. vide letter no. SMG-19/2010-RDD- (SBM-G) - Review- dated 24th December, 2018 has informed that the Himachal Pradesh has achieved ODF status on 28th October, 2016. All the toilets in the state are Geo-tagged. No dysfunctional toilet reported so far. Presently, focus is to address the issues of Solid Liquid Waste Management (SLWM) in all Gram Panchayats falling in the catchment area of Sukhna Nallah having special focus on labour colonies, construction sites and peri-urban areas and to sustain ODF status. Further, it has been reported that waste audit along-with mapping of shit-flow daigoram (SFD) of all the Gram Panchayats falling in the catchment of Sukhna Nallah will be completed by 20th February, 2019. The Panchayats will prepare Action Plan on the basis of waste audit report. The Action Plan will be approved by District Swachh Bharat Mission Gramin and will be completed within six months of the approval of the plan.

b) Hazardous Waste Management in Parwanoo Area:

All water/air polluting industries and industries which have provided DG Sets for standby power supply operation in Parwanoo area are covered under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. The authorization under the provision of HWMR 2016 has been issued to these units for generation, Storage of hazardous waste. There is no common TSDF site in Parwanoo area. All hazardous waste is being collected by M/s Shivalik Solid Waste Management Ltd (TSDF), Village Dabhota, Tehsil: Nalagarh, District Solan by the TSDF vehicle and same is further treated and landfilled. The industries have provided separate storage facilities under covered shed within their premises. This office has been never reported regarding any incident/accident regarding illegally dumping of hazardous waste.

c) Biomedical Waste Management in Parwanoo Area:

All the facilities in Parwanoo area have been covered under Bio Medical Waste Management Rules, 2016. The bio medical waste generated is being disposed of to M/s Enviro Engineers, a Common Bio Medical Waste Disposal Facility located at Shalaghat, District - Solan (H.P).

9.2.8 Cleanliness drive conducted at Parwanoo

02 number of cleanliness drives have been organized in presence of Hon'ble Justice Pritam Pal to Clean Sukhna Nallah on 19.12.2018 and 11.01.2019 and collected the more than 50 MT of Solid waste along the stretch of Sukhna Nallah.

The HP State Pollution Control Board in its mandate under the provision of Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 and further in its mandate to improve the surface water quality of Sukhna Nallah as ordered by the Hon'ble National Green Tribunal by constituting a Executive Committee organized a cleanliness drive – "**CLEAN SUKHNA" on 19th December, 2018** AND 11th January 2019 by involving various stakeholder institutions, various industrial units of Parwanoo and Govt. agencies comprising of various teams constituting about 750 volunteers and 550 volunteers respectively.

1. The entire stretch of Sukhna Nallah as it surfaces in Parwanoo area from the hills till it leaves the State of HP at interstate boundary at Kalka Barrier was cleaned. The entire river bed and flood plain of Sukhna Nallah was cleaned by about 21 teams.

2. The Regional Officers and Scientific Officers of HPPCB participated in the drive. The same was also attended by the SDM Solan, the representatives of police department, forest department,

3. Department of Industries, Members of the Parwanoo Industrial Association and HIMUDA. The

4. MC Parwanoo also constituted various teams to assist the teams and collect the waste from pre-designated places and about 30 tonnes of solid waste was collected from the stretch by the teams constituted for the purpose during the first drive and approx 20MT of waste was collected during the second drive.

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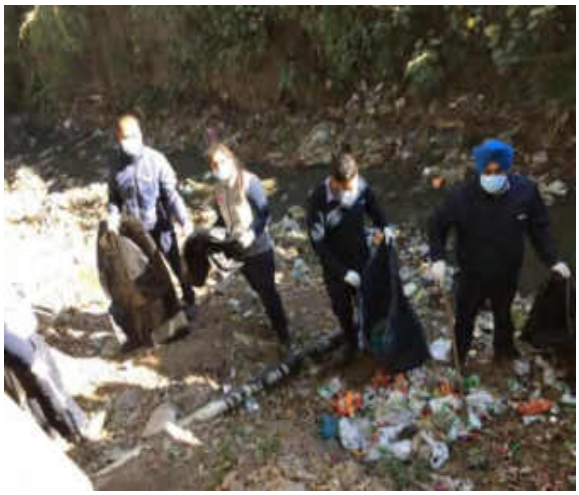

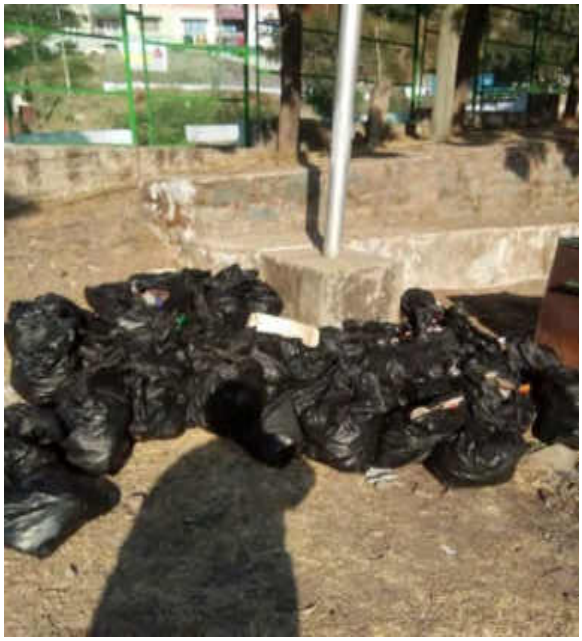

9.3 Status of Industries w.r.t to inspection, Sampling of Industries, Complying and Non Complying in the catchment of River Markanda and Sukhna Nallah

Table – 27: Industries w.r.t to inspection, Sampling of Industries, Complying and Non Complying Details

Sr. No.	River Srtetch	Total No of Industries	Inspection Completed	Sampling completed	Complying and Not Complying
1.	River Markanda, Kala Amb	93	93	69	Out of 52 Sample results recived 05 samples are not complying.
2.	Sukhna Nallah	42	39	30	Out of 30 Sample results recived 04 samples are not complying.

9.4 Photographs of sampling conducted at Industries of Kala Amb and Parwanoo

ETP of M/s M.K. Auto Clutch, Village Khairi, Trilokpur Road, Kala Amb	ETP of M/s Progressive Industries, Mauza Ogli, Kala Amb
Evaporator of M/s Vidyasha Pharmaceuticals, Village Johron, Kala Amb	STP of M/s Pidilite Industries Ltd. (Unit-I)
ETP of M/s Sozin Flora Pharma, Village Moginand, Kala Amb along with its Discharge Point	ETP of M/s Medisys Biotech, Village Moginand, Kala Amb along with its Discharge Point

ETP and Evaporator of M/s BROP, Village Rampur Jattan, Kala Amb	ETP of M/s SBS Biotech, Mauza Rampur Jattan, Nahan Road, Kala Amb
ETP of M/s Sai Tech Pharmaceuticals, Village Khairi, Trilokpur Road, Kala Amb	ETP of M/s Ovation Remedies, Village Rampur Jattan, Kala Amb
ETP of M/s Axsys Solutions, Village Johron, Kala Amb	ETP of M/s Art n Glass, Unit-I, Village Johron, Kala Amb

ETP of M/s JHS Svendgard Laboratories Ltd., Village Khairi, Trilokpur Road, Kala Amb	ETP & Evaporator of M/s Algen Health Care, Sadhora Road, Kala Amb
STP of M/s Blue Star Ltd., Unit-I, Village Moginand, Kala Amb	STP of M/s Blue Star Ltd., Unit-II, Village Rampur Jattan, Kala Amb

ETP of M/s Pidilite Industries Ltd., Unit-II, Village Rampur Jattan, Kala Amb	ETP Plant of M/s Pidilite Industries Ltd. Unit-III, Village Rampur Jattan, Kala Amb
ETP of M/s Ruchira Paper, Secondary System, Trilokpur Road, Kala Amb	M/s Ruchira Paper, Chemical Recovery System, Trilokpur Road, Kala Amb
Discharge Point of M/s Ruchira Papers, Trilokpur Road, Kala Amb	ETP of M/s Pashupati Spinning & Dyeing Ltd., Village Khairi, Trilokpur Road, Kala Amb (Sample collection by HPSPCB Officer)

ETP of M/s JMM Formulation, Sadhora Road, Kala Amb	ETP of M/s Bimal Industries, Unit-II, Village Johron, Kala Amb
ETP of M/s General Machine Tools, Village Johron, Kala Amb	ETP of M/s MBC Healthcare, Village Johron, Kala Amb

ETP of M/s SPK Wires, Village Khairi, Trilokpur Road, Kala Amb	ETP of M/s Geeta Industries, Village Rampur Jattan, Kala Amb
STP of M/s Sheela Foam, Nahan Road, Kala Amb	ETP of M/s Vinay Packaging (Athens Life Sciences), Village Rampur Jattan, Kala Amb

ETP of M/s Accura Pharmaceuticals, Village Moginand, Kala Amb	ETP of M/s Gnosis Pharmaceuticals, Village Moginand, Kala Amb
ETP of M/s Konark Fixtures, Village Moginand, Kala Amb	ETP of M/s Konark Enterprises, Village Moginand, Kala Amb

Eisher Tractor, Parwanoo

Kapco Industries

Federal Mogul

Mahle

Ind Sphinx

10 PROPOSED ACTION PLAN

10.1 Proposed Action Plans (Short, Medium and Long term plans) with time lines including the organization/agency responsible for its implementation for Rejuvenation of River Markanda, at Kala Amb, District - Sirmour *(Format Supplied by Executing Committee)*.

Sr. No.	Action Plan for Rejuvenation of River Ghaggar	Agency Responsible for Execution of Task	Time Line for Execution	Remarks
I	**Industrial Effluent Management**			
(a)	Inventorization of the water polluting industries in the catchment of River Markanda covering assessment on aspects relating to status of Consents under Water & Air Acts and Authorization, Effluent Generation, ETP Capacities and final mode of effluent discharge	HPSPCB	28th February, 2019	-
(b)	Action against the identified industries in operation without Consent under Water & Air Act/Authorization under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.	HPSPCB	28th February, 2019	Action as per relevant provisions of Water Act, 1974 and Air Act, 1981 shall be taken against any unit found operating without mandatory consent of the HPSPCB.
(c)	Action against the industries who have not installed ETPs or existing ETPs but not operating or treated effluent is not meeting the prescribed standards.	HPSPCB	15th February, 2019	
(d)	Prohibition of Burning of any kind of waste including agro residue.	District Administration, Special Area Development Authority (SADA) Trilokpur	28th February, 2019	

(e)	Estimation of industrial effluent generation and commissioning of CETP.	State Govt., Deptt. of Industries, District Administration	31st April, 2019	Environment Clearance and Installation of Conveyance Lines and Commissioning of Treatment Plant at an estimated cost of about Rs. 15 Crore.
(f)	Setting up of a Solid Waste Management Site at Kala Amb.	State Govt., Deptt. of Industries, District Administration	31st January, 2022	Environment Clearance and Commissioning of Treatment Facility at an estimated cost of about Rs. 3.5 Crore.
II	**Domestic Sewage Management**			
(a)	Area wise estimation of total population, water requirement and sewage generation.	IPH, Rural Development Department	28th February, 2019	-
(b)	To undertake channelization of Markanda river from Rukhri to Kala Amb (24 KM).	I&PH, HPSIDC	31st January, 2021.	Channelization of Markanda River from Rukhri to Kala Amb (24KM) amounting to Rs. 114.02 Crore has been prepared by I&PH Nahan and submitted to the Chairman Ganga Flood Control Commission Patna for approval.
(c)	Installation of continuous Real Time Water Quality Monitoring Station.	I & PH	31st July, 2019.	Approximately the cost for installation of Continuous Real Time Monitoring System is 30.0 Lakhs.

(d)	Proper design, execution of Sewerage Lines to be incorporated in proposed CETP at Kala Amb.	I&PH, Industry Department	31st January, 2021.	Preliminary Project Report (PPR) for laying the pipe line for Sewerage System of Industrial Area Kala Amb and Moginand amounting Rs. 30.40 Cr has been prepared by IPH.
III	**Ground Water Management**			
(a)	Sampling of Tube wells, Bore wells, Hand Pumps in Kala Amb area.	I&PH, HPSPCB	28th February, 2019.	-
(b)	Sampling and analysis of Drinking Water Supply Schemes in and around Kala Amb area	I&PH	Already Completed	-
(C)	Sealing of contaminated hand pumps and found to be unfit for drinking purpose by the public.	I&PH, HP GWA	31st April, 2019	-
(d)	Carrying assessment of ground water survey for quality and to identify over exploited and critical areas.	I&PH, HP GWA	31st July, 2019.	-
(e)	To conduct periodic surprise inspection of the industries to rule out any forceful injection of industrial effluents into ground water sources	I&PH, HPSPCB	15th February, 2019.	-
(f)	All the industries should be directed to obtain NOC from HPGWA/CGWA and action against the units in operation without obtaining NOC from PGWA/CGWA.	I&PH	15th February, 2019.	-
IV	**Miscellaneous**			
(a)	Regular monitoring and sampling of water quality of River Markanda and various drains on monthly basis.	HPSPCB	Every 1 Month.	-
(b)	Impact of water pollution on health of public by organizing Health Camp.	State Health Deptt.,	Every 6 Month	-

(c)	Plantation in Flood Plain Zone, Setting up of Bio-diversity Parks.	Forest Department	31st July, 2019.	
(e)	Checking Encroachment in FPZ of River Markanda.	District Local Administration	31st July, 2019.	-
(f)	Prohibition of disposal of Municipal Plastic and Bio-medical Waste particularly in drains	District Local Administration	31st March, 2019.	-

10.2 Proposed Action Plan (Short, Medium and Long term plans) with time lines including the organization/agency responsible for its implementation for Rejuvenation of Sukhna Nallah, Parwanoo, District- Solan *(Format supplied by Executing Committee)*

Sr. No.	Action Plan for Rejuvenation of River Ghaggar	Agency Responsible for Execution of Task	Time Line for Execution	Remarks
I	**Industrial Effluent Management**			
(a)	Inventorization of the water polluting industries in the catchment of Sukhna Nallah covering assessment on aspects relating to status of Consents under Water & Air Acts and Authorization, Effluent Generation, ETP Capacities and final mode of effluent discharge.	HPSPCB	15 th February, 2019.	-
(b)	Action against the identified industries in operation without Consent under Water & Air Act/Authorization under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.	HPSPCB	28th February, 2019.	Action as per relevant provisions of Water Act, 1974 and Air Act, 1981 shall be taken against any unit found operating without mandatory consent of the HPSPCB.
(c)	Action against the industries who have not installed ETPs or ETPs exist but not operating or treated effluent is not meeting the prescribed standards.	HPSPCB	within 15 days and regular inspections shall be a continuous feature.	.

(d)	Prohibition of Burning of any kind of waste including agro residue.	Executive Officer, MC Parwanoo and HPSPCB	28th February, 2019.	To issue advisory and to take action by involving Industries Association Parwanoo (PIA) in this regard for non-compliance of the provisions of SWM Rules 2016 as per HP Non-Biodegradable Garbage Control Act.
(e)	Estimation of industrial effluent generation and commissioning of CETP.	State Govt., Deptt. of Industries, District Administratio n	-	Not Viable as only Sewage Load in Sukhna Nallah.
(f)	Setting up of Solid Waste Management site at Parwanoo.	Executive Officer, MC Parwanoo and HPSPCB	31st March, 2019.	. -
II	**Domestic Sewage Management**			
(a)	Area wise estimation of total population, water requirement and sewage generation.	HIMUDA, IPH, Urban Development, Rural Development Department	28th February, 2019.	-
(b)	To undertake channelization and providing system for measurement of flow of all the drains presently contributing pollution load in Ghaggar River.	I & PH and HIMUDA	31st July, 2019.	Proposal for Radar system for depth Measurement can be installed at Border near old barrier Parwanoo, for depth measurement at the cost of Rs. 6.50 Lakhs as informed by IPH.
(c)	Installation of continuous Real Time Water Quality Monitoring Station.	I & PH	31st July, 2019.	Approximately the cost of Continuous Real Time Monitoring System is 30.0 Lakhs.

(d)	Proper design, execution of Common STP at Parwanoo Area with full utilization capacity.	I&PH	31st January, 2022.	The estimated cost for laying the sewerage line and installation of common sewage treatment plant is Rs. 50 Crores.
III	**Ground Water Quality**			
(a)	Sampling of Tube wells, Bore wells, Hand Pumps.	I&PH and HPSPCB	15 february, 2019.	-
(b)	Sampling and analysis of Drinking Water Supply Schemes in and around Parwanoo area.	HIMUDA	15 february, 2019.	-
(C)	Sealing of contaminated hand pumps and found to be unfit for drinking purpose by the public.	I&PH and HP GWA	31st March, 2019.	-
(d)	Carrying assessment of ground water survey for quality and to identify over exploited and critical areas.	I&PH and HP GWA	31st March, 2019.	-
(e)	To conduct periodic surprise inspection of the industries to rule out any forceful injection of industrial effluents into ground water sources	HPSPCB & I&PH	15 february, 2019.	-
(f)	All the industries should be directed to obtain NOC from HPGWA/CGWA and action against the units in operation without obtaining NOC from HPGWA/CGWA.	I&PH HPGWA	15 february, 2019.	-
IV	**Miscellaneous**			
(a)	Regular monitoring and sampling of water quality of Sukhna Nallah and various drains on monthly basis.	HPSPCB	Every 01 Month.	-
(b)	Impact of water pollution on health of public by organizing Health camp	State Health Deptt.,	Every 06 Month	-
(c)	Plantation in Flood Plain Zone, Setting up of Bio-diversity Parks	Forest Department	31st July, 2019.	-

(e)	Checking Encroachment in FPZ of Sukhna Nallah & Tributaries	District Local Administration	31st July, 2019.	-
(f)	Prohibition of disposal of Municipal Plastic and Bio-medical Waste particularly in drains.	District Local Administration MC Parwanoo	31st March, 2019.	-

ACTION TAKEN REPORT

11.1 Action Taken Report by District and State Level Surveillance Task Force for Rejuvenation of River Markanda at Kala Amb, District - Sirmour *(Format Supplied by Executing Committee)*.

Sr. No.	Action taken Points for Rejuvenation of River Ghaggar	Agency Responsible for Execution of Task	Action Taken Report
I	**Industrial Effluent Management**		
(a)	Inventorisation of the water polluting industries in the catchment of River Markanda covering assessment on aspects relating to status of Consents under Water & Air Acts and Authorization, Effluent Generation, ETP Capacities and final mode of effluent discharge	HPSPCB	**Completed** Total 94 no's of water Polluting industries located along the stretch of River Markanda with total effluent generation is 5540.4 KLD. All industries have been inspected of the stretch and of them samples of 72 industries have been collected. The samples have been sent to the HPSPCB Regional Laboratory, Paonta Sahib and results of the 71 industries have been received so far. Out of 71 industries, results of 6 industries have been found above the prescribed limit and Notices under the provisions of Water Act, 1974 have been issued. 2nd samples of all the Six industries have been collected.
(b)	Action against the identified industries in operation without Consent under Water & Air Act/Authorization under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.	HPSPCB	All the industries inspected so far have valid Consent to Operate of the HPSPCB. Action will be taken as and when no-compliance observed.

(c)	Action against the industries who have not installed ETPs or ETPs exist but not operating or treated effluent is not meeting the prescribed standards.	HPSPCB	ETP was found out of order in one industry. Orders for disconnection of power supply of the unit has been issued by the State Board.
(d)	Prohibition of Burning of any kind of waste including agro residue	District Administration, SADA Trilokpur	Time to time directions are being issued to SADA Trilokpur to prevent open burning of any kind.
			The Challan of Rs. 5000 =00 has been done against one unit for littering of plastic waste.
(e)	Estimation of industrial effluent generation and commissioning of CETP.	State Govt., Deptt. of Industries, District Administration	The task of preparation of DPR has been already assigned to M/s Environ Technology Ltd and the same is under progress. An advance of Rs. 3.5 Lakhs has already been issued to the agency for preparation of DPR by the SPV i.e. M/s Kala Amb Infrastructure Ltd. The matter regarding acquisition of land is under the consideration of Director, Industries.
(f)	Setting up of a Solid Waste Management Site at Kala Amb	State Govt., Deptt. of Industries, District Administration	SADA Trilokpur and HPSIDC has been directed by Distt level Special Task Force to identify a suitable land for the setting up of a Solid Waste Management Site at Kala Amb.
II	**Domestic Sewage Management**		
(a)	Area wise estimation of total population, water requirement and sewage generation.	I&PH, Rural Deptt.	I&PH Sub Division Nahan has assessed the Sewerage Load of Kala Amb and Moginand area which comes around 1 MLD.

(b)	To undertake channelization of Markanda river from Rukhri to Kala Amb (24 KM)	I&PH, HPSIDC	DPR for the channelization of Markanda River from Rukhri to Kala Amb (24 KM) amounting to Rs. 114.02 Crore has been prepared by I&PH Nahan and submitted to the Chairman Ganga Flood Control Commission, Patna for approval. As soon as the funds are received from the Ganga Flood Control Commission, Patna, the work of channelization shall be started.
(c)	Installation of continuous Real Time Water Quality Monitoring Station**.**	I&PH	In the 8th meeting of the Executive Committee held at Chandigarh on 22-12-2018, Hon'ble Justice Pritam Pal the Chairman of the Executive Committee specifically directed that I & PH shall install the real time WATER quality monitoring stations. Approximately Continuous Real Time Monitoring System is 30.0 Lakhs.
(d)	Proper design, execution of Sewerage Lines to be incorporated in proposed CETP at Kala Amb.	I&PH	I&PH will provide the sewerage lines and the primary treatment. Secondary treatment shall be provided in the CETP. The Preliminary Project Report (PPR) for laying of sewerage system for industrial area Kala Amb and Moginand amounting to Rs. 30. 40 Cr has been prepared by I &PH.
III	**Ground Water Management**		
(a)	Sampling of Tube- wells, Bore-wells, Hand-pumps.	I&PH and HPSPCB	Total 07 no's Samples have been taken by Team of HPSPCB & I&PH from the borewells in the vicinity of industries and the results are observed within permissible limit. Further 22 Nos of drinking water samples collected and are within the prescribed norms as per BIS Standard (IS 10500:2014) for Drinking Water Supply.

IV	**Miscellaneous**		
(a)	Regular monitoring and sampling of water quality of River Markanda and various drains on monthly basis.	HPSPCB	10 No's of Sample are being collected from along the stretch of River Markanda every Month. Sampling of Drains contributing to River Markanda has been completed.
(b)	Impact of water pollution on health of public by organizing Health camp.	State Health Deptt., Govt. Medical College & Hospital Nahan	Two Multi-specialty Health Camps have been organized by Deptt. of Health and Family Welfare in Kala Amb area on 07.12.2018 and 15.01.2019..
(c)	Setting up of Website for public participation	HPSPCB	The "**NGT matter**" Tab is created on website of State Board at **www.hppcb.nic.in**. The Action plan along with proceedings of District and State level has been uploaded on the Website.

11.2 Action Taken Report by District and State Level Surveillance Task Force for Rejuvenation of Sukhna Nallah at Parwanoo, District Solan *(Format supplied by Executing Committee)*

Sr. No.	Action taken Points for Rejuvenation of River Ghaggar	Agency Responsible for Execution of Task	Action Taken Report
I	**Industrial Effluent Management**		
(a)	Inventorization of the water polluting industries in the catchment of Sukhna Nallah covering assessment on aspects relating to status of Consents under Water & Air Acts and authorization, Effluent Generation, ETP Capacities and final mode of effluent discharge.	HPSPCB	• **Completed** **Total 48 no's of water Polluting industries** located at the stretch of Sukhna Nallah**.** Out of which **39 number of industries** have been inspected and samples have also been collected as per inspection format provided by the Executing Committee. Results of **30** nos. of samples are declared and are within the limits.
(b)	Action against the identified industries in operation without Consent under Water & Air Act/Authorization under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.	HPSPCB	All the industries inspected so far have valid Consent to Operate Fresh of the HPSPCB.
(c)	Action against the industries who have not installed ETPs or ETPs exist but not operating or treated effluent is not meeting the prescribed standards.	HPSPCB	Power Disconnection of 11 number of units not complying with provisions of Water Act, 1974 have been Done. Modification in STPs of 14 existing units have done.
(d)	Prohibition of Burning of any kind of waste including agro residue.	Executive Officer, MC Parwanoo and HPSPCB	Directions have been issued to the EO MC Parwanoo and advisory has also been issued to the industries through The President Industries Association Parwanoo (PIA) in this regard. Also, 05 number of fines/challans have been issued against defaulting units (Rs 5000/- each) for non-compliance of the provisions of SWM Rules 2016 as per HP Non-Biodegradable Garbage Control Act.

(e)	Estimation of industrial effluent generation and commissioning of CETP.	State Govt., Deptt. of Industries, District Administration	Not Viable as only Sewage Load in Sukhna Nallah. Estimation of quantum of effluent generation in Parwanoo area is complete. District Level Special task force, decision taken that quantum of effluent of the entire area is very less, the laying of pipelines to each polluting unit is not feasible, movement of tankers to carry effluent by road may cause further road so common STP for the area must be prioritized.
(f)	Setting up of Solid Waste Management Site.	Executive Officer, MC Parwanoo and HPSPCB	MOU is likely to be signed by Executive Officer MC, Parwanoo and the same is under process.
II	**Domestic Sewage Management**		
(a)	Area wise estimation of total population, water requirement and sewage generation.	HIMUDA, IPH, Urban Development, Rural Development Department	As per Census 2011, the population of Parwanoo area is 8758 persons and the present population including the floating population for employment and non-permanent residents is around 20,000 persons. At present all the rural water supply schemes has been designed on the water requirement of 70 liters per capita per day demand (norm set for rural water supply system). As per the information provided by the HIMUDA Parwanoo the water supplied is about 2.27 MLD and the Sewage Load of Parwanoo comes around 05 million gallon i.e. about 1.9 MLD.
(b)	To undertake channelization	I & PH and HIMUDA	The Executive Engineer, Irrigation & Public Health Department, Solan has informed in the Second meeting of the District Level Special task Force that there is no need for channelization for flow measurement as it is meant for river training works. The Executive Engineer, I & PH has informed that on the exit point of Sukhna Nallah at H.P. Border near old barrier Parwanoo, Radar system can be installed for depth measurement at the cost of Rs. 6.50 Lakh.

(c)	Installation of continuous Real Time Water Quality Monitoring Station.	I & PH	In the 7th meeting of the Executive Committee held at Chandigarh on 22-12-2018, Hon'ble Justice Pritam Pal the Chairman of the Executive Committee specifically directed that I & PH shall install the real time WATER quality monitoring stations.
(d)	Proper design, execution of Common STP at Parwanoo Area with full utilization capacity.	I&PH	The Executive Engineer, Irrigation & Public Health Department, Solan has informed in the Second meeting of the District Level Special task Force that 02 no of common STPs with approx. capacity 02 MLD each are proposed in the area and the preliminary proposal of the same has been sent to Agence Francaise de Development an international agency (French) and the same is proposed to be put in place within 03 years. The estimated Cost of the project is 50 Crore.
III	**Ground Water Management**		
(a)	Sampling of Tube wells, Bore wells, Hand Pumps.	I&PH and HPSPCB	Total **28** no. of Samples have been taken by Team of HPSPCB & IPH. The results are complying with norms for Indian Standards fror Drinking Water Supply (IS 10500: 2004).
IV	**Miscellaneous**		
(a)	Regular monitoring and sampling of water quality of Sukhna Nallah and various drains on monthly basis.	HPSPCB	Every 01 Month. 10 No's of Sample have been collected from on the stretch of Sukhna every Month. The Sample results of 2014-18 of Upstream and Downstream of Sukhna Nallah is compiled.
(b)	Impact of water pollution on health of public by organizing Health camp.	State Health Deptt.,	01 number of health camp has already been organized in Parwanoo area. Another camp in Taksal area near the catchment of Sukhna Nallah is to be organized within 01 month i.e by 10-15 Jan 2019.

(c)	Involvement of Civil Society	HPSPCB	**A Cleanliness Drive – "Clean Sukhna"** was launched on 19th December, 2018, 11th January, 2019 at Parwanoo by involving various Stake Holders, Institutions, Industrial Units of Parwanoo, and agencies comprising of various teams Constituting more than 500 Volunteers.
(e)	Involvement of Civil Society	HPSPCB	Cleanliness Drive in Khadeen Industrial Area on 26.12.2018 organized. Total 07 industrial units participated in the drive and waste is disposed through MC Parwanoo.
(f)	Web site for Public Participation	HPSPCB	The "**NGT MATTER**" Tab is created on the website of State Pollution Control Board. The Action Plan along with proceedings of District and State Level have uploaded on the site. Suggestion Tab is also created on website of State Board at www.hppcb.nic.in.

ANNEXURE- I

[1][SCHEDULE – VI]

(See rule 3A)

GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENTAL POLLUTANTS
PART-A : EFFLUENTS

S. No.	Parameter	Standards			
		Inland surface water	Public Sewers	Land for irrigation	Marine coastal areas
1	2	3			
		(a)	(b)	(c)	(d)
1.	Colour and odour	See 6 of Annexure-I	--	See 6 of Annexure -I	See 6 of Annexure-I
2.	Suspended solids mg/l, Max.	100	600	200	(a) For process waste water- 100 (b) For cooling water effluent 10 percent above total suspended matter of influent.
3.	Particulate size of suspended solids	Shall pass 850 micron IS Sieve	--	--	(a) Floatable solids, max. 3 mm. (b) Settleable solids, max. 850 microns.
[2]4.	***	*	--	** *	--
5.	pH Value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
6.	Temperature	shall not exceed 5°C above the receiving water temperature	--	--	shall not exceed 5°C above the receiving water temperature

- Schedule VI inserted by Rule 2(d) of the Environment (Protection) Second Amendment Rules, 1993 notified vide G.S.R. 422(E) dated 19.05.1993, published in the Gazette No. 174 dated 19.05.1993.
- Omitted by Rule 2(d)(i) of the Environment (Protection) Third Amendment Rules, 1993 vide Notification No.G.S.R.801(E), dated 31.12.1993.

S.	Parameter	Standards

No.		Inland surface water	Public Sewers	Land for irrigation	Marine coastal areas
1	2			3	
		(a)	(b)	(c)	(d)
7.	Oil and grease mg/l Max.	10	20	10	20
8.	Total residual chlorin mg/l Max.	1.0	--	--	1.0
9.	Ammonical nitrogen (as N), mg/l Max.	50	50	--	50
10.	Total Kjeldahl Nitrogen (as NH_3) mg/l, Max.	100	--	--	100
11.	Free ammonia (as NH_3) mg/l, Max.	5.0	--	--	5.0
12.	Biochemical Oxygen demand [1][3 days at 27°C] mg/l max.	30	350	100	100
13.	Chemical Oxygen Demand, mg/l, max.	250	--	--	250
14.	Arsenic (as As), mg/l, max.	0.2	0.2	0.2	0.2
15.	Mercury (as Hg), mg/l, Max.	0.01	0.01	--	0.01
16.	Lead (as Pb) mg/l, Max.	0.1	1.0	--	2.0
17.	Cadmium (as Cd) mg/l, Max.	2.0	1.0	--	2.0
18.	Hexavalent Chromium (as Cr+6), mg/l max.	0.1	2.0	--	1.0

1 Substituted by Rule2 of the Environment (Protection) Amendment Rules, 1996 notified by G.S.R.176, dated 2.4.1996 may be read as BOD (3 days at 27°C) wherever BOD 5 days 20°C occurred.

S. No.	Parameter	Standards			
		Inland surface water	Public Sewers	Land for irrigation	Marine coastal areas
1	2			3	
		(a)	(b)	(c)	(d)

19.	Total chromium (as Cr.) mg/l, Max.	2.0	2.0	--	2.0
20.	Copper (as Cu) mg/l, Max.	3.0	3.0	--	3.0
21.	Zinc (As Zn.) mg/l, Max.	5.0	15	--	15
22.	Selenium (as Se.) mg/l, Max.	0.05	0.05	--	0.05
23.	Nickel (as Ni) mg/l, Max.	3.0	3.0	--	5.0
[1]24.	* * *	*	*	*	*
[1]25.	* * *	*	*	*	*
[1]26.	* * *	*	*	*	*
27.	Cyanide (as CN) mg/l Max.	0.2	2.0	0.2	0.2
[1]28.	* * *	*	*	*	*
29.	Fluoride (as F) mg/l Max.	2.0	15	--	15
30.	Dissolved Phosphates (as P), mg/l Max.	5.0	--	--	--
[2]31.	* * *	*	*	*	*
32.	Sulphide (as S) mg/l Max.	2.0	--	--	5.0
33.	Phenoile compounds (as C_6H_5OH) mg/l, Max.	1.0	5.0	--	5.0

1 Omitted by Rule 2(d)(i) of the Environment (Protection) Third Amendment Rules, 1993 vide Notification No.G.S.R.801(E), dated 31.12.1993.

S. No.	Parameter	Standards			
		Inland surface water	Public Sewers	Land for irrigation	Marine coastal areas
1	2	3			
		(a)	(b)	(c)	(d)
34.	Radioactive materials :				
	(a) Alpha emitter micro curie/ml.	10^{-7}	10^{-7}	10^{-8}	10^{-7}
	(b) Beta emitter micro curie/ml.	10^{-6}	10^{-6}	10^{-7}	10^{-6}
35.	Bio-assay test	90% survival of fish after 96	90% survival of	90% survival of	90% survival of fish after 96

		hours in 100% effluent	fish after 96 hours in 100% effluent	fish after 96 hours in 100% effluent	hours in 100% effluent
36.	Manganese (as Mn)	2 mg/l	2 mg/l	--	2 mg/l
37.	Iron (as Fe)	3 mg/l	3 mg/l	--	3 mg/l
38.	Vanadium (as V)	0.2 mg/l	0.2 mg/l	--	0.2 mg/l
39.	Nitrate Nitrogen	10 mg/l	--	--	20 mg/l
[1]40.	* * *	*	*	*	*

[1] Omitted by Rule 2(d)(i) of the Environment (Protection) Third Amendment Rules, 1993 vide Notification No. G.S.R. 801(E) dated 31.12.1993

WASTE WATER GENERATION STANDARDS - PART-B

S.No.	Industry	Quantum
1.	Integrated Iron & Steel	16 m^3/tonne of finished steel
2.	Sugar	0.4 m^3/tonne of cane crushed
3.	Pulp & Paper Industries	
	(a) Larger pulp & paper	
	(i) Pulp & Paper	175 m^3/tonne of paper produced
	(ii)Viscose Staple Fibre	150 m^3/tonne of product
	(iii)Viscose Filament Yarn	500 m^3/tonne of product
	(b) Small Pulp & Paper :	
	(i) Agro residue based	150 m^3/tonne of paper produced
	(ii) Waste paper based	50 m^3/tonne of paper produced
4.	Fermentation Industries :	
	(a) Maltry	3.5 m^3/tonne of grain produced
	(b) Brewery	0,.25 m^3/KL of beer produced
	(c) Distillery	12 m^3/KL of alcohol produced

5.	Caustic Soda	
	(a) Membrane cell process	1 m^3/tonne of caustic soda produced excluding cooling tower blowdown
	(b) Mercury cell process	4 m^3/tonne of caustic soda produced (mercury bearing) 10% blowdown permitted for cooling tower
6.	Textile Industries : Man-made Fibre	
	(i) Nylon & Polyster	120 m^3/tonne of fibre produced
	(ii) Vixcose rayon	150 m^3/tonne of product
7.	Tanneries	28 m^3/tonne of raw hide
8.	Starch. Glucose and related products	8 m^3/tonne of maize crushed
9.	Dairy	3 m^3/KL of Milk
10.	Natural rubber processing industry	4 m^3/tonne of rubber
11.	Fertilizer	
	(a) Straight nitrogenous fertilizer	5 m^3/tonne of urea or equivalent produced
	(b) Straight phosphatic fertilizer (SSP & TSP) excluding manufacture of any acid	0.5 m^3/tonne of SSP/TSP
	(c) Complex fertilizer	Standards of nitrogenous and phosphatic fertilizers are applicable depending on the primary product

LOAD BASED STANDARDS - PART-C

[1][1. Petroleum Oil Refinery:

Parameter 1	Standard 2
	Quantum limit in Kg/l 1,000 tonne of crude processed
1. Oil & Grease	2.0
2. BOD $_{3\ days,\ 27^{oC}}$	6.0
3. COD	50
4. Suspended Solids	8.0
5. Phenols	0.14
6. Sulphides	0.2
7. CN	0.08
8. Ammonia as N	6.0
9. TKN	16
10. P	1.2
11. Cr (Hexavalent)	0.04

12. Cr(Total)	0.8
13. Pb	0.04
14. Hg	0.004
15. Zn	2.0
16. Ni	0.4
17. Cu	0.4
18. V	0.8
19. Benzene	0.04
20. Benzo (a) – Pyrene	0.08

1 Substituted by Rule 2(ii)(a) of the Environment (Protection) Amendment Rules, 2008 notified by G.S.R.186(E), dated 18.3.2008

Notes:

- Quantum limit shall be applicable for discharge of total effluent (process effluent, cooling water blow down including sea cooling water blow down, washings, etc.) to receiving environment (excluding direct application on land for irrigation/horticulture purposes within the premises of refinery).
- In order to measure the quantity of effluent (separately for discharge to receiving environment, application for irrigation/horticulture purposes within the premises of refinery & blow-down of cooling systems), appropriate flow measuring devices (e.g. V-notch, flow meters) shall be provided with.
- Quantum of pollutants shall be calculated on the basis of daily average of concentration values (one 24-hourly composite sample or average of three grab samples, as the case may be), average flow of effluent during the day and crude throughput capacity of the refinery.
- Limit for quantity of effluent discharged (excluding blow-down from seawater cooling) shall be 400 m^3/1000 tonne of crude processed. However, for refineries located in high rain fall area, limit of quantity of effluent only during rainy days shall be 700 m^3/1000 tonne of crude processed].

2. Large Pulp & Paper, News Print/ Rayon grade Plants of capacity above 24000 tonne/ Annum

Parameter	Quantum
Total Organic Chloride (TOCI)	2 kg/tonne of product.

GENERAL EMISSION STANDARDS - PART-D

- **Concentration Based Standards**

Sl. No.	Parameter	Standard Concentration not to exceed (in mg/Nm^3)
1.	Particulate Matter (PM)	150
2.	Total Fluoride	25
3.	Asbestos	4 Fibres/cc and dust should not be more than 2 mg/Nm^3
4.	Mercury	0.2

5.	Chlrine	15
6.	Hydrochloric acid vapour and mist	35
[1]7.	* * *	*
8.	Sulphuric acid mist	50
9.	Carbon monoxide	1% max. (v/v)
[1]10.	* * *	*
11.	Lead	10 mg/Nm^3
[1]12.	* * *	*

- **Equipment based Standards**

[2][For dispersal of sulphur dioxide, in minimum stack height limit is accordingly prescribed as below]

Sl. No.	Parameter	Standard	
1.	Sulphur dioxide	Stack-height limit in metre	
	(i) Power generation capacity :		
	- 500 MW and more	275	
	- 200/210 MW and above to less than 500 MW	220	
	- less than 200/210 MW	$H=14(Q)^{0.3}$	
	(ii) Steam generation capacity		
	- Less than 2 tonne/h	Less than 8.5 MT	9
	- 2 to 5 tonne/h	8.5 to 21 MT	12
	- 5 to 10 tonne/h	21 to 42 MT	15
	- 10 to 15 tonne/h	42 to 64 MT	18
	- 15 to 20 tonne/h	64 to 104 MT	21
	- 20 to 25 tonne/h	104 to 105 MT	24
	- 25 to 30 tonne/h	105 to 126 MT	27
	- More than 30 tonne/h	More than 126 MT	30
		or using the formula $H=14(Q)^{0.3}$	

- Omitted by Rule 2 (g) (iv) of the Environment (Protection) Third Amendment Rules, 1993 vide G.S.R. 801(E) dated 31.12.1993.
- Substituted by Rule 2(h)(i), ibid.

Note : H – Physical height of the stack in metre Q – Emission rate of SO_2 in kg/hr.

- **Load/Mass based Standards**

Sl. No.	Industry	Parameter	Standard
1.	Fertiliser (Urea)		
	Commissioned Prior to 1.1.82	Particulate Matter (PM)	2 kg/tonne of product
	Commissioned after 1.1.82	Particulate Matter (PM)	0.5 kg/tonne of product

2.	Copper, Lead and Zinc Smelter/converter	Sulphur dioxide		4 kg/tonne of concentrated (100% acid produced	
3.	Nitric Acid	Oxides of Nitrogen		3 kg/tonne of weak acid (before concentration) produced	
[1][4.	Sulphuric Acid Plant			Quantum Limit in kg/tonne	
			Plant capacity for 100% concentration of Sulphuric Acid (tonne/day)	Existing Unit	New Unit
		Sulphur dioxide (SO_2)	Upto 300	2.5	2.0
			Above 100	2.0	1.5]
5.	Coke Oven	Carbon Monoxide		3 kg/tonne of coke produced.	
[2][6.	Petroleum Oil Refinery (Sulphur Recovery)		Installed Capacity of SRU* (tonne/day)	Kg/tonne of sulphur in the feed to SRU	
				Existing SRU	New SRU
		Sulphur Dioxide	Above 20	26	10
			5 to 20	80	40
			Upto 5	120	80

* SRU – Sulphur Recovery Unit]

- Substituted by Rule 2(ii) of the Environment (Protection) Third Amendment Rules, 2008 notified by G.S.R.344(E), dated 7.5.2008.
- Substituted by Rule 2 of the Environment (Protection) Fifth Amendment Rules, 2009 notified by G.S.R.595(E), dated 21.8.2009.

7. Aluminium Plants :

• Anode Bake Oven	Total Fluoride	0.3 Kg/MT of Aluminium
• Pot room		
• VSS	-do-	4.7 Kg/MT of Aluminium
• HSS	-do-	6 Kg/MT of Aluminium
• PBSW	-do-	2.5 Kg/MT of Aluminium
• PBCW	-do-	1.0 Kg/MT of Aluminium

Note : VSS = Vertical Stud Soderberg
HSS = Horizontal Stud Soderberg
PBSW = Pre Backed Side Work Pre
PBCW = Backed Centre Work

8. Glass Industry :

(a) Furnace Capacity

- Up in the product draw Particulate matter 2 Kg/hr ca capacity of 60 MTD/Day
- Product draw capacity -do- 0.8 Kg/MT of Product drawn more than 60 MT/Day

*NOISE STANDARDS - PART-E

- Noise Limits for Automobiles (Free Field Distance at 7.5 Metre in dB(A) at the manufacturing Stage

  - Motorcycle, Scooters & Three Wheelers 80
  - Passenger Cars 82
  - Passenger or Commercial vehicles upto 4 MT 85
  - Passenger or Commercial vehicles above 4 MT and upto 12 MT 89
  - Passenger or Commercial vehicles exceeding 12MT 91

- Standards notified at S. No. 46 may also be referred.

1[AA. Noise limits for vehicles at manufacturing stage

The test method to be followed shall be IS:3028-1998.

- **Noise limits for vehicles applicable at manufacturing stage from the year 2003**

Serial Number	Type of vehicle	**Noise limits dB(A)**	Date of implementation
(1)	(2)	**(3)**	(4)
1.	**Two wheeler**		1st January,2003
	Displacement upto 80 cm^3	75	
	Displacement more than 80 cm^3 but upto 175 cm^3	77	
	Displacement more than 175 cm^3	80	
2.	**Three wheeler**		1st January,2003
	Displacement upto 175 cm^3	77	
	Displacement more than 175 cm^3	80	
3.	**Passenger Car**	75	1st January, 2003
4.	**Passenger or Commercial Vehicles**		1st July, 2003
	Gross vehicle weight upto 4 tonnes	80	
	Gross vehicle weight more than 4 tonnes but upto 12 tonnes.	83	
	Gross vehicle weight more than 12 tonnes.	85	

- **Noise limits for vehicles at manufacturing stage applicable on and from 1st April, 2005**

Serial Number	Type of vehicles	**Noise limits dB(A)**
1.0	**Two wheelers**	
1.1	Displacement upto 80 cc	75
1.2	Displacement more than 80 cc but upto 175 cc	77
1.3	Displacement more than 175 cc	80
2.0	**Three wheelers**	
2.1	Displacement upto 175 cc	77
2.2	Displacement more than 175 cc	80
3.0	**Vehicles used for the carriage of passengers and capable of having not more than nine seats, including the driver's seat**	74

1 Substituted by Rule 2 of the Environment (Protection) Fourth Amendment Rules, 2002 notified vide Notificat6ion G.S.R.849(E), dated 30.12.2002 (Earlier 'AA – Noise limits for vehicles w.e.f. 1st January 2003' inserted by Rule 2 (2) of the Environment (Protection) Amendment Rules, 2000 notified vide Notification G.S.R. 742(E), dated 25.9.2000.)

4.0	**Vehicles used for the carriage of passengers having more than nine seats, including the driver's seat, and a maximum Gross Vehicle Weight (GVW) of more than 3.5 tonnes**	
4.1	With an engine power less than 150 KW	78
4.2	With an engine power of 150 KW or above.	80
5.0	**Vehicles used for the carriage of passengers having more than nine seats, including the driver's seat : vehicles used for the carriage of goods.**	
5.1	With a maximum GVW not exceeding 2 tonnes	76
5.2	With a maximum GVW greater than 3 tonnes but not exceeding 3.5 tonnes	77
6.0	**Vehicles used for the transport of goods with a maximum GVW exceeding 3.5 tonnes.**	
6.1	With an engine power less than 75 KW	77
6.2	With an engine power of 75 KW or above but less than 150 KW.	78
6.3	With an engine power of 150 KW or above.	80]

1[Provided that for vehicles mentioned at serial numbers 3.0 to 6.3, the noise limits for the following States shall be applicable on and from the date specified against that State,-

- Himachal Pradesh with effect from 1st October, 2005
- Jammu and Kashmir with effect from 1st October, 2005
- Madhya Pradesh with effect from 1st September, 2005
- Punjab with effect from 1st October, 2005
- Rajasthan with effect from 1st June, 2005
- Uttar Pradesh (Mathura, Kannauj, Muzaffarnagar, Aligarh, Farukkabad, Saharanpur, Badaun, Barreily, Moradabad, Hathras, Rampur, Bijnor, Agra, Pilibhit, J.P. Nagar, Mainpuri, Lalitpur, Hardio, Ferozabad, Jhansi, Shahjahanpur, Etawah, Jalon, Lakhimpur, Kheri, Etah, Mahoba, and Sitapur) with effect from 1st June, 2005.
- Uttranchal with effect from 1st July, 2005.]

- Domestic appliances and construction equipments at the manufacturing stage to be achieved by 31st December,1993.
  - Window Air Conditioners of 1 ton to 1.5 ton 68
  - Air Coolers 60
  - Refrigerators 46

[2][(d) * * *.....]

(e) Compactors (rollers),Front Loaders,Concrete mixers,Cranes(moveable),Vibrators and Saws 75

- Inserted by the Environment (Protection) Amendment Rules, 2005 notified vide Notification G.S.R.272 (E), dated 5.5.2005.
- Entry (d) relating to 'Diesel Generator of Domestic Purposes…….85 – 90' omitted by Rule 3 of the Environment (Protection) Second Amendment, Rules, 2002 notified vide Notification G.S.R. 371(E), dated 17.5.2002.

ANNEXURE-1

(For the purposes of Parts – A, B and C)

The State Boards shall following guide-lines in enforcing the standards specified under the schedule VI :

- the waste waters and gases are to be treated with the best available technology (BAT) in order to achieve the prescribed standards.
- the industries need to be encouraged for recycling and reuse, of waste materials as far as practicable in order to minimize the discharge of wastes into the environments.
- the industries are to be encouraged for recovery of biogas, energy and reusable materials.
- while permitting the discharge of effluent and emission into the environment, State Boards have to take into account the assimilative capacities of the receiving bodies, especially water bodies so that quality of the intended use of the receiving waters is not affected. Where such quality is likely to be effected discharges should not be allowed into water bodies.
- the Central and State Boards shall put emphasis on the implementation of clean technologies by the industries in order to increase fuel efficiency and reduce the generation of environmental pollutants.
- All efforts should be made to remove colour and unpleasant odour as far as practicable.
- The standards mentioned in the Schedule shall also apply to all other effluents discharged such as industrial mining, and mineral processing activities and sewage.
- the limit given for the total concentration of mercury in the final effluent of caustic soda industry, is for the combined effluent from
  •Cell house, (b) Brine Plant, (c) Chlorine handling, (d) hydrogen handling and (e) hydro choleric acid plant.

(9) [1][(a)….(f)]

(10) All effluents discharge including from the industries such as cotton textile, composite woolen mills, synthetic rubber, small pulp & paper, natural rubber, petro-chemicals, tanneries, point dyes,

1 Omitted by Rule 4 of the Environment (Protection) Rules, 1996 notified by notification G.S.R. 176(E), dated 2.4.1996.

slaughter houses, food & fruit processing and diary industries into surface waters shall conform to be BOD limit specified above, namely 30 mg/l. For discharge an effluent having a BOD more than 30 mg./l, the standards shall conform to those given, above for other receiving bodies, namely, sewers, coastal waters, and land for irrigation.

(11) [1][***…….]

- In case of fertilizer industry the limits in respect of chromium and fluoride shall be complied with at the outlet of chromium and fluoride removal units respectively.
- In case of pesticides :

- The limits should be complied with at the end of the treatment plant before dilution.
- Bio-assay test should be carried out with the available species of fish in the receiving water, the COD limits to be specified in the consent conditions should be correlated with the BOD limits.
- In case metabolites and isomers of the Pesticides in the given list are found in significant concentration, standards should be prescribed for these also in the same concentration as the individual pesticides.
- Industries are required to analyze pesticides in waste water by advanced analytical methods such as GLC/HPLC.

([2]14) The chemical oxygen demands (COD) concentration in a treated effluent, if observed to be persistently greater than 250 mg/l before disposal to any receiving body (public sewer, land for irrigation, inland surface water and marine coastal areas), such industrial units are required to identify chemicals causing the same. In case these are found to be toxic as defined in the Schedule I of the Hazardous Rules 1989 the State Board in such cases shall direct the industries to install tertiary treatment stipulating time limit.

(15) Standards specified in Part A of Schedule – VI for discharge of effluent into the public sewer shall be applicable only if such sewer leads to a secondary treatment including biological treatment system, otherwise the discharge into sewers shall be treated as discharge into inland surface waters].

- Omitted by Rule, 2(k) (vii) of the Environment (Protection) Third amendment Rules, 1993 vide G.S.R. 801 (E), dated 31.12.1993.
- Inserted by rule 2(k) (ix), ibid.

ANNEXURE-2

(For the purpose of Part-D)

The State Boards shall follow the following guidelines in enforcing the standards specified under Schedule VI:

- In case of cement plants, the total dust (from all sections) shall be within 400 mg/Nm^3 and 250 mg/Nm^3 for the plants upto 200 t/d and more than 200 t/d capacities respectively.
- In respect of calcinations process (e.g. Aluminum Plants) Kilns. and step Grate Bagasse fired-Boilers. Particulate Matter (PM) emissions shall be within 250 mg/Nm^3.
- In case of thermal power plants commissioned prior to 01.01.1982 and having generation capacity less than 62.5 MW, the PM emission shall be within 350 mg/Nm^3.
- In case of Lime Kilns of capacity more than 5 t/day and upto 40 t/day, the PM emission shall be within 500 mg/Nm^3.
- In case of horse shoe/pulsating Grate and Spreader Stroker Bagasse- fired-Boilders, the PM emission shall be within 500 (12% CO_2) and 800 (12% CO_2) mg/Nm^3 respectively. In respect of these boilers, if more than attached to a single stack, the emission standards shall be fixed, based on added capacity of all the boilers connected with the stack.

- In case of asbestos dust, the same shall not exceed 2mg/Nm^3.

- In case of the urea plants commissioned after 01.01.92, coke ovens and lead glass units, the PM emission shall be within 50 mg/Nm^3.

- In case of small boilers of capacity less than 2 tons/hour and between 2 to 5 tons/ hour, the PM emissions shall be within 1000 and 1200 mg/Nm^3.

- In case of integrated Iron and Steel Plants, PM emission upto 400 mg/Nm^3 shall be allowed during oxygen lancing.

- In case of stone crushing units, the suspended PM contribution value at a distance of 40 meters from a controlled, isolated as well as from a unit located in cluster should be less than 600 micrograms/Nm^3. [1][* * *] These units must also adopt the following pollution control measures :

    - Dust containment cum suppression system for the equipment;

    - Construction of wind breaking walls;

    - Construction of the metalled roads within the premises;

    - Regular cleaning and wetting of the ground within the premises;

    - Growing of a green belt along with periphery.

- In case of Ceramic industry, from the other sources of pollution, such as basic raw materials and processing operations, heat recovery dryers, mechanical finishing operation, all possible preventive measures should be taken to control PM emission as far as practicable.

2. The total fluoride emission in respect of Glass and Phosphatic Fertilizers shall not exceed 5 mg/Nm^3 and 25 mg/Nm^3 respectively.

[2]3. [In case of copper, lead and zinc smelting, the off-gases may, as far as possible, be utilized for manufacturing sulphuric acid]

[3]4. [In case of cupolas (Foundries) having capacity (melting rate) less than 3 tonne/hour, the particulate matter emission shall be within 450 mg/Nm^3. In these cases it is essential that stack is constructed over the cupolas beyond the charging door and the emissions are directed through the stack, which should be at least six times the diameter of cupola. In respect of Arc Furnaces and Induction Furnaces, provision has to be made for collecting the fumes before discharging the emissions through the stack].

[No. Q-15017/24/89-CPW] MUKUL SANWAL,
Jt. Secy.

- Omitted by Rule 2(i)(iii) of the Environment (Protection) Third Amendment Rules, 1993, vide G.S.R. 801(E) dated 31.12.1993.
- Substituted by Rule 2(1)(i); Ibid.
- Added by Rule 2(1)(ii), Ibid.

a general rule the following rates per capita per day may be considered minimum for domestic and non domestic needs:

1)	For communities with population up to 20 000 and without flushing system	
	a) water supply through standpost	40 lphd (*Min*)
	b) water supply through house service connection	70 to 100 lphd
2)	For communities with population 20 000 to 100,000 together with full flushing system	100 to 150 lphd
3)	For communities with population above 100 000 together with full flushing system	150 to 200 lphd

NOTE — The value of water supply given as 150 to 200 litres per head per day may be reduced to 135 litres per head per day for houses for Lower Income Groups (LIG) and Economically Weaker Section of Society (EWS), depending upon prevailing conditions.

4.1.1 Out of the 150 to 200 litres per head per day, 45 litres per head per day may be taken for flushing requirements and the remaining quantity for other domestic purposes.

4.2 Water Supply for Buildings Other Than Residences

Minimum requirements for water supply for buildings other than residences shall be in accordance with Table 1.

Table 1 Water Requirements for Buildings Other than Residences

Sl No.	Type of Building	Consumption Per Day, litres
(1)	(2)	(3)]
i)	Factories where bath rooms are required to be provided	45 per head
ii)	Factories where no bath rooms are required to be provided	30 per head
iii)	Hospital (including laundry) :	
	a) Number of beds not exceeding 100	340 per head
	b) Number of beds exceeding 100	450 per head
iv)	Nurses' homes and medical quarters	135 per head
v)	Hostels	135 per head
vi)	Hotel	180 per head
vii)	Offices	45 per head
viii)	Restaurants	70 per seat
ix)	Cinemas, concert halls and theatres	15 per seat
x)	Schools:	
	a) Day schools	45 per head
	b) Boarding schools	135 per head

NOTE — For fire demand in buildings refer IS 9668 : 1981.

5 DRAINAGE AND SANITATION REQUIREMENTS

5.1 General

There shall be at least one water tap and arrangements for drainage in the vicinity of each water-closet or group of water-closets in all buildings.

5.2 Residences

5.2.1 Dwellings with individual conveniences shall have at least the following fitments:

a) One bath room provided with a tap,

b) One water-closet, and

c) One nahani or sink either in the floor or raised from the floor with a tap.

Where only one water-closet is provided in a dwelling, the bath and water-closet shall be separately accommodated.

NOTE — Water-closets, unless otherwise indicated, shall be of Indian style (squatting type).

5.2.2 Dwellings without individual conveniences shall have the following fitments:

a) One water tap with draining arrangement in each tenement,

b) One water-closet and one bath for every two tenements, and

c) Water taps in common bath rooms.

5.3 Buildings Other Than Residences

The requirements for fitments for drainage and sanitation in case of buildings other than residences shall be in accordance with Tables 2 to 12.

6 WATER SUPPLY, DRAINAGE AND SANITATION REQUIREMENTS FOR RAILWAY PLATFORMS, BUS STATIONS, BUS TERMINALS AND AIRPORTS

6.1 General

The water supply, drainage and sanitation requirement specified in **6.2** to **6.4** for railway stations, bus stations, bus terminals, sea ports

ANNEXURE- III

Government of Himachal Pradesh
Department of Environment, Science & Technology

(3)

No. STE-E(3)-22/2018 Dated: Shimla-2, 07.09.2018

NOTIFICATION

In compliance to the orders passed by Hon'ble National Green Tribunal on 07.08.2018 in the matter of Original Application No. 138 / 2016 and OA No. 139/2016, the Governor Himachal Pradesh is pleased to constitute the Special Task Forces (STFs) at State Level and District Level for the purpose of identifying the persons responsible for discharging effluents beyond standards into tributaries of river Ghaggar leading to water pollution and thus violating the laws.

State Level Special Task Force:

The State Level Special Task Force shall comprise of the following officers:

1. Chief Secretary to the Government of Himachal Pradesh.
2. Addl. Chief Secretary (Environment, Sci., & Technology) Govt. of HP.
3. Addl. Chief Secretary (Urban Development) Govt. of HP.
4. Member Secretary, HP State Pollution Control Board. (He will be the Member Secretary of this State Level Special Task Force).

District Level Special Task Force:

The District Level Special Task Force for Solan and Sirmour Districts shall comprise of the following officers:

1. The concerned Deputy Commissioner.
2. Nominee of the concerned District & Sessions, Judge.
3. The concerned Superintendent of Police.
4. The Executive Officer of the Local bodies of concerned District.
5. The Regional Officer, H P State Pollution Control Board of concerned District. (He will be the Member Secretary of the District Level Task Force).

The terms of reference of Special Task Forces shall be as under:-

The District Level Special Task Forces shall identify the persons responsible for discharging of industrial and municipal effluents causing water pollution in River Ghaggar and its tributaries and will submit a monthly Action Taken Report to the State Level Special Task Force. The State Level Special Task Force will furnish quarterly report or the Action Taken Report to the Central Pollution Control Board. Such reports shall also be uploaded on the websites of the State Pollution Control Board as well as the Department of Environment, Science & Technology.

H.P. State Pollution Control Board Dy. No. 9190 Dated 11.9.2018 Shimla-9

By order

(Tarun Kapoor)
Addl. Chief Secretary (Env. Sci., & Tech.)
to the Government of Himachal Pradesh

..2..

Endsts. No. STE-E(3)-6/2016 Dated:Shimla-2 07.09. 2018

Copy forwarded to for information and necessary action to:-

1. The Chief Secretary to the Govt. of HP, Shimla-2.
2. The Chief Secretary to the Govt. of Haryana at Chandigarh.
3. The Chief Secretary to the Govt. of Punjab at Chandigarh.
4. The Administrator of Union Territory Chandigarh.
5. The Addl. Chief Secretary (UD) to the Government of HP, Shimla-2.
6. The Director (Env. Science & Technology) Shimla-1
7. The Member Secretary, H P State Pollution Control Board, Shimla-09
8. The Deputy Commissioners, Solan and Sirmour.
9. The Superintendent of Police, Solan and Sirmour.
10. The Member Secretary, State Legal Service Authority, Shimla-171009.
11. The District Legal Service Authorities, Solan and Sirmour.
12. Copies to concerned Members of State Level Special Task Force & District Level Task Force.
13. The Director, Information and Public Relations, Himachal Pradesh for wide publicity.

(Satpal Dhiman) 7-9-2018
Joint Secretary (Env. Sci., & Tech.) to the
Government of Himachal Pradesh
Phone No. 0177-2621874

ANNEXURE- IV

213

Minutes of Meeting held under the Chairmanship of Sh. Lalit Jain, IAS, Deputy Commissioner, Distt. Sirmaur, H.P. on 05.10.2018 at 11:30 AM regarding setting up of CETPs in Paonta Sahib and Kala Amb.

Himachal Pradesh Control Board
12257
Dy. No.
12-11-18
Shimla-9

The followings were present during the meeting:

Sr. No.	Name & Designation	
1	Deputy Commissioner, Sirmaur	Chairman
2	Dr. Sharawan Kumar, Sr. Environmental Engineer, HPSPCB Paonta Sahib	Member Secretary
3	Sh. G.S. Chauhan, GM, DIC	Special Invitee
4	Smt. Daksha Gupta, Shivalik Solid Waste Management Ltd.	Special Invitee
5	Sh. Sakshi Satti, Member Secretary, SWCA, DIC Kala Amb	Special Invitee
6	Sh. Subhash Chaudhary, Member Secretary, SWCA, DIC Paonta Sahib	Special Invitee

Apart from this representatives from Chamber of Commerce, Kala Amb & Paonta Sahib, Laghu Bharti Udyoug, Kala Amb, Pharma Association, Kala Amb, M/s Kala Amb Infrastructure Company and M/s Sirmaur Green Environ Ltd. were present during the meeting. The list of members present during the meeting has been attached as **Annexure-I**.

At the outset, Sr. Environmental Engineer, HPSPCB Paonta Sahib welcomed the Chairman, Officials of different Deptt. and the representatives of different industries from Paonta Sahib and Kala Amb. Thereafter he briefed about the setting up of CETPs in Paonta Sahib and Kala Amb. The following issues were discussed:

CETP at Paonta Sahib:

- **Special Purpose Vehicle:-** It was apprised to the house that a SPV by the name of M/s Sirmaur Green Environ Ltd. has been constituted under section 25 of Companies Act, 1956. The worthy Chairman suggested the house that there should be Govt. Representatives in the SPV. In this connection it was decided that Additional Chief Secretary, Industry shall be requested to nominate Govt. representatives as members in SPV. Further, the chairman directed that all the procurement while setting up of CETP shall be transparent and after completing all the codal formalities as inviting open bids, since public money will be involved in this venture.

- **Detailed Project Report:-** It was apprised to the house that DPR has been prepared by M/s Enviro Technology Ltd., Ankleshwar, Distt. Bharuch, Gujarat. The worthy chairman asked the M/s Sirmaur Green Environ Ltd. about the mode of transfer of effluent from the industries to the CETP to which they replied that it will be a combination of pipelines as well as through tankers.

- **Environment Clearance:-** It was apprised to the house that M/s Sirmaur Green Environ Ltd. applied for EC under the provisions of EIA notification, 2006. The MoEF has granted TOR dated 10.08.2017 valid for 3 years with a condition that final EC shall be granted after land allotment.

- **Allotment of Land:-** It was apprised to the house by Sr. Environmental Engineer, HPSPCB Paonta Sahib that the proposal for allotment of land at Plot No. 96 &97 land measuring 2412 Sq. mtr in I.A. Gondpur, Paonta Sahib for setting up of CETP was under consideration with Director of Industries. The Govt. directed to evaluate the technology used in CETP and the presentation was made to the committee by M/s Sirmaur Green Environ Ltd on 17.09.2018. The technology was approved by the expert committee comprising of Chief Engineer, I&PH, Shimla Zone, Execurive Engineer, HPSIDC Nahan, Distt. Sirmaur, Executive Engineer, I&PH Paonta Sahib and Regional Officer, HPSPCB Paonta Sahib. The case has again been sent to Govt. for approval and soon the land shall be transferred.

- **Funding:-** It was apprised to the house that the ratio of funding the expenditure to be incurred on the installation of CETP will be 50:25:25 i.e. 50% will be incurred by Central Govt., 25% by the State Govt. and the rest of the 25% by the industries. The worthy Chairman raised the issue that from where can we raise the funds for 25% of the expenditure to be incurred by the State Govt. Further, it was finally decided that a meeting shall be organized at Shimla with all the stakeholders i.e. Additional Chief Secretary, Industries, Additional Chief Secretary, Urban Development, Chairman/Member Secretary, HP State Pollution Control Board and Deputy Commissioner along with Sr. Environmental Engineer, HPSPCB Paonta Sahib, GM, DIC Nahan and representatives from the industries so that final decision on the funding can be taken.

- **Margin for Price Escalation:-** It was also apprised to the house that keeping in mind the rate of inflation final project cost of CETP may rise and we should keep a margin for the price escalation. To this the worthy Chairman said that it can be met out from the interest gained from the funds that has been raised for the project.

CETP at Kala Amb:

It was informed in house by the Member Secretary that an executing committee has been constituted by the Hon'ble NGT to check the pollution status of River Ghaggar. Further a Special Task Force has been constituted by the State Govt. under the Chairmanship of Deputy Commissioner, Sirmaur to inspect the water polluting industries in catchment of River Markanda which in turn is the tributary of River Ghaggar. The water quality of Jattan Wala Nallah is not as per the prescribed standards due to discharge of untreated effluents and domestic sewage. Hence, there is an urgent requirement of a CETP in Kala Amb area and the process of installation needs to be expedited.

- **Formation of Special Purpose Vehicle:-** It was informed in the house by the Member Secretary that proposal has already been sent to the Govt. of H.P. for approval of nomination of M/s Kala Amb Infrastructure Company as a SPV. The matter is being taken up with the State Govt. for earlier decision. Further, Additional Chief Secretary, Industry shall be requested to nominate Govt. representatives as members in SPV.

- **Status of Land Acquisition**:- G.M. Industries informed that the land has been identified and shown to M/s Environ Technology Ltd., Ankleshwar who has been assigned the task of preparation of DPR. An advance of Rs. 3.5 Lakhs has already been issued to the agency for preparation of DPR by the SPV i.e. M/s Kala Amb Infrastructure Ltd. The matter regarding acquisition of land is being taken up with Director, Industries. On the matter of transfer of land worthy Chairman pointed out in the house that since there is Private land involved permission under Section 118 will be required from the Govt. Further, since the proposed land falls outside the notified industrial area there will be a need of Public Hearing while acquiring Environmental Clearance.

- **Status of DPR:-** Representative of M/s Environ Technology Ltd. apprised the house that the process of preparation of DPR is under progress and it shall be completed soon. Sr. Environmental Engineer, HPSPCB asked the representative of M/s Environ Technology Ltd. to give a technical presentation on setting up of CETP in Kala Amb once the DPR is prepared. Worthy Chairman asked the house what should be the mode of transportation of effluent from the industries to the CETP to which representatives of Ms/s Kala Amb Infrastructure Ltd. apprised that it will be a combination of Pipelines as well as through tankers.

- **Action Plan for Treatment of Domestic Sewage by I&PH:-** Worthy Chairman asked the house whether domestic sewage will be the part of the CETP or not. It was finally decided that I&PH will make its own arrangements to collect the domestic sewage from the residential houses in Kala Amb. Decision regarding treatment of domestic sewage by CETP will be taken by I&PH.

- **Funding:-** It was apprised to the house that the ratio of funding the expenditure to be incurred on the installation of CETP will be 50:25:25 i.e. 50% will be incurred by Central Govt., 25% by the State Govt. and the rest of the 25% by the industries. The worthy Chairman raised the issue that from where can we raise the funds for 25% of the expenditure to be incurred by the State Govt. Further, it was finally decided that a meeting shall be organized at Shimla with all the stakeholders i.e. Additional Chief Secretary, Industries, Additional Chief Secretary, Urban Development, Member Secretary/Chairman, HP State Pollution Control Board and Deputy Commissioner along with Sr. Environmental

Engineer, HPSPCB Paonta Sahib, GM, DIC Nahan and representatives from the industries so that final decision of funding can be taken.

The meeting ended with a vote of thanks to all the participants present in the meeting.

Chairman-cum-Deputy Commissioner,
Sirmaur, at Nahan

Endst. No. PCB/SEE(Pt) CETP file/2018- 1537-48 **Date:** 29/10/18

Copy to the following for information and further necessary action please:-

1. The Member Secretary, HPSPCB, Shimla H.P.
2. SE, I&PH Department, Nahan Distt. Sirmaur H.P.
3. General Manager, DIC, Nahan, Distt. Sirmaur H.P.
4. Executive Engineer, I&PH Nahan, Distt. Sirmaur H.P.
5. Executive Engineer, I&PH Paonta Sahib, Distt. Sirmaur H.P.
6. TCP-cum-Member Secretary SADA Kala Amb, Nahan, Distt. Sirmaur H.P.
7. TCP-cum-Member Secretary SADA Paonta Sahib, Distt. Sirmaur H.P.
8. Member Secretary, SWCA Kala Amb, Distt. Sirmaur H.P.
9. Member Secretary, SWCA Paonta Sahib, Distt. Sirmaur H.P.
10. President Chamber of Commerce, Kala Amb, Distt. Sirmaur H.P.
11. President Chamber of Commerce, Paonta Sahib, Distt. Sirmaur H.P.
12. President Laghu Bharti Udyog, Kala Amb Distt. Sirmaur H.P.
13. Guard File.

Member Secretary-cum-Sr. Environmental Engineer,
HPSPCB, Regional Office, Paonta Sahib, H.P.

"Annexure-I"

Meeting held under the Chairmanship of Chairman-cum- Deputy Commissioner, Sirmour on dated 05-10-2018 for the establishment of CETP at Paonta Sahib and kala Amb

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S. No	Name of the participant	Name of organization	e-mail address	Contact No	Signature
1	J.B Rolling Mills Ltd	Director	[illegible]	93151-74008	[illegible]
2	Jabbo Group Kala Amb	[illegible]	Jabbocylinders@gmail.com	9315151152 / 9354205328	[illegible]
3	Jay Ambay Alloys Pvt Ltd Kala	Director	ashok934@	9855044934	[illegible]
4	ANIL MEHTA	ZEE LABORATORIES LIMITED PAONTA	[illegible]	98050-65069	[illegible]
5	Vinay Butta	LABORATORIES PHARMACEUTICAL INDIA LTD	laboratories@gmail.com	9816656277	[illegible]
6	Neeraj Bhatia	Three B Healthcare	nb@vidithealthcare.com	98160-70417	[illegible]
7	MANOJ GARG VARAV BIOGENERIS	VARAV	varavbiogeneris2010@gmail	09416017890	[illegible]
8	NAV RATTAN DEV	HIMACHAL POLYOLEFINS LTD Kala Amb	gmhpl@himpol.com	9315920101	[illegible]
9	Chander Shekhar Gupta	Kala Amb Industrial Area	[illegible]	[illegible]	[illegible]
10	Basseem Zafar	ETL/JMP	basseem.zafar@beilcorp.com	9779801890	[illegible]
11	Daksha Gupta	SSIOML Kinakpur	rajeevthakur@beilcorp.com	9816022004	[illegible]
12	Rakesh Kumar	Anchim Polyol Ltd	hr@anchimpolyols.com	80558 00801	[illegible]
13	Y. Dayal	Sheela Foam Ltd.	yogeshwar@sheelafoam.com	9971698861	[illegible]
14	G.K. Maheshwari	HTPL (P) Ltd.	htp@htppl.co.in	9418022384	[illegible]
15	J.P. Sharma	Vanera Cosmetics	JPSharma@Vanera.co.in	92185-36898	[illegible]
16	RAJESH GUPTA	Paonta Sky Syng. Mills	Rajeshgupta24@gmail.com	9418052745	[illegible]

Meeting held under the Chairmanship of Chairman-cum- Deputy Commissioner, Sirmour on dated 05-10-2018 for the establishment of CETP at Paonta Sahib and kala Amb

S. No	Name of the participant	Name of organization	e-mail address	Contact No	Signature
17	Subhash Chaudhary	MS SWCA Paontasahib	Subhash.chaudhary1962@gMail.com	9418087697	
18	Jitender Singh	Relon pharma Baddi	Jitender.singh@relonpharmacentral.com	9816087330	
19	Sanjeev Sharma	Vashist Chemicals Kalaamb	vashistchemicals@gmail.com	9816638572	
20	Ashok Kumar	KACCI	ka_cci@yahoo.com	9467468962	
21	Ajay Bhardwaj	Laboratories	Laboratoriesparonta@gmail.com	9418464262	
22	C M SHARMA	NOVIZ MED SCIENCE PHARMA	mainQUANTZHOME.COM	9805w2318	
23	SANJAY KUMAR	MMG Healthcare	healthcare3@gmail	9254124143	
24	Om Prakash Dubey	Virgo Ind.	hr@virgolam.com	8818079222	
25	SANJAY AHUJA	Integrated Lab (P) Ltd	md.ilpl pharma@gmail.com	9816635605	
26	K.P Rana	Pioneer Emb Ltd Khevi	hr@silkolite.com	9355802045	
27	Neeraj Kumar	Symbiosis Pharma	Symbio@sp2004@gmail.com	7832990832	
28	D.K. Soni	Symbiosis Pharmaceuticals	symbiosisunit3@gmail.com	9418921930	
29	Sanjay MIDHA	Pioneer Emb Limited	sanjaymidha@silkolite.com	9315110121	
30	Sakhi Sathi	M.S, Dept of Ind Kala Amb		9418173659	
31	Lalit Thakur	AEE, HPSPCB Reg, Nahan	Lalit.thakur@gmail.com	7018168221	
32	Pawan Sharma	Th. Env. Engg HPSPCB, Paonta Sahib	pcharma_chem@yahoo.com	9418864049	

Meeting held under the Chairmanship of Chairman-cum- Deputy Commissioner, Sirmour on dated 05-10-2018 for the establishment of CETP at Paonta Sahib and kala Amb

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S. No	Name of the participant	Name of organization	e-mail address	Contact No	Signature
33.	G. Sharma	GMDA	gschauhan.india@gmail.com.	88378 39893	G Sharma

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Minutes of Meeting held under the Chairmanship of Sh. Lalit Jain, IAS, Deputy Commissioner, Distt. Sirmaur, H.P. on 12.10.2018 at 11:30 AM regarding Special Task Force constituted by Hon'ble NGT in OA No. 138/2016 and 139/2016.

The followings were present during the meeting:

Sr. No.	Name & Designation	
1	Deputy Commissioner, Sirmaur	Chairman
2	Sh. Rohit Malpani, Superintendent of Police, Sirmaur	Member
3	Sh. Basant Verma, Secretary, DLSA, Nahan, Sirmaur	Member
4	Dr. Sharawan Kumar, Sr. Environmental Engineer, HPSPCB Paonta Sahib	Member Secretary
5	Sh. Parvez Iqbal, JE, MC, Nahan	

At the outset, Sr. Environmental Engineer, HPSPCB Paonta Sahib briefed the Chairman and other members that the Hon'ble National Green Tribunal vide its order dated 07.08.2018 directed State of H.P. in OA No. 138/2016 and 139/2016 to constitute a Special Task Force comprising of District Magistrate, Superintendent of Police, Regional Officer of the State Board and one person to be nominated by the District Judge in his capacity of the District Legal Service Authority to identify persons responsible for violation of law and to prepare action plan with firm timelines for preventing discharge of untreated effluents in the River Ghaggar by setting up appropriate anti pollution devices such as STP/ETP/CETP. Wherever required polluting units have to be closed. The action plan must be realistic and must ensure that the testing of the sample of water is found to be consistent with the laid down standards within the targeted time. Thereafter the meeting commenced and following issues were discussed.

- It was decided that regular inspections and sampling of water polluting units shall be increased by the State Board. Also the Special Task Force shall conduct the surprise checking of the units. Further, the Online Continuous Water Quality Monitoring Stations provided at the water polluting units should be operated and maintained regularly.

- It was decided that directions shall be issued to Irrigation and Public Health Department to provide Sewage Treatment Plant at Kala Amb and Moginand area in consultation with Rural Department.

- It was also decided that directions shall be issued to the Member Secretary, Special Area Development Authority (SADA), Trilokpur and Member Secretary, Industrial Area Development Authority (IADA), Kala Amb to submit a proposal for an Integrated Solid Waste Management Plant for Kala Amb. Also it was decided that SDM, Nahan will provide a suitable land for the establishment of the plant in Kala Amb.

- It was further decided that directions shall be issued to the Member Secretary, Special Area Development Authority (SADA), Member Secretary, Industrial Area Development Authority

(IADA), Kala Amb Trilokpur and PWD to regularly clean the open drains in Kala Amb Area to ensure that there is no water stagnation in drains.

- The Chairman also desired that directions shall be issued to GM Industries to explore the possibility of establishing Hazardous Waste Management & Disposal Facility and Bio-Medical Waste disposal facility in District Sirmaur.

- It was also decided that directions shall be issued to Chief Medical Officer & Medical Superintendent Govt. Medical College Nahan to organize a Multi Speciality Camp at Kala Amb area.

- It was further decided that request shall be made to the Member Secretary, HPSPCB Shimla to expedite the process of installation of Online Continuous Water Quality Station at the Inter State Border in Kala Amb.

The meeting ended with a vote of thanks to all the members present in the meeting.

Chairman-cum-Deputy Commissioner,
Sirmaur, at Nahan

Endst. No. PCB/SEE(Pt) STF file/2018- 1553-60 **Date:** 29.10.18

Copy to the following for information and further necessary action please:-

1. The Member Secretary, HPSPCB, Shimla H.P.
2. The Superintendent of Police, Distt. Sirmaur, H.P.
3. The Secretary, District Legal Service Authority, Distt. Sirmaur, H.P.
4. SEE, I&PH Nahan, Distt. Sirmaur, H.P.
5. The Sub Divisional Magistrate, Nahan, Distt. Sirmaur, H.P.
6. GM, Industries, Nahan, Distt. Sirmaur, H.P.
7. Executive Officer, Municipal Council, Nahan, Distt. Sirmaur, H.P.
8. Member Secretary, SADA, Trilokpur, Kala Amb Distt. Sirmaur, H.P.

Sr. Environmental Engineer,
HPSPCB, Regional Office, Paonta Sahib, H.P.

Minutes of Second Meeting held under the Chairmanship of Sh. Lalit Jain, IAS, Deputy Commissioner, Distt. Sirmaur, H.P. on 26.11.2018 at 11:30 AM regarding Special Task Force constituted by Hon'ble NGT in OA No. 138/2016 and 139/2016.

The followings were present during the meeting:

Sr. No.	Name & Designation	
1	Deputy Commissioner, Sirmaur	Chairman
2	Sh. Basant Verma, Secretary, DLSA, Nahan, Sirmaur	Member
3	Dr. Sharawan Kumar, Sr. Environmental Engineer, HPSPCB Paonta Sahib	Member Secretary
4	Sh. Ratti Ram, PO, DRDA, Nahan	Special Invitee
5	Sh. Mandeep Gupta, Executive Engineer, I&PH Nahan	Special Invitee
6	Dr. Vidhi Tomar, Consultant OA, O/o CMO Nahan	Special Invitee
7	Sh. Akshit Mehta, Planning Officer, TCP Nahan	Special Invitee

At the outset, Sr. Environmental Engineer, HPSPCB Paonta Sahib briefed the Chairman and other members about the issues discussed in the First meeting of the District Level Special Task Force on 12.10.2018 and the Agenda for the Second meeting. Thereafter the meeting commenced and following issues were discussed.

- Sr. Environmental Engineer, HPSPCB Paonta Sahib informed the house that the inspection of all the water polluting industries in Kala Amb area is being carried out by the State Board as per inspection format provided by the Executing Committee and as on dated 26.11.2018 40 industries have been inspected and samples of 25 industries have been collected. The samples have been sent to the HPSPCB Regional Laboratory, Paonta Sahib and results of the same are awaited.

- It was decided that a Multi Specialty Health Camp shall be organized on 07.12.2018 at Kala Amb by the Department of Health and HP State Pollution Control Board shall assist them in organizing the same.

- Worthy Chairman directed the representative of CMO Sirmaur that a survey of Kala Amb area shall be conducted by the Department of Health regarding the various Chronic Diseases observed in last few years to assess the impact of pollution on the health of General Public. To this representative of CMO Sirmaur informed that Health Department is already conducting such surveys. Worthy Chairman directed the Department of Health to provide data of the same to the HP State Pollution Control Board so that findings of the same can be incorporated in the report.

- Executive Engineer, I&PH Division, Nahan informed the house that I&PH Department have already conducted Drinking Water Sampling of the 22 Drinking Water Schemes in Kala Amb and Moginand Area. The results of the same are attached as **Annexure-I**. Further, it was

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informed that I&PH have nominated two officials for conducting the joint sampling of Ground Water Samples of various industries along with HPSPCB.

- Executive Engineer, I&PH Division Nahan further informed the house that preliminary site plan with sewerage load of 1.0 MLD for the proposed sewerage scheme in Kala Amb and Moginand area has been sent to General Manager, DIC Nahan. He further informed that as a CETP is proposed at Kala Amb, therefore question of proposal regarding the STP does not arise. To this Sr. Environmental Engineer informed that I&PH have to provide the Sewer Lines and the primary treatment to the sewage collected. Secondary treatment shall be provided in the CETP on chargeable basis. Worthy Chairman directed the Executive Engineer, I&PH Nahan to prepare a DPR regarding the same within a month and also asked GM,DIC to include the said proposal in proposed CETP DPR.

- Executive Engineer, I&PH Division Nahan further informed the house that a DPR for the channelization of Markanda River from Rukhri to Kala Amb (24 KM) amounting to Rs. 114.02 Crore has been submitted by I&PH to Chairman Ganga Flood Control Commission, Patna for approval. As far as channelization of various drains leading to Markanda is concerned, those have not been included in the same. To this it was suggested that HPSIDC shall perform the channelization of the various drains leading to Markanda. The matter pendency of channelization be brought to the notice of Hon'ble NGT.

- Executive Engineer, I&PH Division Nahan further informed the house that I&PH does not perform activities like installing the Real Time Water Quality Monitoring Station and HPSPCB shall install the same. To this Sr. Environmental Engineer said that matter shall be taken up with the higher authorities so that final decision on the same can be taken.

- Worthy Chairman directed the representative of Member Secretary, SADA to identify a land in Kala Amb area along with HPSIDC for the establishment of a Solid Waste Management Site at Kala Amb.

- Further, directions were issued to the Member Secretary, Special Area Development Authority (SADA) Trilokpur, Member Secretary, Industrial Area Development Authority (IADA), Kala Amb and PWD to regularly clean the open drains in Kala Amb Area to ensure that there is no water stagnation in drains.

- It was also decided that units using bore wells as a source of water without the permission of HP Ground Water Authority shall be identified and bore wells of such unit shall be sealed after giving opportunity of hearing.

The meeting ended with a vote of thanks to all the members present in the meeting.

Chairman cum-Deputy Commissioner,
Sirmaur, at Nahan

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Endst. No. PCB/SEE(Pt) STF file/2018- 1918 27 Date: 11/12/18

Copy to the following for information and further necessary action please:-

1. The Member Secretary, HPSPCB, Shimla H.P.
2. The Superintendent of Police, Distt. Sirmaur, H.P.
3. The Secretary, District Legal Service Authority, Distt. Sirmaur, H.P.
4. CMO, Nahan, Distt. Sirmaur, H.P.
5. Executive Engineer, I&PH Nahan, Distt. Sirmaur, H.P.
6. Executive Engineer, PWD Nahan, Distt. Sirmaur, H.P.
7. GM, Industries, Nahan, Distt. Sirmaur, H.P.
8. Executive Officer, Municipal Council, Nahan, Distt. Sirmaur, H.P.
9. Project Officer, DRDA, Nahan, Distt. Sirmaur, H.P.
10. Member Secretary, SADA, Trilokpur, Kala Amb Distt. Sirmaur, H.P.

Sr. Environmental Engineer,
HPSPCB, Regional Office, Paonta Sahib, H.P.

ANNEXURE- V

Minutes of Meeting held under the Chairmanship of Sh. Vinod Kumar, IAS, Deputy Commissioner, Distt. Solan, H.P. on 11.10.2018 at 04:00 PM of the District Level Special Task Force constituted by Hon'ble NGT in OA No. 138/2016 and 139/2016.

The first meeting of the District Level Special Task Force constituted by the Deptt of Environment Science & Technology, Govt. of HP Notification No STE-E (3)-22/2018 dt: 07.09.2018 in the matter of OA No 138/2016 & 139/2016 on the directions of the Hon'ble National Green Tribunal was held under the Chairmanship of the worthy Deputy Commissioner Solan, District Solan on 11.10.2018 at 04:00 PM in the office of the Deputy Commissioner Solan. The followings were present during the meeting :

S. No	Name & Designation	
1	**Sh. Vinod Kumar, Deputy Commissioner, Solan**	**Chairman**
2	Sh. Vivek Chandel, ADM Solan	
3	Sh. Sudhir Sharma, Executive Officer, MC Parwanoo	
4	Er. Rajesh Thakur, SDO, HIMUDA Parwanoo	
5	Er. Ravi Thakur, JE, I&PH Solan	
6	Sh. BM Saini, Addl. GM HPMC Fruit Processing Plant Parwanoo	*Special Invitee*
7	Er. SC Sharma, Civil Engineer, HPMC Fruit Processing Plant Parwanoo	*Special Invitee*
8	Er. Atul Parmar, Asstt. Environmental Engineer, HP PCB, Parwanoo	Member Secretary

At the outset, Assistant Environmental Engineer, HPSPCB Parwanoo briefed the Chairman and other members that the Hon'ble National Green Tribunal vide its order dated 07.08.2018 directed State of H.P. in OA No. 138/2016 and 139/2016 to constitute a Special Task Force comprising of District Magistrate, Superintendent of Police, Regional Officer of the State Board and one person to be nominated by the District Judge in his capacity of the District Legal Service Authority to identify persons responsible for violation of law and to prepare action plan with firm timelines for preventing discharge of untreated effluents in the River Ghaggar by setting up appropriate anti pollution devices such as STP/ETP/CETP. Wherever required polluting units have to be closed. The action plan must be realistic and must ensure that the testing of the sample of water is found to be consistent with the laid down standards within the targeted time. Thereafter the meeting commenced and following issues were discussed.

The Chairman was also apprised that the three member Executive Committee has already inspected the catchment area of Sukna Nallah on 10.10.2018 from Parwanoo in Himachal Pradesh and Kalka & Pinjore areas in Haryana and till it finally meets River Ghaggar in the state of Haryana.

1. It was decided that regular inspections and sampling of water polluting units shall be increased by the **Regional Office of the HP State Pollution Control Board**. Also the District Level Special Task Force shall conduct the surprise checking of the units. Regional office of the State Board shall complete the sampling of the water polluting industries before 15th November 2018.

2. It was decided that the **Executive Engineer Irrigation & Public Health Department Solan** shall submit an action plan for the installation of the small common STPs in the Parwanoo town as per the decision taken by the then ACS (Env Sci & Technology) cum Chairman HPPCB and submit ATR before 15th November 2018.

3. The **Executive Engineer, HIMUDA Parwanoo** shall submit the details of total water supplied in Parwanoo area, number, location & capacity of septic tanks connected to sewer lines in Parwanoo area and within 21 days. He shall also submit an action plan for the enhancement of the sewer network in the Parwanoo area before 15th November 2018. The zoning of the Parwanoo area to facilitate the planning of the installation of the common STPs by the I&PH Department shall be carried out **jointly by the HIMUDA & HPPCB**.

4. The **Executive Officer, Municipal Committee, Parwanoo** shall submit details of Solid Waste Management in the Parwanoo area and shall ensure that no solid waste from Parwanoo area finds its way into the water bodies. The action taken report in this regard to be submitted before 15th November 2018.

5. It was decided that the Addl. General Manager, HPMC Fruit Processing Plant Parwanoo shall within 07 days take all necessary steps to operatinalised the ETP, stop any untreated discharge from the unit and immediately take steps for management & scientific disposal of apple pomace lying in the units' premises.

The meeting ended with a vote of thanks to all the members present in the meeting.

Deputy Commissioner, Solan
cum – Chairman, Distt. Level Special Task Force

Endst. No. PCB/AEE RO PWN/ Ghaggar NGT STF file/2018-9250-56 Date: 31-10-18

Copy to the following for information and further necessary action please :-

1. The Member Secretary, HPSPCB, New Shimla H.P.
2. The Superintendent of Police, Solan, Distt. Solan, H.P.
3. The Member Secretary, District Legal Service Authority, Solan, Distt. Solan, H.P.
4. The Executive Engineer, I&PH Solan, Distt. Solan, H.P.
5. The Executive Engineer, HIMUDA, Parwanoo, Distt. Solan H.P.
6. Executive Officer, Municipal Committee, Parwanoo, Distt. Solan, H.P.
7. Sh. BM Saini, Addl. GM HPMC Fruit Processing Plant Parwanoo,

31/10

Asstt. Env. Engineer, HPPCB - cum -
Member Secretary, Distt Level Special Task Force

Minutes of Meeting of the Second Meeting of the District Level STF dated 26.11.2018

5.0 Proposed Short Term and Long Term Action plan for Rejuvenation of River Ghaggar (Sukna Nallah) 26.11.2018

Sr. No.	Action Plan for Rejuvenation of River Ghaggar	Agency Responsible for Execution of Task	Action Taken	Time Line for Execution	Remarks
I	Domestic Sewage Management				
(a)	Area wise estimation of total population, water requirement and sewage generation.	HIMUDA and HPPCB	The data wrt total water supply, sewage generation and network of septic tanks has been provided by HIMUDA Parwanoo	Completed	HIMUDA has informed that approximatley 6.0 gallon per day water is being supplied by HIMUDA in Parwanoo area. The sewarage system is maintained by MC Parwanoo. The sewer network has outlived its design life and there is an urgent need for upgradation and expansion of the sewage network. Show cause notices have already been issued to MC authoroties no action taken report /action plan has been submitted by MC authorities till date
(b)	To undertake channelization and providing system for measurement of flow of all the drains presently contributing pollution load in Ghaggar River	I & PH & HIMUDA	The Executive Engineer, Irrigation & Public Health Department, Solan has informed in the Second meeting of the District Level Special task Force that there is no need for channelization for flow measurement as it is meant for river training works. He has further informed that the flow measurement may be carried out by HIMUDA Parwanoo as the water supply is being done by HIMUDA at Parwanoo	Within 06 months.	Regular follow up at the District Level meetings shall be carried out.
(c)	Installation of continuous Real Time Water Quality Monitoring Station.	HIMUDA and HPPCB	The I&PH deparatment has informed that the HIMUDA and HPPCB may carry out the work as the area is with HIMUDA for water supply and outside the jurisdiction og I&PH deparment.	Within 6 months.	Decision to be taken after consultation woth HPPCBHO as per decision taken during the 4th Meeting at Shimla

(d)	Proper design, execution of Common STP at Parwanoo Area with full utilization capacity.	I&PH	The Executive Engineer, Irrigation & Public Health Department, Solan has informed in the Second meeting of the District Level Special task Force that 02 no of common STPs with approx capacity 02 MLD each are proposed in the area and the preliminary proposal of the same has been sent to Agence Francaise de Development an international agency (French) and the same is proposed to be put in place in 03 years from now. The final details of the same are awaited fromthe I&PH Department.	Within 03 years	The Executive Engineer, Irrigation & Public Health Department, Solan shall submit the complete details of the same in the next meetin of the District Level task Force.
II	**Industrial Pollution Control**				
(a)	Inventorization of the water polluting industries in the catchment of Sukna Nallah covering assessment on aspects relating to status of Consents under Water & Air Acts and Authorization, Effluent Generation, ETP Capacities and final mode of effluent discharge	HPSPCB	Inspection of all the water polluting industries in Parwanoo area is being carried out by the HP State Pollution Control Board Regional Office Parwanoo as per inspection format provided by the Executing Committee and as on 10.12.2018, 22 number of industries have been inspected and samples have also been collected. The samples have been sent to the HPSPCB Regional Laboratory, Parwanoo and results of the same are awaited. Further, directions and Show Cause Notice has already been issued to the Executive Offier MC Parwanoo to ensure that all the spetic tanks are operational as it was reported by Executive Engineer Ilmuda that out of total 16 septic tanks connected to sewer lines in the Parwanoo area 06 were either non functional, or do not exist as on date.	by 31.12.2018	The inspection of all the Water Polluting industries is under progress and same shall be completed by 31.12.2018
(b)	Action against the identified industries in operation without Consent under Water & Air Act/Authorization under HOWR, 2016.	HPSPCB	All the industries inspected so far have valid Consent to Operate of the HPSPCB.	Within 1 month and continuous process.	Action as per relevant provisions of Water Act, 1974 and Air Act, 1981 shall be taken against any unit found operatoung without mandatory consent of the HPSPCB.

(c)	Action against the industries who have not installed ETPs or ETPs exist but not operating or treated effluent is not meeting the prescribed standards.	HPSPCB	All water polluting industrial units under the jurisdiction of this office requiring installation of Effluent treatment plant have provided their own captive plants for the same. As per inspection carried out no unit has been found not operating the ETP. However, directions were issued to 08 number of units for the installation of captive Sewage Treatment Plants and 06 number of units have installed new STPs or have upgraded the existing ones. 06 number of closure directions were issued to the industrial units for non complinace to the provisions of the Water (Prevention & Control of Pollution) Act 1974.	All inspections shall be completed by 31.12.2018 and regular inspections shall be a continuous feature.	As inspections of all the water polluting industries are being carried out. Any industry if found without ETP/STP or not operating the same, action as per relevant provisions of Water Act, 1974 and Air Act, 1981 shall be taken against it
(d)	Prohibition of Burning of any kind of waste including agro residue	EO MC Parwanoo. HPPCB	Directions have been issued to the EO MC Parwanoo and advisory has also been issued to the industries through The President Industries Association Parwanoo (PIA) in this regard. Also, 05 number of fines/challans have been issued against defaulting units (Rs 5000/- each) for non complinaace of the provisions of SWM Rules 2016 as per HP Non Biodegradable Garbage Control Act.	Continuous Process	Regular vigil is being kept over the defaulters in the area.
(e)	Estimation of industrial effluent generation and commissioning of CETP	State Govt., Deptt. of Industries, District Administration	Estimation of quantum of effluent generation in Parwanoo area is complete. During the second meeting of the District Level Special task force it has been decided that since the total quantum of effluent of the entire area is very less, the topography of the area is such that the laying of pipelines to each polluting unit is not feasible, movement of tankers to carrry effluent by road may cause further road congession and as the major load in the Sukna Nallah is of BOD & Fecal Coliforms common STP for the area must be priortised. Regular inspection and sampling of industrial units with Effluent generastion may be carried out by the HPPCB as a continuous process.		The agenta item may not be dropped till final decision is taken at the State level.

(f)	Solid Waste Management	EO MC Parwanoo. HPPCB	The proposal of processing of Solid Waste Processing facility has already been forwarded to Department of Urban Development by EO MCParwanoo and the sam is under process. The HPSPCB has already issued directions to the MC authoritoes for scientific management of solid waste inthe area and the latest such direction has been issued on dated 05.11.2018.	within 02 months	05 number of fines/challans have been issued against defaulting units (Rs 5000/- each) for non complinaace of the provisions of SWM Rules 2016 as per HP Non Biodegradable Garbage Control Act by HPPCB
III	**Ground Water Quality**				
(a)	Sampling of Tubewells, Borewells, Hand Pumps.	I&PH, HPSPCB	Joint sampling of industrial borewells and tubewellsby I&PH and HPSPCB shall be completed by 31.12.2018	By 31.12.2018	
(b)	Sampling and analysis of Drinking Water Supply Schemes in and around Parwanoo area.	HIMUDA / I&PH	Sampling of drinking water supply schemes and borewells shall be completed by 31.12.2018	By 31.12.2018	
I	Sealing of contaminated hand pumps and found to be unfit for drinking purpose by the public.	I&PH, HP GWA	To be implemented after all the sample results of sampling are available. Joint Inspection of Ground water sources to be completed by HPPCB & I&PH in Dec 2018 as perdecision in 4th meeting at Shimla.	Within 01 months	Results to be submitted by third week of January
(d)	Carrying assessment of ground water survey for quality and to identify over exploited and critical areas.	I&PH, HP GWA	To be completed within 04 months.	Within 4 months	Shall be carried out by I&PH & HP GWA
(e)	To conduct periodic surprise inspection of the industries to rule out any forceful injection of industrial effluents into ground water sources	HPPCB & I&PH	Periodic inspection of industries is being carried out by different Deptts. and so far no case of forrceful injection of industrial effluent into ground water sources have been found.	Continuous.	Continuous Process
(f)	All the industries should be directed to obtain NOC from HPGWA/CGWA and action against the units in operation without obtaining NOC from HPGWA/CGWA.	I&PH HPGWA	Directions shall be issued after the meeting by the HPPCB & HP GWA shall take furher action in the matter.	01 Months	In Process.
IV	**Miscellaneous**				
(a)	Regular monitoring and sampling of water quality of Sukna nallah and various drains on monthly basis.	HPSPCB	Regular sampling of Sukna nallah and contributing drains is being carried out by HPSPCB on monthly basis.	Continuous.	Continuous process.
(b)	Impact of water pollution on health of public by organizing Health camp	State Health Deptt.,	01 number of health camp has already been organised in Parwanoo area. Another camp in Taksal area near the catchment of Sukna nallah is to be organised within 01 month ie by 10-15 jan 2019.	Proposed in Mid Jan 2019.	

ATTENDENCE SHEET

Sr. No.	Name	Designation	Phone No.	Email-Id	Signature
01.	B. M. Saini	Addl GM	9816074132	brij.hpm@gmail.com	
02.	Sudhir Sharma	EO MC Pwn	94185-56696	mcparwanool@yahoo.co.in	
03.	Er Rajesh Thakur	A.E. HIMURJA Pwn	9418164061	rajesh.thakur@gmail.com	
04.	Er Ramesh Bhatia	C.E. HIMURJA Parwanoo	9816-607504	rameshbhatia1133@gmail.com	
05.	Z.R.Sharma	Solar	92186-11116	869-rve@yahoo.com	
06.	Mohit Bansal	Secretary NLSA, Shimla	98053-68866		
07.					
08.	Dr. Gaurav Aggarwal	Public Health Consultant	94170 30226	gaurav public health@gmail.com	
09.	SUMIT SOOD.	Xen I&PH Dept Solan.	8988107860	xenIPHSolan@gmail.com	
10.	Atul Rana	AEE, HPPCB	94130-44233		
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ANNEXURE- VI

Minutes of the meeting of Special Task Force (STF) held on 31.12.2018 at Committee Room, HP Secretariat, Shimla (H.P.) – 171004' at 11.30 AM, under the Chairmanship of Sh. B.K. Agarwal, Chief Secretary, Government of Himachal Pradesh in compliance to the Hon'ble NGT order dated 07.08.2018 vide OA No. 138/2016 & 139/2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) And Yogender Kumar.

A meeting of the Special Task Force (STF) was held on 31.12.2018 at Committee Room, HP Secretariat, Shimla (H.P.) – 171004' at 11.30 AM, in compliance to the Hon'ble NGT order 07.08.2018 vide OA No. 138/2016 & 139/2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) And Yogender Kumar.

At First, Sh. R.D. Dhiman, IAS, Addl. Chief Secretary Secretary (Environment, Science & Technology), welcomed the Worthy Chief Secretary, Chairman of Special Task Force and Members of the Special Task Force as well as Officials of State Governments. The List of Officials attended the meeting is enclosed as **Annexure-I.**

After a brief introduction of members Dr. R.K Pruthi, Member Secretart, HP State Pollution Control Board, briefed the Chairman about the main directions passed by Hon'ble NGT in the order dt. 07.08.2018 as follows:-

The **Special Task Force (STF)** comprising of Chief Secretary, the Environment Secretary, The Secretary of Urban Development, and Secretary of Local Bodies **at State Level.**

Mandate of Special Task Force (State Level)

- State STFs will furnish a 3 monthly report or the action taken report to the Central Pollution Control Board.

At District Level, the STF comprising of District Magistrate, Superintendent of Police, Regional Officer, State Pollution Control Board, one person to be nominated by the District Judge in his capacity of Head of the District Legal Services Authority.

Mandate of Special Task Force (District Level)

- To identify persons responsible for violation of law so that action can be taken.
- Submission of Monthly Action Taken Report to State Level Special Task Force.

He further apprised that the District Level Task Force have conducted the **2 no's of meetings** at **District –Solan and District – Sirmour on 11.10.2018, 26.11.2018 and 12.10.2018, 26.11.2018** for Sukhna Nallah catchment at Parwanoo and Markanda River Catchment at Kala Amb under the **chairmanship of Deputy Commissioner.**

He further added that, as per the NGT order an Executing Committee was also constituted by Hon'ble NGT comprising of Justice Pritam Pal, Former Judge, Punjab and Haryana High

(1)
(95)

Court as **Chairman,** Senior Scientist from Ministry of Environment, Forest and Climate Change as **Member** and Senior Engineer/Scientist from Central Pollution Control Board as **Member.** The Executing Committee is supposed to ensure compliance of the order passed by Hon'ble NGT and submit the interim report to Hon'ble National Green Tribunal before 31.01.2019

He further added that till date, **eight meetings of the Executing Committee** have been conducted i.e. one at Shimla and seven at Chandigarh where HPPCB participated in all meetings. During **8th meeting** of the Executing Committee **on dated 22.12.2018** at Chandigarh, direction are issued to State of Punjab, Haryana, Himachal Pradesh to **submit the Action Plan approved from State Government before 31.12.2018**.

As approved by the Worthy Chief Secretary, the Action Plan and Action Taken Report as submitted by Special Task Force (STF) shall be sent to Central Pollution Control Board and the Chairman, Executing Committee on 31.12.2018 in compliance to the NGT order dated 07.08.2018.

The meeting ended with vote of thanks by Addl. Chief Secretary (Environment, Science & Technology) to Worthy Chief Secretary and all members.

R.D. Dhiman, IAS
Additional Chief Secretary (Env Sc. & Technology)
to the Govt. of Himachal Pradesh

Endst. No. HPSPCB/Special Task Force/OA No. 138/2016 & 139/2016/2018- 30071-81 **Dated:** 31/12

Copy forwarded to the following for information as per Hon'ble NGT Order:

1. Justice Pritam Pal (Retd.), Chairman of Executive Committee (Ghaggar River), constituted vide Hon'ble NGT order dt. 07.08.2018, #665, Sec. 11-B, Chandigarh.
2. The Pr. Secretary (Urban Development), to the GoHP, HP Secretariat, Shimla.
3. Deputy Commissioners, Solan and Sirmour.
4. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-110032.
5. The Director, Industry, HP Shimla.
6. The Director, Environment, Science & Technology, HP Shimla.
7. The Member Secretary, H.P. State Pollution Control Board, Shimla.
8. The Director, Urban Development, HP Shimla.
9. The Director, Rural Development, HP Shimla.
10. Director, Health Department, Shimla.
11. Engineer-in Chief, IPH, SHimla.

Dr. R.K Pruthi, IAS
Member Secretary, H PSPC

Annexure-I

List of Participants of the meeting of the held on 31.12.2018 at HP Secretariat, Shimla (H.P.) 171002 under the Chairmanship of Worthy Chief Secretary to the Govt. of Himachal Pradesh to discuss the final Action Plan in compliance to the Hon'ble NGT orders in the matter of Stench Grips Mansa's Sacr Ghaggar River (Suo-Motu Case)and Yogender Kumar vide OA No. 138 OF 2016 (T_{NHRC}) and OA No. 139 C 2016 (T_{NHRC}).

S. No.	Name of the Official, Designation/Department
1.	Sh. Pabodh Saxena, Pr. Secretary (Urban Development) to the GoHP, Shimla.
2.	Sh. R. D. Dhiman, Addl. Chief Secretary (Env. Sci. & Tech.) to the GoHP, Shimla.
3.	Dr. R. K. Pruthi, Member Secretary, HPSPCB, Shimla.
4.	Sh. D. C. Rana, Director (Env. S&T) HP, Shimla.
5.	Sh. Des Raj Sharma, Director, Agriculture Department, HP, Shimla.
6.	Capt. J.M. Pathania, Director, Transport Department, HP, Shimla.
7.	Sh. Hemant Gupta, CCF (M & P) Forest Department, HP, Shimla.
8.	Er. Umesh Sharma, C.B.O-cum. Secretary, HIMUDA, HP, Shimla
9.	Dr. M. M. Dhiman, Joint Director, Horticulture Department, HP, Shimla.
10.	Er. R.C. Bhatu, Engineer HIMUDA, HP, Shimla
11.	Sh. Madan Kumar Minhas, SE, HPPWD, Shimla.
12.	Er. Ajeet Kumar Ravi, Sr. Environmental Engineer, H.P. State Pollution Control Board, HQ, Shimla.
13.	Er. S. K Shandil, Environmental Engineer, H.P. State Pollution Control Board, Regional Office Shimla.
14.	Sh. Chandan Kumar Singh, Asstt. Environmental Engineer, H.P. State Pollution Control Board, HQ Shimla.
15.	Sh. Praveen Kumar Sharma, Scientific Officer, H.P. State Pollution Control Board, HQ Shimla.
16.	Sh. K. S. Bragta, Assistant (Nodal Officer, NGT Matter), H.P. State Pollution Control Board, HQ Shimla.

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ANNEXURE- VII

I. Sampling Results of 22 Drinking Water Suppy Schemes conducted by I & PH Department, GoHP

Sr. No.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.
Parameter	Ambwala	Satiwala	Mattar Bheron	Koon Makkerwali	Rukhri	Konthron	Shambuwala	Ambwala Sainwala	Uttamwala Badavan	Bohlion	Dewni	Nahan (Tube well 1)	Nahan (Tube well 4)	Nahan (Tubewell)	Tirlokpur	Kheri	Johron	Nahan(Tubewell 2)	Moginanad	Nagal Suketi	Nahan (Tubewell 3)	Moginand
Alkalinity (mg/l)	193	189	194	189	195	189	189	193	189	179	194	189	173	184	179	195	194	189	191	179	194	194
Hardness (mg/l)	196	194	198	194	192	81	171	186	194	194	153	178	132	192	126	165	138	142	134	66	116	157
TDS (mg/l)	264	352	370	319	347	389	320	266	355	353	426	324	326	344	314	317	469	325	273	477	324	408
Turbidity (NTU)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ammonia (mg/l)	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chloride (mg/l)	15	14	13	12	12	12	11	15	11	13	24	20	20	17	14	41	53	15	16	50	17	20
Fluoride (mg/l)	0.26	0.11	0.27	0.24	0.52	<0.1	<0.1	0.31	0.3	0.32	0.41	0.41	0.29	<0.1	0.27	0.14	<0.1	0.32	0.19	<0.1	0.15	0.18
Nitrate (mg/l)	6.1	3.9	6.7	5.5	3	<1	4	3.7	3.4	1.9	16	11.4	12.5	11.8	16	13	27	12.5	13	9.7	13	4.8
pH	7.27	7.21	7.35	7.29	7.21	7.43	7.23	7.27	7.23	7.07	7.17	7.08	7.22	7.27	7.32	7.47	7.23	7.34	7.44	7.15	7.22	7.65
Sulphate (mg/l)	46	143	121	25	156	10.8	32	43	144	133	47	29	27	33	30	69	105	33	60	44	32	54
Arsenic (mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aluminium (mg/l)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Copper (mg/l)	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**
Chromium (mg/l)	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**
Iron (mg/l)	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**0.09**	**0.08**	**0.15**	**<0.05**	**<0.05**	**0.09**	**0.16**	**0.08**
Lead (mg/l)	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**
Manganese (mg/l)	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**
Mercury (mg/l)	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**
Nickel (mg/l)	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**<0.02**
Potassium (mg/l)	**1.4**	**1.4**	**1.4**	**1.6**	**1.5**	**2.4**	**1.4**	**1.5**	**1.7**	**1.2**	**2.9**	**22.2**	**1.9**	**2.3**	**1.9**	**2**	**1.5**	**2.3**	**1.7**	**3.6**	**2.1**	**1.8**
Selenium (mg/l)	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**
Silver (mg/l)	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**
Sodium (mg/l)	**24.9**	**17.9**	**22.8**	**24.5**	**22.5**	**30**	**28**	**22**	**22**	**23.6**	**23**	**24.5**	**27**	**29.4**	**26**	**27**	**30**	**26**	**25**	**23**	**27**	**31**
Zinc (mg/l)	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**
T.Coli (MPN/100ml)	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**
E.Coli (MPN/100ml)	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**

ANNEXURE- VII

II. Sampling Results of 07 Drinking Water Suppy Schemes conducted by I & PH Department, GoHP

Sr. No	Point of Collection	pH	Cond. (µS)	COD (mg/l)	BOD (mg/l)	TSS (mg/l)	TDS (mg/l)	Total Hardness (mg/l)	Cl (mg/l)	Ca++ (mg/l)	Mg++ (mg/l)	PA (mg/l)	TA (mg/l)	SO4 (mg/l)	Boron (mg/l)	F^- (mg/l)	PO_4 (mg/l)	NH_3-N (mg/l)	NO3-N (mg/l)	Phenol (mg/l)	Na+ (mg/l	K+ (mg/l	Cd (mg/l)	Cu (mg/l)	Zn (mg/l)	Ni (mg/l)	Pb (mg/l)
1	M/s Ruchira Papers (P) Ltd., Trilokpur Raod, Kala Amb (Borewell No.7)	7.11	379.0	2.4	0.1	2.0	288.0	172.0	32.66	62.4	3.9	Nil	345.0	36.9	0.15	0.180	ND	Nil	0.40	Nil	21.48	1.52	ND	ND	0.12	ND	ND
2	M/s Ruchira Papers (P) Ltd., Trilokpur Raod, Kala Amb (Borewell No.5)	7.08	432.0	3.2	0.1	1.0	316.0	216.0	21.30	73.6	7.8	Nil	385.0	44.8	0.18	0.209	ND	Nil	0.49	Nil	23.88	1.24	ND	ND	0.29	ND	ND
3	M/s Ruchira Papers (P) Ltd., Trilokpur Raod, Kala Amb (Borewell No.8)	7.13	395.0	2.8	0.1	2.0	302.0	188.0	21.30	71.2	2.4	Nil	355.0	33.1	0.18	0.156	ND	Nil	0.45	Nil	24.32	1.49	ND	ND	ND	ND	ND
4	M/s Ruchira Papers (P) Ltd., Trilokpur Raod, Kala Amb (Borewell No.4)	7.16	473.0	3.6	0.1	3.0	344.0	214.0	35.50	76.8	5.4	Nil	425.0	41.7	0.17	0.173	ND	Nil	0.48	Nil	27.67	1.55	ND	ND	0.07	ND	ND
5	M/s Pashupati Spinning & Weaving (P) Ltd., Trilokpur Raod, Kala Amb (Borewell)	7.01	899.0	7.2	0.2	2.0	598.0	216.0	32.66	76.0	6.3	Nil	455.0	30.7	0.16	0.213	ND	Nil	0.50	Nil	33.36	2.17	ND	ND	0.37	ND	ND
6	M/s Pioneer Embroideries, Trilokpur Raod, Kala Amb (Borewell)	7.31	438.0	4.8	0.1	4.0	358.0	162.0	21.30	46.4	11.2	Nil	415.0	23.4	0.09	0.205	ND	Nil	0.43	Nil	32.67	1.71	ND	ND	0.61	ND	ND
7	M/s United Biscuits (P), Ltd., Trilokpur Raod, Kala Amb (Borewell)	7.47	566.0	11.2	0.3	8.0	426.0	180.0	42.60	68.8	1.9	Nil	445.0	61.1	0.14	0.279	ND	Nil	0.50	Nil	54.62	2.14	ND	ND	0.42	ND	ND

ANNEXURE- VIII

I. Ground Water Samples by I & PH Department, GoHP

Sr. No.	Locations	TEST Parameter /Unit		I. PHYSICAL PARAMETER					
			Date of Test	Temp.	Colour	Odour	Test Parameter / Unit	Turbidity	pH
1	Water Sampling of Borewell/ Handpumps and Water Supply Schemes Near Parwanoo area	Hand Pump Nr. Shiv Mandir Parwanoo	Date of Test: 17-12-2018	16.9^{0}C	Colourless	Agreeable	Agreeable	6.70	8.70
2		Hand Pump Nr. Parwanoo HRTC	Date of Test: 17-12-2018	16.9°C	Colourless	Agreeable	Agreeable	11.80	7.70
3		Hand Pump Upper Nr. Gurudwara Parwanoo	Date of Test: 17-12-2018	16.4°C	Colourless	Agreeable	Agreeable	35.60	7.15
4		Hand Pump Nr. Balaka Devi Mandir Taksal	Date of Test: 17-12-2018	13°C	Colourless	Agreeable	Agreeable	18.80	7.83
5		Hand Pump Nr. Middle School Taksal	Date of Test: 17-12-2018	17.5°C	Colourless	Agreeable	Agreeable	19.50	7.50
6		Hand Pump Nr. Sector- V Parwanoo	Date of Test: 17-12-2018	16.4C	Colourless	Agreeable	Agreeable	7.30	8.50
7		Hand Pump Sector-I	Date of Test: 18-12-2018	14.3C	Colourless	Agreeable	Agreeable	0.00	9.39
8		Hand Pump Sector-IV Parwanoo	Date of Test: 18-12-2018	14.4°C	Colourless	Agreeable	Agreeable	0.00	8.62
9		Hand Pump Nr. HRTC Work Shop Parwanoo	Date of Test: 18-12-2018	14.6°C	Colourless	Agreeable	Agreeable	0.00	9.24
10	Water Sampling of Borewell/ Hand pumps and Water Supply Schemes Near Parwanoo area	Hand Pump Nr. House of Sh. Raghu Raj Parwanoo	Date of Test: 18-12-2018	14.6°C	Colourless	Agreeable	Agreeable	0.00	7.80
11		Hand Pump Nr. Ex MLA Parwanoo	Date of Test: 18-12-2018	14.6°C	Colourless	Agreeable	Agreeable	0.00	7.60
12		Hand Pump/ Bore Well Purla Parwanoo	Date of Test: 18-12-2018	14.4°C	Colourless	Agreeable	Agreeable	0.00	8.50

13		Spring Source Datyar	**Date of Test: 18-12-2018**	14.7°C	Colourless	Agreeable	Agreeable	0.00	7.30
14		Hand Pump Kamli Nr. Primary School	**Date of Test: 20-12-2018**	12.9°C	Colourless	Agreeable	Agreeable	5.00	8.84
15		Hand Pump/Borewell Papoli	**Date of Test: 20-12-2018**	13.1°C	Colourless	Agreeable	Agreeable	25.80	7.96
16		Hand Pump Sector 4 Nr. Shiv Mandir Parwanoo	**Date of Test: 20-12-2018**	13.5°C	Colourless	Agreeable	Agreeable	265.60	7.16
17		Hand Pump Nr. Village Abhota	**Date of Test: 20-12-2018**	13.9°C	Colourless	Agreeable	Agreeable	173.00	7.82
18		Hand Pump tikkri Nr. Sector-4 Parwanoo	**Date of Test: 20-12-2018**	14.2°C	Colourless	Agreeable	Agreeable	2.80	7.90
19		GWSS Taksal	**Date of Test: 20-12-2018**	14.2°C	Colourless	Agreeable	Agreeable	0.00	8.21
20		GWSS Dhaggar	**Date of Test: 20-12-2018**	14.1°C	Colourless	Agreeable	Agreeable	0.00	7.80
21	**Water Sampling of Borewell/Handpumps and Water Supply Schemes Near Parwanoo area**	Hand Pump Naryal	**Date of Test: 20-12-2018**	14.3°C	Colourless	Agreeable	Agreeable	63.50	7.90
22		Hand Pump Chanderyani	**Date of Test: 20-12-2018**	14.7°C	Colourless	Agreeable	Agreeable	1.00	7.94
23		Hand Pump Nr. Kurla School	**Date of Test: 20-12-2018**	16.0°C	Colourless	Agreeable	Agreeable	0.00	9.20
24		Bore Well Dhaggar	**Date of Test: 03-05-2018**	26.9°C	Colourless	Agreeable	Agreeable	0.00	7.50
25		Bore Well Taksal	**Date of Test: 03-05-2018**	26.9°C	Colourless	Agreeable	Agreeable	0.00	7.60
26		LWSS Masool Khanna	**Date of Test: 25-05-2018**	31.7°C	Colourless	Agreeable	Agreeable	0.00	8.50
27		Bore Well Nr. Mangla Mata Mandir Dhaggar	**Date of Test: 12-06-2018**	30.4°C	Colourless	Agreeable	Agreeable	0.00	7.10
28		GWSS Khadeen	**Date of Test: 15-06-2018**	29.5°C	Colourless	Agreeable	Agreeable	0.00	8.28

ANNEXURE- VIII

II. Ground Water Samples by I & PH Department, GoHP

Sr. No.	Locations	TEST Parameter /Unit		II. CHEMICAL PARAMETER									
			Date of Test	TDS/Elect. Condavtivity (MG/L)	Total Alkallnity ()Mg/I	Chlocides (Mg/l)	Total Hardness (Mg/l)	Nitrate (Mg/l)	Fluoride (Mg/l)	Sulahate (Mg/l)	Ammonia (Mg/l)	Sodium (Mg/l)	Potassium (Mg/l)
1	Water Sampling of Borewell/ Handpumps and Water Supply Schemes Near Parwanoo area	Hand Pump Nr. Shiv Mandir Parwanoo	Date of Test: 17-12-2018	497.1	520	28.4	20.0	0.66	1.5	43.40	0	-	-
2		Hand Pump Nr. Parwanoo HRTC	Date of Test: 17-12-2018	329.3	312	42.6	160.0	3.05	0.002	27.10	0.0	-	-
3		Hand Pump Upper Nr. Gurudwara Parwanoo	Date of Test: 17-12-2018	390.6	300.0	71.0	200.0	22.54	0.046	121.90	0.034	-	-
4		Hand Pump Nr. Balaka Devi Mandir Taksal	Date of Test: 17-12-2018	270	240	28.4	172.0	23.74	0.196	9.70	0.0	-	-
5		Hand Pump Nr. Middle School Taksal	Date of Test: 17-12-2018	355.3	380.0	48.28	208.0	0.87	0.13	24.50	0.0	-	-
6		Hand Pump Nr. Sector- V Parwanoo	Date of Test: 17-12-2018	621.1	780	31.24	60.0	0.41	1.5	18.01	0.0	-	-
7		Hand Pump Sector-I	Date of Test: 18-12-2018	531.6	572	14.2	10.0	0.23	1.2	87.60	0.0	-	-
8		Hand Pump Sector-IV Parwanoo	Date of Test: 18-12-2018	524.7	604	39.76	8.0	0.64	0.212	15.10	0.0	-	-
9		Hand Pump Nr. HRTC Work Shop Parwanoo	Date of Test: 18-12-2018	527.6	560	14.2	12.0	0.3	1.06	88.70	0.0	-	-
10	Water Sampling of Borewell/Handpumps and Water Supply Schemes Near Parwanoo area	Hand Pump Nr. House of Sh. Raghu Raj Parwanoo	Date of Test: 18-12-2018	408.5	336	82.36	212.0	44.3	0.17	18.10	0.048	-	-
11		Hand Pump Nr. Ex MLA Parwanoo	Date of Test: 18-12-2018	405.9	328	85.2	196.0	45	0.23	15.40	0.028	-	-
12		Hand Pump/ Bore Well Purla Parwanoo	Date of Test: 18-12-2018	519.9	600	42.6	12.0	1.03	0.018	16.60	0.0	-	-

13		Spring Source Datyar	**Date of Test: 18-12-2018**	175.6	208	14.2	116.0	1.3	0.096	13.70	0.0	-	-
14		Hand Pump Kamli Nr. Primary School	**Date of Test: 20-12-2018**	271.4	288	14.2	32.0	1.87	0.384	24.72	0.0	-	-
15		Hand Pump/Borewell Papoli	**Date of Test: 20-12-2018**	308.2	380	14.2	36.0	2.5	0.306	9.40	0.0	-	-
16		Hand Pump Sector 4 Nr. Shiv Mandir Parwanoo	**Date of Test: 20-12-2018**	226.4	268	11.4	140.0	1.0	0.154	6.60	0.0	-	-
17		Hand Pump Nr. Village Abhota	**Date of Test: 20-12-2018**	251.1	244	25.56	180.0	1.0	0.218	39.72	0.0	-	-
18		Hand Pump tikkri Nr. Sector-4 Parwanoo	**Date of Test: 20-12-2018**	350.5	340	28.4	20.0	3.6	0.0	59.76	0	-	-
19		GWSS Taksal	**Date of Test: 20-12-2018**	127	132	11.4	88.0	3.9	0.142	11.20	0.0	-	-
20		GWSS Dhaggar	**Date of Test: 20-12-2018**	115.4	224	17.04	76.0	1.8	0.104	11.80	0.0	-	-
21	**Water Sampling of Borewell/Handpumps and Water Supply Schemes Near Parwanoo area**	Hand Pump Naryal	**Date of Test: 20-12-2018**	201.3	304	17.04	136.0	5.4	0.146	10.90	0.0	-	-
22		Hand Pump Chanderyani	**Date of Test: 20-12-2018**	130.4	132	14.2	100.0	7.6	0.04	10.32	0.0	-	-
23		Hand Pump Nr. Kurla School	**Date of Test: 20-12-2018**	588	25.56	16.0	1.24	0.304	89	-	0.0	-	-
24		Bore Well Dhaggar	**Date of Test: 03-05-2018**	172	22.72	86	6.4	0.093	10.88	-	-	-	-
25		Bore Well Taksal	**Date of Test: 03-05-2018**	330	19.88	100	4.1	0.081	10.96	-	-	-	-
26		LWSS Masool Khanna	**Date of Test: 25-05-2018**	152	22.72	76	0.148	-	-	-	-	-	-
27		Bore Well Nr. Mangla Mata Mandir Dhaggar	**Date of Test: 12-06-2018**	252	76.68	196	2.5	0.176	71.2	-	-	-	-
28		GWSS Khadeen	**Date of Test: 15-06-2018**	-	160	17.04	76.0	0.0	0.176	10.08	-	-	-

ANNEXURE- VIII

III. Ground Water Samples by I & PH Department, GoHP

Sr. No.	Locations	TEST Parameter /Unit	III. HEAVY METALS										
			Iron (Mg/l)	Manbganese (Mg/l)	Total Arsenic (Mg/l)	Copper (Mg/l)	Total Chromium (Mg/l)	Lead (Mg/l)	Nikel (Mg/l)	Zink (Mg/l)	Aluminum (Mg/l)	Selenium (Mg/l)	Silver (Mg/l)
1	Water Sampling of Borewell/ Handpumps and Water Supply Schemes Near Parwanoo area	Hand Pump Nr. Shiv Mandir Parwanoo	0.164	0.0	0.0	-	-	-	-	-	-	-	-
2		Hand Pump Nr. Parwanoo HRTC	0.584	0.0	0.0	-	-	-	-	-	-	-	-
3		Hand Pump Upper Nr. Gurudwara Parwanoo	1.0	0.118	0.0	-	-	-	-	-	-	-	-
4		Hand Pump Nr. Balaka Devi Mandir Taksal	0.484	0.0	0.0	-	-	-	-	-	-	-	-
5		Hand Pump Nr. Middle School Taksal	0.452	0.0	0.0	-	-	-	-	-	-	-	-
6		Hand Pump Nr. Sector- V Parwanoo	0.38	0.0	0.0	-	-	-	-	-	-	-	-
7		Hand Pump Sector-I	0.024	0.0	0.0	-	-	-	-	-	-	-	-
8		Hand Pump Sector-IV Parwanoo	0.78	0.0	0.0	-	-	-	-	-	-	-	-
9		Hand Pump Nr. HRTC Work Shop Parwanoo	0.148	0.0	0.0	-	-	-	-	-	-	-	-
10	Water Sampling of Borewell/Handpumps and Water Supply Schemes Near Parwanoo area	Hand Pump Nr. House of Sh. Raghu Raj Parwanoo	0.68	0.0	0.0	-	-	-	-	-	-	-	-
11		Hand Pump Nr. Ex MLA Parwanoo	0.744	0.0	0.0	-	-	-	-	-	-	-	-
12		Hand Pump/ Bore Well Purla Parwanoo	1.0	0.0	0.0	-	-	-	-	-	-	-	-

13		Spring Source Datyar	0.288	0.0	0.0	-	-	-	-	-	-	-	-
14		Hand Pump Kamli Nr. Primary School	0.604	0.0	0.0	-	-	-	-	-	-	-	-
15		Hand Pump/Borewell Papoli	0.34	0.0	0.0	-	-	-	-	-	-	-	-
16		Hand Pump Sector 4 Nr. Shiv Mandir Parwanoo	8.8	0.098	0.0	-	-	-	-	-	-	-	-
17		Hand Pump Nr. Village Abhota	9.06	0.2	0.0	-	-	-	-	-	-	-	-
18		Hand Pump tikkri Nr. Sector-4 Parwanoo	0.89	0.0	0.0	-	-	-	-	-	-	-	-
19		GWSS Taksal	0.872	0.0	0.0	-	-	-	-	-	-	-	-
20		GWSS Dhaggar	0.36	0.0	0.0	-	-	-	-	-	-	-	-
21	**Water Sampling of Borewell/Handpumps and Water Supply Schemes Near Parwanoo area**	Hand Pump Naryal	0.37	0.0	0.0	-	-	-	-	-	-	-	-
22		Hand Pump Chanderyani	0.26	0.0	0.0	-	-	-	-	-	-	-	-
23		Hand Pump Nr. Kurla School	0.412	0.0	0.0	-	-	-	-	-	-	-	-
24		Bore Well Dhaggar	0.288	0.0	0.0	-	-	-	-	-	-	-	-
25		Bore Well Taksal	0.204	0.0	0.0	-	-	-	-	-	-	-	-
26		LWSS Masool Khanna	0.314	0.0	0.0	-	-	-	-	-	-	-	-
27		Bore Well Nr. Mangla Mata Mandir Dhaggar	0.53	0.0	0.0	-	-	-	-	-	-	-	-
28		GWSS Khadeen	0.32	0.0	0.0	-	-	-	-	-	-	-	-

ANNEXURE- VIII

IV. Ground Water Samples by I & PH Department, GoHP

Sr. No.	Locations	TEST Parameter /Unit	IV. MICRO BILOGICAL		
			D MICRO BILOGICAL	Total Coliforms (Nuber/ Hundered MM)	E-coll/Thermom tolrant Coliforms(Nuber/ Hundered MM
1	Water Sampling of Borewell/ Handpumps and Water Supply Schemes Near Parwanoo area	Hand Pump Nr. Shiv Mandir Parwanoo	Nil	After 48 hours incubation period	-
2		Hand Pump Nr. Parwanoo HRTC	Nil	After 48 hours incubation period	-
3		Hand Pump Upper Nr. Gurudwara Parwanoo	Nil	After 48 hours incubation period	-
4		Hand Pump Nr. Balaka Devi Mandir Taksal	Nil	After 48 hours incubation period	-
5		Hand Pump Nr. Middle School Taksal	Nil	After 48 hours incubation period	-
6		Hand Pump Nr. Sector- V Parwanoo	Nil	After 48 hours incubation period	-
7		Hand Pump Sector-I	Nil	After 48 hours incubation period	-
8		Hand Pump Sector-IV Parwanoo	Nil	After 48 hours incubation period	-
9		Hand Pump Nr. HRTC Work Shop Parwanoo	Nil	After 48 hours incubation period	-
10	Water Sampling of Borewell/Handpumps and Water Supply Schemes Near Parwanoo area	Hand Pump Nr. House of Sh. Raghu Raj Parwanoo	Nil	After 48 hours incubation period	-
11		Hand Pump Nr. Ex MLA Parwanoo	Nil	After 48 hours incubation period	-
12		Hand Pump/ Bore Well Purla Parwanoo	Nil	After 48 hours incubation period	-
13		Spring Source Datyar	Nil	After 48 hours incubation period	-
14		Hand Pump Kamli Nr. Primary School	Nil	After 48 hours incubation period	-
15		Hand Pump/Borewell Papoli	Nil	After 48 hours incubation period	-
16		Hand Pump Sector 4 Nr. Shiv Mandir Parwanoo	Nil	After 48 hours incubation period	-
17		Hand Pump Nr. Village Abhota	Nil	After 48 hours incubation period	-
18		Hand Pump tikkri Nr. Sector-4 Parwanoo	Nil	After 48 hours incubation period	-
19		GWSS Taksal	Nil	After 48 hours incubation period	-
20		GWSS Dhaggar	Nil	After 48 hours incubation period	-
21	Water Sampling of Borewell/Handpumps and Water Supply Schemes Near Parwanoo area	Hand Pump Naryal	Nil	After 48 hours incubation period	-
22		Hand Pump Chanderyani	Nil	After 48 hours incubation period	-
23		Hand Pump Nr. Kurla School	Nil	After 48 hours incubation period	-
24		Bore Well Dhaggar	Nil	After 48 hours incubation period	-
25		Bore Well Taksal	Nil	After 48 hours incubation period	-
26		LWSS Masool Khanna	Nil	After 48 hours incubation period	-
27		Bore Well Nr. Mangla Mata Mandir Dhaggar	Nil	After 48 hours incubation period	-
28		GWSS Khadeen	Nil	After 48 hours incubation period	-

ANNEXURE- VIII

V. Ground Water Samples by I & PH Department, GoHP

Sr. No.	Locations	TEST Parameter /Unit	V. SPECIFIC Parameter					
			E SPECIFIC Parameter	Free Residuale Chlorine (Mg/l)	Oil & Grease (Mg/l)	Dissolbed (Mg/l)	Biochemical Oxigen Demand (Mg/l)	Chemical Oxogan Demand
1	Water Sampling of Borewell/ Handpumps and Water Supply Schemes Near Parwanoo area	Hand Pump Nr. Shiv Mandir Parwanoo		0.0	-	-	-	-
2		Hand Pump Nr. Parwanoo HRTC		0.0	-	-	-	-
3		Hand Pump Upper Nr. Gurudwara Parwanoo		0.0	-	-	-	-
4		Hand Pump Nr. Balaka Devi Mandir Taksal		0.0	-	-	-	-
5		Hand Pump Nr. Middle School Taksal		0.0	-	-	-	-
6		Hand Pump Nr. Sector- V Parwanoo		0.0	-	-	-	-
7		Hand Pump Sector-I		0.0	-	-	-	-
8		Hand Pump Sector-IV Parwanoo		0.0	-	-	-	-
9		Hand Pump Nr. HRTC Work Shop Parwanoo		0.0	-	-	-	-
10	Water Sampling of Borewell/Handpumps and Water Supply Schemes Near Parwanoo area	Hand Pump Nr. House of Sh. Raghu Raj Parwanoo		0.0	-	-	-	-
11		Hand Pump Nr. Ex MLA Parwanoo		0.0	-	-	-	-
12		Hand Pump/ Bore Well Purla Parwanoo		0.0	-	-	-	-

13		Spring Source Datyar		0.0	-	-	-	-
14		Hand Pump Kamli Nr. Primary School		0.0	-	-	-	-
15		Hand Pump/Borewell Papoli		0.0	-	-	-	-
16		Hand Pump Sector 4 Nr. Shiv Mandir Parwanoo		0.0	-	-	-	-
17		Hand Pump Nr. Village Abhota		0.0	-	-	-	-
18		Hand Pump tikkri Nr. Sector-4 Parwanoo		0.0	-	-	-	-
19		GWSS Taksal		0.0	-	-	-	-
20		GWSS Dhaggar		0.0	-	-	-	-
21	**Water Sampling of Borewell/Handpumps and Water Supply Schemes Near Parwanoo area**	Hand Pump Naryal		0.0	-	-	-	-
22		Hand Pump Chanderyani		0.0	-	-	-	-
23		Hand Pump Nr. Kurla School		0.0	-	-	-	-
24		Bore Well Dhaggar		0.0	-	-	-	-
25		Bore Well Taksal		0.0	-	-	-	-
26		LWSS Masool Khanna		0.0	-	-	-	-
27		Bore Well Nr. Mangla Mata Mandir Dhaggar		0.0	-	-	-	-
28		GWSS Khadeen		0.0	-	-	-	-

ANNEXURE- IX

Annexure B

Details of Septic Tanks Constructed in Parwanoo Township with Location

S.No	Location of Septic Tank	Status	Remarks
	Sector -1		
1	Near Block No.10 near Soni Xen House Sector-1 Parwanoo	Not exist	Structure has been constructed over septic tank
2	Near HIMUDA Store Shant Vihar Colony Nallah Side Sector-1 Parwanoo	Non Functional	Sewage is overflowing
3	Opposite to HIMFED Bottling Plant under M.C Shops Sector-1 Parwanoo	Non Functional	Shops has been constructed over septic tank by M.C Parwanoo
4	Near Sirmour Chowk back side of Rain Shelter adjoining to Saini dhaba toward nallah side Sector-1 Parwanoo	Functional	No soak pit
	Sector-2		
1	Near Shivalik Café under rain Shelter Sector-2 Parwanoo	Non Functional	Sewage is overflowing and rain Shelter is constructed over septic tank.
2	Back side of HIMUDA Commercial Complex Sector-2 Parwanoo	Functional with soak pit	
	Sector-3		
1	At Back side of M/S A.B Tools factory Sector-3 Parwanoo	Non Functional	
2	Near Experimental Block No. 2 Sector-3 Parwanoo	Functional	
	Sector-4		
1	In front of HIMUDA Single Room Flats Block no.8 toward nallah side Sector-4 Parwanoo.	Functional	
	Sector-5		
1	Near M/S Allied Nippon Factory Sector-5 toward nallah side	Non Functional	
2	Near M.C Solid Waste Disposal Point adjoining to culvert Sector 5 Parwanoo	Functional	
3	Back side of Block No.5 toward nallah side Sector-5 Parwanoo	Functional	
4	Near Cremation Ground Adjoining to IHSDP HIMUDA Blocks Sector-5 Parwanoo.	Functional	S.T.P for IHSDP Blocks.
	Sector-6		
1	Near EWS Houses Sector-6 Parwanoo	Functional	
2	Near Block No.27 toward nallah side Sector-6 Parwanoo	Functional	
3	Near Negi Petrol Pump toward Nallah side Sector-6 Parwanoo.	Functional	

Total Nos. of Septic Tanks 16 Nos.
Total Nos. of S.T.P 1 Nos.

Er.Puneet Kumar ,
Junior Engineer,
HIMUDA Sub-Division,
Parwanoo

Naresh Kumar
H.D.M
HIMUDA Division
Parwanoo

(On Tour)
Ashok Kumar
A.E (H.Q)
HIMUDA Division

Er.Rajesh Thakur ,
Assistant Engineer,
HIMUDA Sub-Division,

Er. R.C Bhatia
Executive Engineer,
HIMUDA Division

Annexure-XVIII

(Action Plan For Rejuvenation of River Ghaggar Submitted by Chandigarh)

Chandigarh Pollution Control Committee

Paryavaran Bhawan, Madhya Marg, Sector 19-B, Chandigarh-160 019

No. CPCC/2019/ 3216 Dated: 28/01/19

To

The Chairman,
Executing Committee (Ghaggar River),
4th Floor, Tower No. 5, Forest Complex,
Sector 68, Mohali

Subject: Submission of Modified Action Plan to Executing Committee (Ghaggar River).

.....

Sir,

As desired, enclosed please find herewith the Modified Action Plan for control of Pollution in River Ghaggar in the jurisdiction of U.T. Chandigarh alongwith the annexures.

Yours sincerely,

Member Secretary

Endst. No. CPCC/2019/ 3217-3219 Dated: 28/01/19

A copy is forwarded to the following for information and necessary action:-

1. Sh. J. Chandra Babu, Scientist 'D', WQM-1, Central Pollution Control Board and Member of Executing Committee.
2. Dr. V.K. Hatwal, Member, Executing Committee (Ghaggar River), Regional Office, Ministry of Environment Forests & Climate Change, Sector 31, Chandigarh.
3. Sh. A. Sudhakar, Divisional Head, WQM-I, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi - 110032.

Member Secretary

Phone : 0172-2700149, EPABX : 0172-2700311, E-mail : cpcc-chd@nic.in

Action Plan for Control of Pollution in River Ghaggar

Chandigarh Pollution Control Committee

I N D E X

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9	Observations on Gap Analysis w.r.to	40-41
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	(ii) Industrial effluent management;	
	(iii) Operation and maintenance of existing stps;	
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	(iv) Restoration of river Ghaggar and Its tributaries water quality.	

	(v) Maintaining of E- Flows for having ecological balance in the river system.	
	(vi) Awareness	
	Effective use of groundwater resources for agriculture purpose.	
	Health status and organising health camps.	
(vii)	Monitoring of executing the actions plans.	

1. Back Ground.

Hon'ble National Green Tribunal, New Delhi in the matter original application No. 138 of 2016 and 139 of 2016 has passed an order dated 7th August, 2018 vide which it is informed that proceedings in the matter O.A. No. 138 of 2016 and O.A. No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu case) were initiated before the Tribunal on a reference received from the National Human Right Commission (NHRC). The NHRC took Suo-Motu action on the basis of a news item appearing in The Tribune, dated 12.05.2014 under the caption **"Stench Grips Mansa's Sacred Ghaggar River"** to the effect that the river Ghaggar had turned into a polluted water body on account of discharge of effluents – industrial as well as municipal.

In pursuant to the order of Tribunal dated 09.12.2016, a joint inspection has been carried out by the representatives of the Central Pollution Control Board, Punjab State Pollution Control Board, Haryana State Pollution Control Board, Himachal Pradesh State Pollution Control Board. Officials of Union Territory, Chandigarh also joined the said inspection team. Further, as per report, submitted by the concerned Pollution Control Boards to the NHRC as well as Minutes of the meetings on various dates in which the respective States participated. The joint analysis report of the joint monitoring of river Ghaggar samples has also been filed. The findings of the joint inspection report are that values of various parameters such as BOD, TSS, Faecal Coliform, Lead and Iron were beyond permissible limits at most of the locations in Himachal Pradesh, Haryana, Punjab and Chandigarh.

In view of above disappointing scenario, the Chief Secretaries of the States of Himachal Pradesh, Haryana, Punjab and also the Administrator of U.T., Chandigarh have been directed to constitute Special Task Force (STFs) comprising of District Magistrate, Superintendent of Police, Regional Officer of the State Pollution Control Board in concerned District and one person to be nominated by the District Judge in every District in his capacity of Head of the District Legal Services Authority. Such STF may identify persons responsible for violation of law so that action can be taken. At the State Level, the STF will comprise of the Chief Secretary, Secretary Environment, Secretary of Urban Development and Secretary of Local Body. The District Level Special Task Force will submit a monthly action taken report to the State Level Task

Force and State Level Special Task Force will furnish 3 monthly report or the action taken to the Central Pollution Control Board.

The mandate of the above task force has also been given in the order of Hon'ble NGT. The STF at the district level has the mandate of indentifying the persons responsible for the violations of the law so that the action can be taken. The State level STF has to furnish three monthly report to the CPCB which will be based on the monthly report submitted by District Level STF.

An Executing Committee was also constituted by Hon'ble NGT (as per para 8 of the order) under the Chairmanship of Justice Pritam Pal, Former Judge, Punjab and Haryana High Court.

2. About River Ghaggar and Its Tributaries, activity in the catchment area of river Ghaggar and its tributaries.

Ghaggar River, Ghaggar also spelled Ghagghar, river, northern India. The Ghaggar rises in the Siwalik (Shiwalik) Range, in northwestern Himachal Pradesh state and flows about 200 miles (320 km) southwest through Haryana state, where it receives the Saraswati River. It eventually dries up in the Great Indian (Thar) Desert. Just southwest of Sirsa it feeds two irrigation canals that extend into Rajasthan state. Its seasonal flow is dependent on monsoonal (seasonal) rainfall. The main tributaries of the Ghaggar are the Kaushalya river, Markanda, Sarsuti, Tangri and Chautang. The river flows at a distance of 7.0 K.M. from the nearest point in the U.T. of Chandigarh

Ghaggar River and Other drains is given in **Figure 1 & Figure 2.**

Figure 1

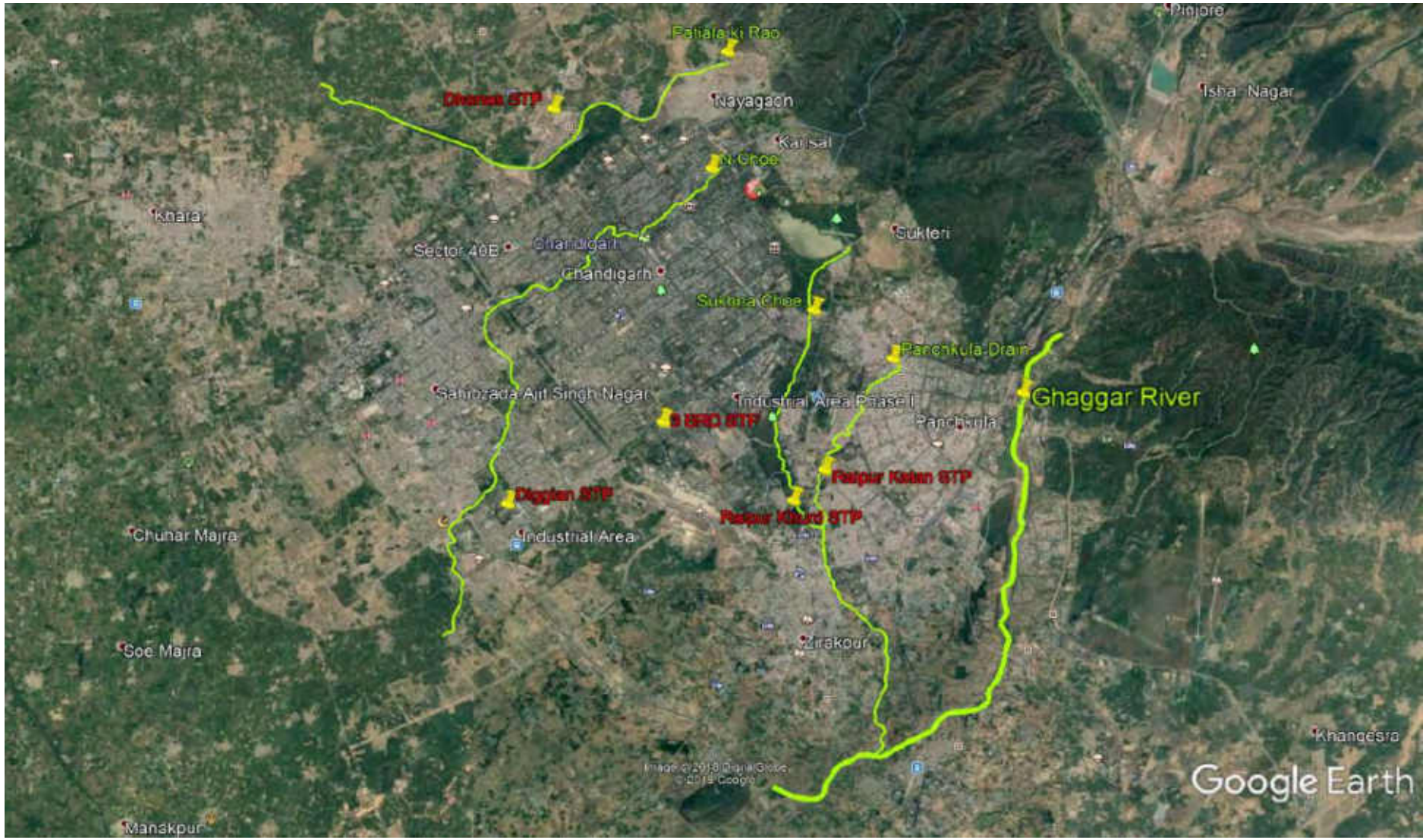
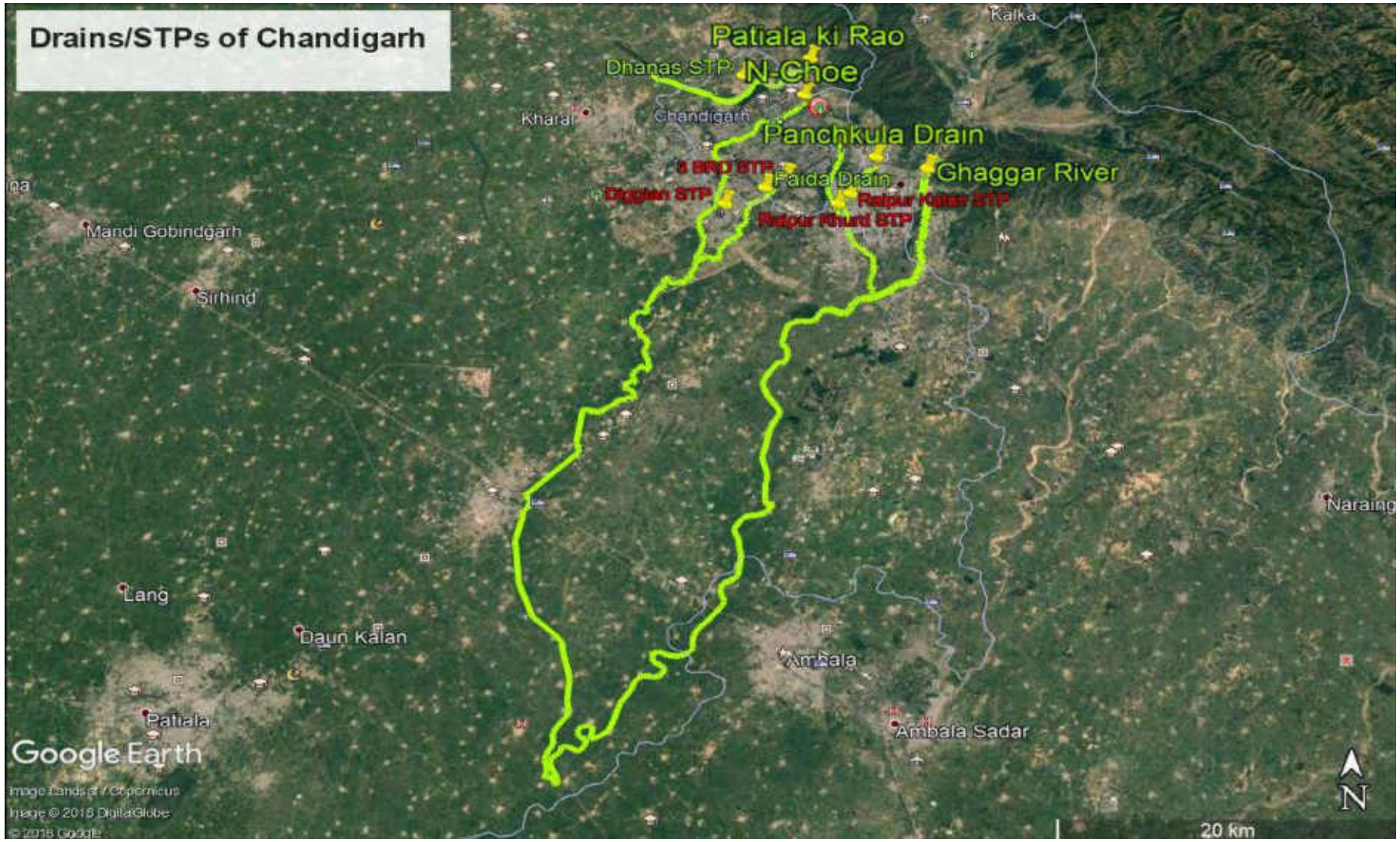

Pinjore
Pathala ki Rao
Nayagaon
Isha Nagar
Karnal
N Choe
Khara
Sukhteri
Sector 46B
Chandigarh
Chandigarh
Sukhna Choe
Panchkula Drain
Sahibzada Ajit Singh Nagar
Industrial Area Phase I
Ghaggar River
Panchkula
Diggian STP
Raipur Kalan STP
Raipur Khurd STP
Chunar Majra
Industrial Area
Goe Majra
Zirakpur
Khangesra
Google Earth
Manakpur

Figure 2


Drains/STPs of Chandigarh
Patiala ki Rao
Dhanas STP
N-Choe
Kharar
Chandigarh
Panchkula Drain
Ghaggar River
Faida Drain
Mandi Gobindgarh
Sirhind
Lang
Daun Kalan
Ambala
Patiala
Ambala Sadar
Kalka
Google Earth
20 km
N

3. Water quality goals as per the existing provisions or guidelines/specifications of CPCB.

As per provisions water quality should meet with the standards prescribed in scheduled VI of Environment (Protection) Act, 1986 for discharge of effluents in inland surface water. As Sukhna Choe and N-Choe are joining River Ghaggar hence, before meeting with river Ghaggar both of the choes should meet with the prescribed standards as mentioned in Schedule VI of Environment (Protection) Act, 1986.

4. Sources of Pollution of River Ghaggar and Its tributaries within the jurisdiction of the respective State/UT.

In the catchment area of river Ghaggar, the waste water is generated mainly by the two sources:

1. **Domestic**
2. **Industrial**

4.1 Domestic

Being a planned city Chandigarh is completely covered with sewerage network. Details w.r.t. water consumption and discharge are as given below :

Municipal Population	10.54 Lacs (as per 2011 census)
Volume of Domestic & Industrial Waste Water Generated	54 MGD (Approx.)
Treated waste water	48.85 MGD
No. of STPs	5
Capacity of Each STP	11 MGD – 3 BRD 5 MGD – Raipur Kalan 30 MGD – Diggian 1.25 MGD – Raipur Khurd 1.6 MGD – Dhanas **Total : 48.85 MGD**
Mode of Disposal	Natural Choe for all except Diggian. Diggian STP effluent goes to Irrigation Channel

River Ghaggar is passing at around 7 Kms. distance from Chandigarh and there are two main sources of discharge from Chandigarh which contribute to River Ghaggar.

1) Sukhna Choe
2) N-Choe.

In these choes two types of waste water are being discharged.

1) Treated waste water from the STPs.
2) Direct discharge of untreated waste water

4.2 Industrial

Ghaggar river is flowing around 7.0 K.M. far from Chandigarh and in Chandigarh **no unit is allowed to run without consent and without ETP** (if unit is generating waste water). After treatment in their captive ETP, treated waste water is released into sewer line which further goes to Terminal Sewage Treatment Plant and gets further treatment. Monitoring of both drains (i.e. Sukhna Choe and N-Choe) which mixes into River Ghaggar, shows that **no industrial effluent is being discharged without treatment**.

Being a Planned city Chandigarh has notified Industrial Area and most of the industries are either in Industrial Area Phase-I or Industrial Area Phase-II except Hotel/Restaurant/Hospitals etc which are in sectors.

Chandigarh Pollution Control Committee grants consent to operate to only those industries which are having proper effluent treatment plant or air pollution control device (whichever is applicable). Hence, all the industries operational in Chandigarh are having Effluent Treatment Plants or Air Pollution Control Devices.

Treated effluent by industries is being released into the public sewer system which further goes to Terminal Sewage Treatment Plant and gets further treatment.

Chandigarh is neither having 17 category of highly polluting industry nor there is any grossly polluting industry. There are total 3336 no. of industries operational in Chandigarh which comprise of 192 Red, 575 Orange, 577 Green and 1625 are White category industries. Red category industries includes 98 Nos. of very small scale

electroplating unit, 5 nos. of sewage treatment plants, 48 nos. of pickling plants, 1 no. Slaughter house (abattoir) run by Municipal Corporation Chandigarh, 11 nos. of microbreweries and 4 nos. of zinc processing units.

Orange category industries include majority of small scale Hotel and Restaurant which are 229 in nos. 10 nos. bottling plants, around 44 nos. of hospitals, 7 nos. of wire drawing unit without pickling, 91 nos. of service stations

Following is the table highlighting the details of industries in Chandigarh:-

Red		**192**
Orange		**575**
Green		**577**
White		**1625**
	Electroplating	98
	Foundries	33
	Hotel & Restaurants	229
	Sewage Treatment Plants	05
	Potable Alcohol's bottling plants	10
	Automobile Service Stations	91
	Hospitals	44
	Wire Drawing with Pickling	48
	Wire Drawing without Pickling	07
	Slaughter House (Abattoir)	01
	Zinc processing units	04
	Microbreweries	11

Waste Management:

Solid Waste Management:

Municipal Corporation, Chandigarh is collecting daily around 450 Tonnes of municipal waste from all over Chandigarh and hand over the waste to the Processing Plant at Dadu majra which has RDF plant of 500 Tonnes/day, Compost Plant of 300 Tonnes/day and Bio-Methanation Plant of 5 Tonnes/day.

Municipal solid waste is being collected from house to house through cycle carts and transferred to Sahaj Safai Kendra (SSK)/Municipal Bin and it is transported to Processing Plant. Waste from mandi and hotels goes directly to Dumping Ground. In the Processing Plant (which is operated by Jai Parkash Associates Ltd.) municipal waste is processed and converted into RDF (Refused Derived Fuel) which is further

used in kilns and other furnaces as fuel additive. Old Dumping site has been capped and covered and sanitary landfill site has been developed under the CPCB project in which around 50 % funding was done by CPCB. Out of 45 Acres total area of Dumping Ground, 25 Acres has been reclaimed by capping of 16.72 Acres and 8.28 Acres sanitary land fill site has been developed in a scientific manner. Daily around 450 Tonnes municipal waste is generated in Chandigarh and transported to Processing Plant or Dumping Ground.

Construction and Demolition Waste:

The Municipal Corporation Chandigarh has awarded contact for the management of Construction and Demolition waste and the Tile manufacturing plant will be operational by March, 2019.

Bio-Medical Waste Management:

Chandigarh is having total 788 Health Care Facilities (HCFs) which are generating biomedical waste. These 788 HCFs include 49 bedded hospitals, 583 small clinics/dispensaries, 13 veterinary institutions, 3 animals houses, 4 blood banks, 118 pathological laboratories, 4 research institutes and 14 ayush hospitals/dispensaries. Total bed strength in Chandigarh is 4413. On an average 2503 kgs of biomedical waste is being generated in Chandigarh on daily basis and the same is being treated daily.

There is only one Bio-medical Waste Treatment Facility operational in Chandigarh which is collecting bio-medical waste from all Private health care facilities including Hospitals, Nursing Homes, Clinics etc. and disposing off the waste after proper treatment. Presently two incinerators are operational which are installed at PGIMER, Sector 12 and GMSH, Sector 16 with capacities of 200 kg/hr and 100 kg/hr respectively. These two Institutes treat their bio-medical waste in their own facility.

d) Management of Hazardous Waste

As very less amount (2847 MT in F.Y. 2016-2017) of hazardous waste is generated in Chandigarh, therefore the waste is transported and disposed off in the facilities available in the nearby states.

For disposal of landfillable waste (70 MT), Chandigarh Pollution Control Committee has made formal agreement with Punjab Pollution Control Board for utilizing their TSDF facility namely M/s Ramky Enviro Engineers Ltd. (Unit: Punjab Waste Management Project). CPCC has authorised M/s Ramky Enviro Engineer Ltd. for collection and transportation of landfillable hazardous waste from various units located in Chandigarh to their TSDF located at Village Nimbua, Derabassi, Punjab.

For disposal of incinerable waste (11.25 MT), CPCC has authorised M/s Bharat Oil and Waste Management Ltd. Sahibabad, Industrial Area, Ghaziabad, U.P. for collection and transportation of incinerable hazardous waste from various units located in Chandigarh.

For disposal of recyclable waste i.e. used oil, spent acid, acid residue (2767 MT), CPCC has authorised the following units located in Punjab, Haryana and UP for collection and transportation of recyclable waste from various units located in Chandigarh to their facilities.

S. No	Name of the Unit	Address	Category
1.	M/s Ramky Enviro Engineers Limited	Opposite Vardhman Chemtech Ltd., Village-Nimbua, PO.-RampursainiaS, Tehsil-Derabassi, District-Mohali, Punjab.	ETP Sludge, Chemical Sludge etc.
2.	Bharat Oil Company (I) Regd.	E-18, Sahibabad Industrial Area, Site-IV, Ghaziabad, Uttar Pradesh.	Used Oil and Incinerable Waste
3.	M/s B.N. Concast (P) Limited	HSIDC Complex, Plot No. 18, Industrial Area, Alipur, Barwala, Panchkula, Haryana	Used Oil
4.	M/s Golden Petro	Plot No. C-45, Industrial Focal Point, Chanalon, District- SAS Nagar, Punjab.	Used Oil
5.	M/s Mahadev Petrochemicals	Plot No. D-116(P), Industrial Focal Point, Mandi Gobindgarh, Distt. Fatehgarh Sahib (Punjab).	Used Oil
6.	M/s BRS Lubricants	D-57, Focal Point, Mandi Gobindgarh, Distt Fatehgarh sahib, Punjab - 147301	Used Oil
7.	M/s J.B.R Technologies (P) Ltd. - II	Opposite Nexo Industries, Kohara Machhiwara Road, Kohara, Ludhiana east, Punjab.	Acid residue
8.	M/s Bhagwati Agro Industries	Tosham Road, VPO. Balawas, Hisar, (Haryana).	Acid residue

e) Management of E-Waste:

All the big I.T. companies are disposing their E-Waste through registered Recyclers and M/s Ramky Enviro Engineers Pvt. Ltd., Opposite Vardhman, Nimbua, Derabassi is collecting e-waste from Chandigarh. As Chandigarh is very small city and cost of land is very high. Hence, there is no dismantler and recycler facility for E-waste in Chandigarh and we are totally dependent upon the facilities situated in other states. There are following three E-waste collection centres of Karo Sambhav in Chandigarh which are authorized by Central Pollution Control Board:-

1. Savex Technologies Pvt. Ltd., SCO No. 364, 2nd Floor, Sector 44-D, Chandigarh
2. Mobile Connect, SCO 2473-2474, 2nd Floor, Sector 22-C, Chandigarh.
3. Supertron Electronics Pvt. Ltd., Plot No. 38-D, Indl. Area, Phase - II, Chandigarh.

5. Actions initiated for ensuring compliance to the Hon'ble National Green Tribunal (NGT), Principal Bench, Delhi Order dated 07.08.2018 in the matter of OA No. 138/2016 (T_{NHRC}) and OA No. 139 of 2016 (T_{NHRC})

Initiatives taken by Chandigarh Administration in pursuance to the Hon'ble National Green Tribunal (NGT) order dated 07.08.2018 are detailed below:-

5.1 As per direction of Hon'ble National Green Tribunal District Level Special Task force and State Level Special Task Force has been constituted vide order no. ED/2018/316 dated 07.09.2018.

Constitution of Task Force is as given below. **(Annexure-I)**

District Level Special Task Force

S.No.	Members	
1	District Magistrate, U. T. Chandigarh	Chairman
2.	Superintendent of Police, Chd. Police	Member

3. **S**	Sh. Amarinder Sharma, Secretary, District Legal Services Authority	Member
4.	SE, PH Division, Engg. Deptt., Chd. Admn.	Member
5.	SE, PH Division, Municipal Corporation	Member
6.	Scientist 'B', CPCC	Member Secretary

State Level Special Task Force

S.No.	Members	
1	Advisor to the Administrator, U. T. Chandigarh	Chairman
2.	Secretary Environment, Chd. Admn.	Member
3.	Secretary, Urban Planning, U. T. Chd.	Member
4.	Secretary, Local Body, U. T. Chd.	Member
5.	Commissioner, Municipal Corporation	Member
6.	Chief Engineer, Chd. Admn.	Member
7.	Member Secretary, CPCC	Member Secretary

5.2 Meeting with concerned officers:

In pursuance to the Hon'ble NGT order dated 07.08.2018 and orders of Executing Committee, Member Secretary, Chandigarh Pollution Control Committee convened a meeting on 12.09.2018 **(Annexure-II)** with the officers of Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration in the office of CPCC to discuss the matter regarding preparation of Action Plan w.r.t. Up-gradation of existing Sewage Treatment Plants & Tapping of untreated waste water into Choes/Drainage and other follow-up actions to be taken for ensuring compliance to Hon'ble NGT Order dated 07.08.2018.

The following points were discussed.

1) Stoppage of sewer discharge point in N-Choe.

2) Stoppage of untreated waste water discharge near Sector 48 (3BRD).
3) Stoppage of waste water discharge points in Sukhna Choe specifically about colony no. 4 & Hallomajra.
4) Stoppage of going of industrial waste water into Sukhna Choe (pump house behind poultry farm)
5) Stoppage of waste water behind Gaushala, Industrial Area, Phase-I, Chandigarh.
6) Stoppage of waste water inside the forest area, Phase-I.
7) Upgradation of existing STPs
8) Construction of new STPs
9) Quantification of complete waste water discharge (Total Load).

5.3 Joint Inspection to check the various outlets where sewage water is charged without treatment into Sukhna choe and N-Choe as directed by Hon'ble National Green Tribunal, New Delhi

As per directions of Hon'ble National Green Tribunal, CPCC and the officers of Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration have done the survey of entire Sukhna Choe and N-Choe on dated 18.09.2018 (**Annexure-III)** and as result of which it was found that there were many places where waste water was being discharge into drain/chow without any treatment. The points are as given below:

Discharge Points in Sukhna Choe

Sr. No.	Point	Status as on September 2018
1	Kishangarh Outlet	There is sewage water discharge from the outlet.
2	Outlet of Village Kishangarh inside Forest Nursery	There is sewage water discharge from the outlet.
3	Outlet of Shastri Nagar	There is sewage water discharge.
4	First outlet of Bapu Dham near bridge on the road connecting IT park with Sector 26, Chandigarh	There is sewage water discharge at first outlet of Bapu Dham near bridge on the road connecting IT Park
5	Second outlet of Bapu Dham Colony (Known as Madrasi Colony)	There is sewage water discharge at second outlet of Bapu Dham colony

6	Outlet from back of Gaushala, Industrial Area, Phase-I, Chd.	There is substantial sewage discharge from back of Gaushala, Industrial Area, Phase-I, Chd.
7	Outlet near CTU workshop Industrial Area, Phase-I, Chd. (Inside Forest Area)	There is sewage discharge at the outlet near CTU workshop.
8	Indl. Area, Phase - I, Colony No. 4.	There is discharge from many outlets from Indl. Area, Phase - I, Colony No. 4.
9	Pump House operated by Municipal Corporation behind Central Poultry Development Organization, Indl. Area, Phase - I, Chandigarh.	In case of Non-operation of pump, waste water directly goes to Sukhna Choe on regular basis.
10	Outlet of Village Hallomajra	There is substantial sewage discharge from the outlet of Village Hallomajra.
11	Village Daria	There is discharge of sewage water from Village Daria

Discharge Points in N-Choe

Sr. No.	Point	Status as on September 2018
1	Leisure valley	02 outlets are discharging waste water
2	Near red cross (Madhya Marg)	01 outlet discharging waste water
3	Sec 23 near B.D Hospital (Neuro Psychiatry)	01 outlet discharging waste water
4	Bal Bhawan side	Very less discharge
5	01 outlet in Beant Memorial	Water logging
6	Sector 52 (starting)	Two outlets discharging Sewage Water
7	Sector 52 (End)	Two outlets discharging Sewage Water
8	One outlet coming from Sec 51	Sewage Water

5.4 CPCC letters to Municipal Corporation, Chandigarh and Engineering Department Chandigarh Administration.

Subsequent to the meeting held with the Officials MCC and Chd., Admn. and after joint inspection, D.O. letter vide No. CPCC/2018/1490 & CPCC/2018/1491 dated 09.10.2018 issued to both the departments to submit the action taken report and action plan for compliance of order of Hon'ble NGT Delhi.

5.5 Meetings of District Level Special Task Force:

District Level Special Task Force has conducted the meeting on 01.10.2018 in which the following decisions were taken.

1. Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration will upgrade the existing STPs/set up new STPs in their respective jurisdiction to meet with the standards directed by CPCB/CPCC and action plan in this regard alongwith timeline will be submitted within 15 days.

2. The officers of Chandigarh Pollution Control Committee (CPCC), Engineering Department Chd. Admn. and Municipal Corporation, Chd. have identified the 10 points where sewerage water is discharged without treatment into Sukhna Choe. Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration will take measures to tap these points to ensure that no untreated waste water release into Sukhna Choe. Status report in this regard will be submitted by the M.C. within 15 days.

3. Prior intimation shall be given by the CPCC to the Police Deptt. for providing police protection to the officers for carrying out inspection and deputing the beat cops with the team.

4. Municipal Corporation, Chandigarh will provide the list of industrial plots who have not taken sewer connection.

5. Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration will make standby arrangement of pumps alongwith the existing pumps at sewage pumping stations and Log Book shall be maintained at each pumping station.

6. Points where waste water is being discharged into N-Choe to be identified in the coming time.

7. CPCC will provide the quality of drains at entry/exit points.

8. MC, Chd. will provide the details of discharge points at Patiala ki rao and provide the action plan for stoppage of the same.

9. MC, Chd. will identify the people who have laid down illegal pipelines and discharging waste water into storm water drainage system/drains and Public Notice shall be given by the CPCC in this regard.

5.4 **2nd meeting of DLSTF**: After that the District Level Special Task Force conducted the 2nd meeting on 11.10.2018 vide which Scientist 'B' CPCC submitted the test report of water quality of all the drains at entry and exit point of Chandigarh and also showing the waste water discharge points at N-Choe. Accordingly the following decision were taken in the meeting.

1. The points through which the waste water is being discharged directly into the N-choe should be closed by the Municipal Corporation, Chandigarh with the support of Police.

2. The format of action paln will be given by CPCC to Municipal Corporaiton, Chandigarh and Engineering Department, Chandigarh Administration and thereafter both the department will be submitted the action plan

5.5 **3rd meeting of DLSTF** Thereafter the third meeting of District Level Special Task Force conducted on 07.12.2018 and accordingly Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration submitted the action taken report of the various outlets from which waste water is being discharged into Sukhna Choe and N-Choe.

STATUS OF UNTREATED WASTE WATER DISCHARGE IN SUKHNA CHOE

Sr. No.	Point	Status as on September 2018	Status as on 07.12.2018	Action taken
1	Kishangarh Outlet	There is sewage water discharge from the outlet.	As a short term measure proposal has been submitted to lift the waste water and connect it with sewerage line	As a short term measure proposal has been submitted to lift the waste water and connect it with sewerage line. Later STP will be installed by Nov. 2022
2	Outlet of Village Kishangarh inside Forest Nursery	There is sewage water discharge from the outlet.	Still sewage is being discharged	-
3	Outlet of Shastri Nagar	There is sewage water discharge.	Sump has already been created	Sewage water has been tapped.
4	First outlet of Bapu Dham near bridge on the road connecting IT park with Sector 26, Chandigarh	There is sewage water discharge at first outlet of Bapu Dham near bridge on the road connecting IT Park	-	Leakage has been plugged

5	Second outlet of Bapu Dham Colony (Known as Madrasi Colony)	There is sewage water discharge at second outlet of Bapu Dham colony	The slum developers have constructed their toilets on the existing CBD. Matter has now been taken up with Estate Office, U.T. Chandigarh for removal of encroachment on the CBD at Bapu Dham Colony, so that flow coming into Choe may be plugged.	All such discharges points have been plugged
6	Outlet from back of Gaushala, Industrial Area, Phase-I, Chd.	There is substantial sewage discharge from back of Gaushala, Industrial Area, Phase-I, Chd.	-	Municipal Corporation Chandigarh has plugged the discharge point
7	Outlet near CTU workshop Industrial Area, Phase-I, Chd. (Inside Forest Area)	There is sewage discharge at the outlet near CTU workshop.	-	CTU has plugged the waste water flow. Now there is no waste water discharge.
8	Indl. Area, Phase - I, Colony No. 4.	There is discharge from many outlets from Indl. Area, Phase - I, Colony No. 4.	-	Waste water has already been tapped and diverted to sewer line.

9	Pump House operated by Municipal Corporation behind Central Poultry Development Organization, Indl. Area, Phase - I, Chandigarh.	In case of Non-operation of pump, waste water directly goes to Sukhna Choe on regular basis.	-	New stand by motor has already been installed and now no waste water is being discharged into Sukhna Choe.
10	Outlet of Village Hallomajra	There is substantial sewage discharge from the outlet of Village Hallomajra.	-	Around 70 % household have already been connected to sewerline. Rest will be connected to sewer line by 31.01.19.
11	Village Daria	There is discharge of sewage water from Village Daria	Excess sewage of unauthorised colony in village Daria has been tapped and put in the sump and the same is being pumped into the sewer line.	Excess sewage of unauthorised colony in village Daria has been tapped and put in the sump and the same is being pumped into the sewer line. Now there is no discharge.

STATUS OF UNTREATED WASTE WATER DISCHARGE IN N- CHOE

Sr. No.	Point	Status as on September 2018	Status as on 07/12/2018 Action taken
1	Leisure valley	02 outlets are discharging waste water	One Outlet has been plugged and there is little discharge from one outlet
2	Near red cross (Madhya	01 outlet discharging	Outlet has been plugged. Now there is

	Marg)	waste water	no waste water discharge.
3	Sec 23 near B.D Hospital (Neuro Psychiatry)	01 outlet discharging waste water	Outlet has been plugged. Now there is no waste water discharge.
4	Bal Bhawan side	Very less discharge	Outlet has been plugged. Now there is no waste water discharge.
5	01 outlet in Beant Memorial	Water logging	No action is taken
6	Sector 52 (starting)	Two outlets discharging Sewage Water	No action is taken
7	Sector 52 (End)	Two outlets discharging Sewage Water	No action is taken
8	One outlet coming from Sec 51	Sewage Water	Already tapped.

The Minutes of Meeting (i.e. 01.10.2018, 11.10.2018 & 07.12.2018) is enclosed at Annexure- IV, V, VI).

5.6 <u>Meeting of State Level Special Task Force:</u>

After submission of the monthly reports by District Level Special Task Force has submitted their monthly reports alongwith action taken and action plan (Reports of October 2018, November 2018 & December, 2018 are enclosed at **Annexure-VII**) to State Level Special Task Force, State Level special Task Force Committee convened the Ist meeting on 19.12.2018 to discuss the issues of discharge of various outlets into Sukhna Choe and N-Choe and also the monthly reports submitted by District Level Special Task Force, which was finally submitted to Central Pollution Control Board.

In the first meeting of State Level Special Task Force, Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration submitted the action taken report.

Action taken to stop the discharge of waste water from various outlets in Sukhna Choe.

Sr. No.	Point	Status as on September 2018	Action Taken
1	Kishangarh Outlet	There is sewage water discharge from the outlet.	As a short term measure proposal has been submitted to lift the waste water and connect it with sewerage line. Later STP will be installed by Nov. 2022
2	Outlet of Village Kishangarh inside Forest Nursery	There is sewage water discharge from the outlet.	-
3	Outlet of Shastri Nagar	There is sewage water discharge.	Sewage water has been tapped.
4	First outlet of Bapu Dham near bridge on the road connecting IT park with Sector 26, Chandigarh	There is sewage water discharge at first outlet of Bapu Dham near bridge on the road connecting IT Park	Leakage has been plugged
5	Second outlet of Bapu Dham Colony (Known as Madrasi Colony)	There is sewage water discharge at second outlet of Bapu Dham colony	All such discharges points have been plugged

6	Outlet from back of Gaushala, Industrial Area, Phase-I, Chd.	There is substantial sewage discharge from back of Gaushala, Industrial Area, Phase-I, Chd.	Municipal Corporation Chandigarh has plugged the discharge point
7	Outlet near CTU workshop Industrial Area, Phase-I, Chd. (Inside Forest Area)	There is sewage discharge at the outlet near CTU workshop.	CTU has plugged the waste water flow. Now there is no waste water discharge.
8	Indl. Area, Phase - I, Colony No. 4.	There is discharge from many outlets from Indl. Area, Phase - I, Colony No. 4.	Waste water has already been tapped and diverted to sewer line.
9	Pump House operated by Municipal Corporation behind Central Poultry Development Organization, Indl. Area, Phase - I, Chandigarh.	In case of Non-operation of pump, waste water directly goes to Sukhna Choe on regular basis.	New stand by motor has already been installed and now no waste water is being discharged into Sukhna Choe.
10	Outlet of Village Hallomajra	There is substantial sewage discharge from the outlet of Village Hallomajra.	Around 70 % household have already been connected to sewerline. Rest will be connected to sewer line by 31.01.19.
11	Village Daria	There is discharge of sewage water from Village Daria	Excess sewage of unauthorised colony in village Daria has been tapped and put in the sump and the same is being pumped into the sewer line. Now there is no discharge.

Action taken to stop the discharge of waste water from various outlets in N-Choe.

Sr. No.	Point	Status as on September 2018	Action Taken
1	Leisure valley	02 outlets are discharging waste water	One Outlet has been plugged and there is little discharge from one outlet
2	Near red cross (Madhya Marg)	01 outlet discharging waste water	Outlet has been plugged. Now there is no waste water discharge.
3	Sec 23 near B.D Hospital (Neuro Psychiatry)	01 outlet discharging waste water	Outlet has been plugged. Now there is no waste water discharge.
4	Bal Bhawan side	Very less discharge	Outlet has been plugged. Now there is no waste water discharge.
5	01 outlet in Beant Memorial	Water logging	-
6	Sector 52 (starting)	Two outlets discharging Sewage Water	-
7	Sector 52 (End)	Two outlets discharging Sewage Water	-
8	One outlet coming from Sec 51	Sewage Water	Already tapped. Now there is no waste water discharge.

6) Existing Status in the catchment of river Ghaggar and Its Tributaries: - Sewage & Industrial effluent management in rural and urban areas, ground water quality, health status of the Public, Water quality of River Ghaggar and Its Tributaries as well as drains contributing to the pollution load in River Ghaggar and Its Tributaries.

There are five STPs **operational** in U.T. Chandigarh which are being operated and maintained by Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration as per details given below.

Sr. No.	Name of STP	Technology	Capacity	Consent Status	Validity	Operated by
1.	Diggian	MBBR	136.2 MLD	Consent Granted by PPCB	-	MC, Chd.
2.	3 BRD	SBR	49.94 MLD	Consent Granted	30.06.19	MC, Chd.
3.	Raipur Kalan	UASB	22.7 MLD	Consent Granted	31.12.21	MC, Chd.
4.	Raipur Khurd	ASP	5.675 MLD	Consent Granted	30.06.25	Engg. Deptt., Chd. Admn.
5.	Dhanas	SBR	7.26 MLD	Consent Granted	31.03.22	Engg. Deptt., Chd. Admn.

Chandigarh Pollution Control Committee monitors the performance of STPs on monthly basis. Data of year 2018 is given in Table 1 to 5.

Table -1

STP Diggian Outlet-2018

Sr.No.	Parameters	Unit	Permissible Limit	Jan.	Feb.	March.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	pH	-	5.5 to 9.0	6.5	7.0	7.2	7.1	7.0	6.9	6.9	7.1	7.3	7.4	7.2	7.1
2	DO	mg/l	-	--	3.9	3.5	3.3	2.9	1.9	3.2	4.9	4.5	4.2	2.6	1.2
3	COD	mg/l	250	198	198	200	187	130	128	95	71	61	56	126	135
4	BOD	mg/l	30	79	96	47	63	58	49	41	21	28	28	51	58
5	TSS	mg/l	100	84	72	73	85	65	56	43	19	46	30	45	39
6	NH_3-N	mg/l	50	20	26	32	25	32	23	30	21	28	37	41	34
7	PO_4-P	mg/l	5.0	3.74	2.21	2.44	3.16	3.01	2.48	2.11	2.05	2.20	3.50	3.10	4.30
8	Total Coliform	MPN/100ml	-	9.3×10^4	9.3×10^2	1.4×10^4	9.6×10^3	1.7×10^5	2.7×10^5	1.7×10^5	7.6×10^4	9.3×10^5	8.0×10^6	1.8×10^6	2.7×10^6
9	Faecal Coliform	MPN/100ml	-	6.1×10^4	6.1×10^2	1.1×10^4	5.4×10^3	6.1×10^4	6.9×10^4	1.4×10^5	5.4×10^4	6.9×10^5	4.5×10^6	1.4×10^5	1.4×10^5

Table -2

STP 3BRD FINAL OUTLET - 2018 (11 MGD)

Sr.No.	Parameters	Unit	Permissible Limit	Jan.	Feb.	March.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	pH	-	5.5 to 9.0	6.5	7.3	7.3	7.2	7.2	7.3	7.5	7.3	7.7	7.3	7.3	7.3
2	DO	mg/l	-	--	6.9	1.7	6.2	5.9	4.4	5.4	4.6	5.1	4.8	5.6	3.6
3	COD	mg/l	250	100	37	122	33	27	34	73	25	17	11	32	28
4	BOD	mg/l	30	33	15	50*	9	7	11	25	9	5	3	8	9
5	TSS	mg/l	100	52	27	93	28	10	35	77	5	25	9	7	7
6	NH_3-N	mg/l	50	3	3	4	3	7	3	5	5	3	3	6	10
7	PO_4-P	mg/l	5.0	3.71	0.44	8.32	1.76	1.83	1.80	1.91	1.57	BDL	3.80	1.50	3.10
8	Total Coliform	MPN/100ml	-	3.8×10^4	2.1×10^1	6.9×10^4	3.0×10^3	1.1×10^4	1.1×10^3	1.8×10^3	7.6×10^3	7.6×10^4	9.3×10^3	8.0×10^4	7.6×10^4
9	Faecal Coliform	MPN/100ml	-	3.2×10^4	1.7×10^1	4.5×10^4	2.2×10^3	4.5×10^3	6.9×10^2	9.2×10^2	3.2×10^3	1.4×10^4	6.1×10^3	4.5×10^4	4.0×10^4

Table -3

STP Raipur Khurd-2018

Sr.No.	**Parameters**	**Unit**	**Permissible Limit**	**Jan.**	**Feb.**	**March.**	**April**	**May**	**June**	**July**	**Aug.**	**Sept**	**Oct.**	**Nov.**	**Dec.**
1	pH	-	5.5 to 9.0	7.8	7.5	7.5	7.3	-	-	7.3	7.2	7.3	7.6	7.1	7.3
2	DO	mg/l	-	1.7	2.7	2.0	0.92	-	-	NIL	NIL	NIL	NIL	0.48	NIL
3	COD	mg/l	250	187	254	262	215	-	-	223	245	147	195	158	167
4	BOD	mg/l	30	84	103	95	90	-	-	84	114	64	59	62	69
5	TSS	mg/l	100	87	79	57	88	-	-	147	141	68	95	84	56
6	NH_3-N	mg/l	50	41	41	40	35	-	-	39	38	41	28	26.00	31.00
7	PO_4-P	mg/l	5.0	1.71	2.55	0.61	0.65	-	-	0.80	1.57	BDL	1.20	1.00	2.10
8	Total Coliform	MPN/100ml	-	4.0×10^3	4.1×10^3	7.6×10^3	6.9×10^3	-	-	4.0×10^4	4.5×10^4	1.1×10^5	1.7×10^5	3.0×10^5	1.4×10^6
9	Faecal Coliform	MPN/100ml	-	2.0×10^3	2.0×10^3	5.4×10^3	4.0×10^3	-	-	1.4×10^4	1.4×10^4	4.5×10^4	1.1×10^5	1.8×10^5	4.5×10^5

Table-4

STP Raipur Kalan-2018

Sr.No.	Parameters	Unit	Permissible Limit	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	pH	-	5.5 to 9.0	7.3	6.8	7.0	7.0	7.0	7.0	7.1	7.0	7.1	7.1	6.9	7.1
2	DO	mg/l	-	0.6	NIL	NIL	NIL	NIL	NIL	NIL	NIL	0.4	NIL	NIL	NIL
3	COD	mg/l	250	312	182	150	110	147	149	130	170	181	138	118	145
4	BOD	mg/l	30	122	82	77	60	66	69	47	84	60	59	59	70
5	TSS	mg/l	100	157	21	26	25	49	38	43	48	59	38	41	22
6	NH_3-N	mg/l	50	37	41	34	27	29	34	35	33	32	36	29	43
7	PO_4-P	mg/l	5.0	3.80	4.23	3.65	4.23	4.40	4.23	3.95	2.61	3.50	3.80	3.50	4.70
8	Total Coliform	MPN/100ml	-	1.4×10^4	2.7×10^3	5.4×10^3	6.9×10^3	9.3×10^5	2.0×10^4	4.0×10^4	3.2×10^4	1.7×10^3	4.5×10^4	1.4×10^5	3.2×10^5
9	Faecal Coliform	MPN/100ml	-	1.1×10^4	1.7×10^3	4.0×10^3	4.5×10^3	6.9×10^5	1.1×10^4	7.6×10^3	8.3×10^3	1.4×10^3	2.0×10^4	9.3×10^4	2.7×10^5

Table -5

STP Dhanas-2018

Sr.No.	Parameters	Unit	Permissible Limit	Jan.	Feb.	March	April	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.
1	pH	-	5.5 to 9.0	8.0	7.9	7.6	7.5	7.3	7.4	7.7	7.6	7.6	7.6	7.6	7.2
2	DO	mg/l	-	--	5.4	4.1	4.9	1.9	2.8	3.6	4.5	5.9	5.2	5.3	5.3
3	COD	mg/l	250	84	86	124	67	65	41	33	36	14	22	39	62
4	BOD	mg/l	30	21	17	33	24	26	13	12	87	4	7	10	12
5	TSS	mg/l	100	24	16	24	17	19	17	11	8	17	6	11	10
7	NH_3-N	mg/l	50	19	10	36	38	37	32	30	22	10	12	13	13
8	PO_4-P	mg/l	5.0	0.82	0.39	0.78	0.97	0.51	0.65	0.53	0.40	BDL	1.30	BDL	1
9	Total Coliform	MPN/100ml	-	21	7.6×10^3	69	34	9.3×10^3	2.2×10^3	9.3×10^4	6.1×10^4	172	2.0×10^4	1.1×10^5	5.4×10^4
10	Faecal Coliform	MPN/100ml	-	14	5.4×10^3	45	32	6.9×10^3	1.8×10^3	2.0×10^4	2.2×10^4	130	1.3×10^4	6.9×10^4	2.7×10^4

Ground Water Quality:

Chandigarh Pollution Control Committee Monitor the quality of ground water on half yearly basis. Now, as per direction of Executive Committee monitoring of Ground Water Quality will be done on quarterly basis.

The Data of ground water quality monitored by CPCC in year 2018 is given in Table 6.

Table -6 (Ground Water Quality) -2018

Sr.No.	Parameters	Desirable	Units	Dadu Majra		SEC-15		SEC-22		VILL		DHANAS		Sec -35		Sec -20	
				April	Oct	April	Octr	April	Oct	April	Oct	April	Oct	April	Oct	April	Oct
1	Temp.	--	^{0}C	21.5	24.0	22.0	24.5	22.0	--	22.0	24.0	22.5	24.0	22.0	24.0	20.5	24.0
2	pH	6.5 to 8.5	--	7.6	7.6	7.0	7.6	7.0	--	7.0	7.2	7.3	7.7	7.0	7.3	7.2	7.4
3	Conductivity	--	µs/cm	746	753	938	878	853	--	1181	1210	664	647	905	863	721	662
4	BOD	--	mg/l	<1	<1	<1	<1	<1	--	<1	2	<1	<1	<1	<1	<1	<1
5	COD	--	mg/l	9	21	4	21	8	--	7	28	10	17	8	24	7	21
6	NO_3-N	50	mg/l	2.80	2.50	1.70	5.9	1.60	--	0.40	<1	2.60	2.6	5.20	4.70	4.60	4.90
7	NH_3-N	--	mg/l	BDL	0.85	1.03	0.92	0.15	--	0.76	1.44	0.49	0.77	BDL	0.55	BDL	1.03
8	Turbidity	5	NTU	3	2	132	44	4	--	50	13	46	18	4	5	6	4
9	P-alk	--	mg/l	14	NIL	28	NIL	18	--	16	NIL	12	NIL	18	NIL	20	NIL
10	T-alk	200	mg/l	322	354	366	374	352	--	450	496	310	328	412	412	288	280
11	Hardness as	300	mg/l	294	240	262	180	294	--	244	160	204	180	314	200	278	260
12	Ca as $CaCO_3$	75	mg/l	224	146	142	90	274	--	212	72	182	116	256	116	228	174
13	Mg as $CaCO_3$	30	mg/l	70	94	120	90	20	--	32	88	22	64	58	84	50	86
14	Sulphate	200	mg/l	35	39	55	50	33	--	66	72	18	22	34	39	51	51
15	TDS	500	mg/l	394	656	590	769	421	--	627	765	353	368	489	528	388	398
16	Total Fixed	--	mg/l	355	370	567	460	436	--	616	552	270	258	398	378	331	310
17	TSS	--	mg/l	4	4	147	8	9	--	8	7	17	7	2	4	3	5
18	Fluoride	1	mg/l	0.85	0.77	0.14	0.31	0.46	--	0.34	0.28	BDL	BDL	0.20	0.37	0.90	0.88
19	Chloride	250	mg/l	50	35	45	45	45	--	80	85	20	18	27	28	23	16
20	Phosphate	--	mg/l	0.02	BDL	0.35	BDL	0.01	--	0.05	BDL	0.01	BDL	0.02	BDL	0.04	BDL
21	Colour			<5	<5	10	10	<5	--	10	10	10	<5	<5	<5	<5	<5
22	Boron		mg/l	0.07	<1	0.05	<1	0.06	--	0.11	<1	0.07	<1	0.07	<1	0.06	<1
23	TKN		mg/l	BDL	<1	BDL	<1	BDL	--	BDL	<1	BDL	<1	BDL	<1	BDL	<1
24	Sodium		mg/l	51	49	38	32	42	--	128	128	41	36	**38**	28	44	39
25	potassium		mg/l	BDL	1	3	3	1	--	5	5	2	2	**2**	2	BDL	<1
26	Fecal Coliform	--	MPN/100ml	34	<2	--	<2	22	--	--	11	84	<2	<2	<2	<2	<2
27	Total Coliform	--	MPN/100ml	39	<2	--	7	26	--	--	32	94	<2	<2	<2	<2	<2

Sr.No.	Parameters	Units	Dadu Majra		SEC-15		SEC-22		VILL PALSORA		DHANAS		Sec -35		Sec -20	
			April	Oct.	April	Oct.	April	Oct.	April	Oct.	April	Oct.	April	Oct.	April	Oct.
28	ARSENIC	mg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
29	CADMIUM	mg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
30	COPPER	mg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
31	LEAD	mg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
32	NICKEL	mg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
33	ZINC	mg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
34	MERCURY	mg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
35	IRON	mg/l	0.43	--	0.78	--	0.92	--	1.2	--	2.1	--	0.09	--	0.84	--
36	CHROMIUM (TOTAL)	mg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
37	Alpha BHC	µg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
38	Beta BHC	µg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
39	Gama BHC (Lindane)	µg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
40	OP DDT	µg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
41	PP DDT	µg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
42	Alpha Endosulphan	µg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
43	Beta Endosulphan	µg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
44	Dieldrin	µg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
45	Carboryl (Carbamate)	µg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
46	2.4 D	µg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
47	Aldrin	µg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
48	Malathian	µg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
49	Methyl Parathian	µg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
50	Anilophos	µg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--
51	Chloropyriphos	µg/l	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--	BDL	--

Water quality of River Ghaggar :

Although river Ghaggar is not flowing through Chandigarh. It is passing around 7.0 Km away from Chandigarh but still CPCC from time to time has collected the samples from River Ghaggar after Sukhna Choe joins river ghaggar near Mubarakpur in Punjab. The water quality of River Ghaggar near confluence point at Mubarakpur, Punjab is given in Table -7

Table -7

Quality of River Ghaggar - 2018

Date of monitoring	pH	*COD*	BOD	TSS	NH_3-N	PO_4-P	Chloride
		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
18.04.18	7.4	159	27	2294	4.21	1.2	45
23.10.18	7.8	20	4	138	2.58	BDL	-
19.11.18	7.6	53	17	649	7.16	BDL	23
03.12.18	7.4	83	17	391	4.32	1.7	-

Quality of Drains:

Chandigarh Pollution Control Committee monitors the quality of waste water of Sukhna Choe and N-Choe at the exit point of Chandigarh. Data of which is as given below.

Sukhna Choe : Table 8

N-Choe : Table 9

Table 8 (Sukhna Choe Entry Point) - 2018

Sr.No.	Parameters	Unit	Jan.	Feb.	March.	April	May	June	July	Aug.	Sept.	Oct	Nov.	Dec.
1	pH	-	7.3	7.5	7.6	7.5	7.5	7.3	7.0	7.4	7.5	7.5	7.5	7.3
2	Conductivity	µs/cm	1288	1084	1069	1119	1050	952	--	--	--	--	--	--
3	DO	mg/l	2.5	2.8	2.0	2.3	2.1	1.3	2.7	NIL	1.4	1.4	2.1	2.0
4	COD	mg/l	302	476	446	435	360	279	23	237	455	353	463	584
5	BOD	mg/l	92	252	245	193	179	162	13	165	227	230	216	301
6	NO_3-N	mg/l	1.2	--	1.4	3.20	--	--	--	--	--	--	--	--
7	NH_3-N	mg/l	47	35	41	37	41	37	31	38	19	37	36	49
8	Phosphate	mg/l	5.58	4.14	3.8	3.9	5.60	3.53	3.15	3.82	5.00	4.3	5.10	5.6
9	Total Suspended Solid	mg/l	154	123	132	182	89	93	49	120	165	82	125	217
10	TDS	mg/l	646	591	601	656	617	622	--	--	--	--	--	--
11	TFS	mg/l	461	424	502	491	431	420	--	--	--	--	--	--
12	Turbidity	NTU	190	230	240	280	220	165	--	--	--	--	--	--
13	TH as $CaCO_3$	mg/l	220	272	260	266	242	266	--	--	--	--	--	--
14	Ca as $CaCO_3$	mg/l	168	170	156	144	132	160	--	--	--	--	--	--
15	Mg as $CaCO_3$	mg/l	52	102	104	122	110	106	--	--	--	--	--	--
16	Sulphate	mg/l	79	80	77	70	64	54	--	--	--	--	--	--
17	Chloride	mg/l	81	80	58	105	59	50	--	--	--	--	--	--
18	P-Alkalinity	mg/l	NIL	NIL	NIL	NIL	NIL	NIL	--	--	--	--	--	--
19	Total alkalinity as	mg/l	506	456	464	242	486	430	--	--	--	--	--	--
20	Fluoride	mg/l	BDL	0.13	BDL	0.15	0.15	0.22	--	--	--	--	--	--
21	colour	Hazen	40	50	30	30	30	40	--	--	--	--	--	--
22	Boron(B)	mg/l	0.10	0.21	0.23	0.24	0.23	0.21	--	--	--	--	--	--
23	TKN	mg/l	<1	<1	BDL	9.5	--	--	--	--	--	--	--	--
24	Potassium	mg/l	6	6	4	3	--	--	--	--	--	--	--	--
25	Sodium	mg/l	27	29	17	15	--	--	--	--	--	--	--	--
26	Total Coliform	MPN/100	1.1×10^4	3.2×10^4	6.9×10^4	2.2×10^6	--	--	--	--	--	--	--	--
27	Feacal Coliform	MPN/100	8.09×10^3	2.7×10^4	4.0×10^4	1.8×10^6	--	--	--	--	--	--	--	--

Table 8.1 (Sukhna Choe Exit Point) - 2018

Sr. No.	Parameters	Unit	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct	Nov.	Dec.
1	pH	-	7.3	7.3	7.5	7.2	7.2	7.3	7.2	7.5	7.6	7.6	7.0	7.5
2	Conductivity	µs/cm	930	971	959	950	954	888	810	918	719	1010	956	1018
3	DO	mg/l	0.83	NIL	NIL	NIL	NIL	NIL	2.2	NIL	NIL	NIL	NIL	NIL
4	COD	mg/l	423	508	546	242	264	301	148	242	163	321	362	386
5	BOD	mg/l	195	267	270	125	123	167	64	179	75	207	133	220
6	NO_3-N	mg/l	1.30	--	1.10	2.10	1.30	4.30	2.40	4.20	2.60	1.10	1.90	2.30
7	NH_3-N	mg/l	--	31	34	33	31	27	20	32	24	30	33	41
8	Phosphate	mg/l	--	3.34	3.21	3.68	3.94	2.45	2.12	2.46	1.40	2.80	2.60	3.60
9	TSS	mg/l	261	317	418	148	159	147	180	136	139	295	250	408
10	TDS	mg/l	441	533	464	452	493	520	199	580	517	580	488	464
11	TFS	mg/l	367	453	565	454	450	439	283	547	425	426	438	424
12	Turbidity	NTU	195	270	320	210	190	180	300	160	148	155	170	220
13	TH as $CaCO_3$	mg/l	260	258	270	270	264	250	106	236	240	268	250	270
14	Ca as $CaCO_3$	mg/l	160	160	160	160	152	140	84	162	130	150	150	160
15	Mg as $CaCO_3$	mg/l	100	98	110	110	112	110	22	74	120	118	100	110
16	Sulphate	mg/l	72	76	85	57	64	61	55	53	52	67	48	63
17	Chloride	mg/l	52	55	47	70	61	57	33	56	45	53	61	41
18	P-Alkalinity	mg/l	NIL	NIL	NIL	16	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
19	Total alkalinity as $CaCO_3$	mg/l	506	514	420	406	446	378	322	398	308	422	396	418
20	Fluoride	mg/l	BDL	BDL	BDL	BDL	0.07	0.20	0.12	0.13	0.15	0.21	0.13	0.22
21	colour	Haze n	30	40	50	30	40	30	30	40	40	40	40	40
22	Boron(B)	mg/l	0.15	0.30	0.28	0.24	0.22	0.23	0.24	0.25	0.16	<1	<1	<1
23	TKN	mg/l	2.90	3.2	2.90	1.50	3.30	3.90	1.90	3.70	2.30	3.10	7.30	6.10
24	Potassium	mg/l	4	5	6	6	7	7	5	9	6	8	9	12
25	Sodium	mg/l	23	28	20	17	23	26	16	31	17	20	48	17
26	Total Coliform	MPN/ 100	1.4×10^5	7.6×10^4	2.7×10^4	3.2×10^4	7.6×10^6	4.5×10^6	9.3×10^4	7.6×10^4	1.0×10^6	1.4×10^6	4.5×10^6	3.8×10^6
27	Faecal Coliform	MPN/ 100	1.1×10^4	5.4×10^4	1.7×10^4	2.2×10^4	3.2×10^6	1.2×10^6	6.9×10^4	5.4×10^4	7.6×10^5	4.5×10^5	6.9×10^5	5.4×10^5

Table -9 (N-Choe Entry Point) - 2018

Sr.No.	Parameters	Unit	Jan.	Feb.	March.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	pH	-	7.8	7.7	7.7	7.2	7.1	7.5	7.5	7.6	7.6	7.5	7.8	7.4
2	Conductivity	µs/cm	341	307	329	325	356	295	405	--	--	--	--	--
3	DO	mg/l	7.6	8.1	7.6	6.9	6.8	6.5	6.3	6.0	6.2	6.8	7.1	7.6
4	COD	mg/l	7	27	28	30	22	15	20	18	10	12	14	18
5	BOD	mg/l	2	1	2	3	2	2	2	2	1	2	2	2
6	NO_3-N	mg/l	1.60	--	3.40	3.00	--	--	--	--	--	--	--	--
7	NH_3-N	mg/l	0.02	0.11	BDL	0.26	0.29	0.51	0.54	0.34	0.57	0.62	0.59	0.37
8	Phosphate	mg/l	0.03	0.03	0.05	0.04	0.07	0.08	0.08	0.07	BDL	0.08	BDL	0.05
9	TSS	mg/l	9	2	8	12	27	12	16	7	24	22	13	10
10	TDS	mg/l	186	159	155	181	205	209	--	--	--	--	--	--
11	TFS	mg/l	133	51	74	146	227	165	--	--	--	--	--	--
12	Turbidity	NTU	4	12	23	22	20	30	--	--	--	--	--	--
13	TH as $CaCO_3$	mg/l	162	184	180	150	152	148	--	--	--	--	--	--
14	Ca as $CaCO_3$	mg/l	114	130	120	80	70	92	--	--	--	--	--	--
15	Mg as $CaCO_3$	mg/l	48	54	60	70	82	56	--	--	--	--	--	--
16	Sulphate	mg/l	23	24	27	28	23	29	--	--	--	--	--	--
17	Chloride	mg/l	12	27	15	20	10	27	--	--	--	--	--	--
18	Total alkalinity as $CaCO_3$	mg/l	154	114	134	142	166	110	--	--	--	--	--	--
19	P-Alkalinity	mg/l	4	4	6	NIL	NIL	NIL	--	--	--	--	--	--
20	Fluoride	mg/l	0.08	BDL	BDL	0.13	0.09	0.18	--	--	--	--	--	--
21	colour	Hazen	5	5	5	5	5	5	--	--	--	--	--	--
22	Boron(B)	mg/l	0.09	0.10	0.13	0.11	0.14	<1	--	--	--	--	--	--
23	TKN	mg/l	1.2	1.2	1.4	1.2	--	--	--	--	--	--	--	--
24	Potassium	mg/l	2	2	3	2	--	--	--	--	--	--	--	--
25	Sodium	mg/l	12	7	6	6	--	--	--	--	--	--	--	--
26	TOTAL COLIFORM	MPN/100	5	<2	39	21	--	--	--	--	--	--	--	--
27	FAECAL COLIFORM	MPN/100	4	<2	26	17	--	--	--	--	--		--	--

Table - 9.1 (N-Choe (Exit Point) - 2018

Sr.No.	Parameters	Unit	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	pH	-	6.6	6.9	7.1	7.3	7.1	6.9	7.1	7.1	7.4	7.4	7.0	7.1
2	Conductivity	µs/cm	644	551	668	663	643	638	616	559	724	584	611	696
3	DO	mg/l	NIL	0.6	1.0	0.7	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
4	COD	mg/l	261	261	214	176	168	141	164	82	114	160	204	228
5	BOD	mg/l	161	117	98	80	73	65	77	49	82	79	65	69
6	NO_3-N	mg/l	5.90	--	2.40	2.10	2.00	2.20	2.40	2.80	1.20	1.50	2.00	6.30
7	NH_3-N	mg/l	23	17	20	17	24	18	22	15	19	23	23	29
8	Phosphate	mg/l	2.55	2.05	2.05	2.36	2.51	1.83	2.01	1.03	1.40	2.40	2.40	3.30
9	TSS	mg/l	100	149	82	81	105	82	80	62	37	100	120	113
10	TDS	mg/l	326	259	350	394	297	317	342	345	390	384	300	318
11	TFS	mg/l	267	269	236	273	310	271	274	289	317	280	248	324
12	Turbidity	NTU	110	160	118	125	109	95	113	92	96	112	119	112
13	TH as $CaCO_3$	mg/l	190	206	230	212	220	194	214	210	242	220	220	220
14	Ca as $CaCO_3$	mg/l	118	100	120	120	124	116	122	120	138	128	142	140
15	Mg as $CaCO_3$	mg/l	72	106	110	92	96	78	92	90	104	92	78	80
16	Sulphate	mg/l	66	72	49	52	52	51	62	54	63	68	74	66
17	Chloride	mg/l	42	45	50	45	48	46	45	42	42	40	41	40
18	Total alkalinity as $CaCO_3$	mg/l	260	208	252	258	254	246	246	224	264	234	266	282
19	P-Alkalinity	mg/l	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
20	Fluoride	mg/l	0.28	BDL	BDL	BDL	BDL	BDL	0.13	0.14	0.13	<1	0.12	0.12
21	colour	Hazen	30	20	20	20	20	20	20	20	30	30	30	30
22	Boron(B)	mg/l	0.19	0.21	0.15	0.14	0.14	<1	0.12	0.15	0.08	<1	<1	<1
23	TKN	mg/l	4.20	4.70	4.20	4.10	3.90	4.30	4.90	4.90	5.30	4.90	26	10.90
24	Potassium	mg/l	7	9	11	8	8	9	10	10	11	12	22	2
25	Sodium	mg/l	23	27	37	30	24	38	43	43	47	28	17	39
26	Total Coliform	MPN/100 ml	2.2×10^4	3.2×10^4	1.4×10^6	6.1×10^5	2.2×10^6	1.7×10^5	5.4×10^5	2.7×10^5	2.7×10^6	2.7×10^6	1.8×10^7	7.6×10^6
27	Faecal Coliform	MPN/100 ml	1.8×10^4	2.0×10^4	9.3×10^5	4.1×10^5	1.1×10^6	1.4×10^5	4.0×10^5	1.4×10^5	8.6×10^5	8.0×10^5	8.0×10^6	1.1×10^5

7. The detail of pollution load in river Ghaggar and Its tributaries within the jurisdiction of the State/UT).

A map (preferably digital map) showing the sources of pollution	Mentioned above Figure 1 & Figure 2
area-wise information relating to– population	Chandigarh Population - 10.54 Lacs (as per 2011 census)
water consumption in MLD	304 MLD
sewage generation in MLD	245 MLD
existing STPs with numbers and exiting sewage treatment capacity in MLD	1. Diggian 136.2 MLD 2. 3 BRD 49.94 MLD 3. Raipur Kalan 22.7 MLD 4. Raipur Khurd 5.675 MLD 5. Dhanas 7.26 MLD
proposed STPs- Nos with treatment capacity in MLD	Maloya 22.7 MLD Raipur Kalan 5.6 MLD Kishangarh near Sukhna Lake 2.0 MLD
drains contributing to pollution load in river Ghaggar	Data placed in Table 1 & 2

8. The detail of Industrial Pollution as well STPs etc.

A map (preferably digital map) showing the sources of Industrial pollution	No industrial waste water is being discharged directly into River Ghaggar and industries are allowed to discharge waste water only after treatment which discharged into sewerage system ultimately reaches to Terminal Sewage Treatment Plant for further treatment.
Area-wise information relating to– sector-wise no. of industries	Being a Planned city Chandigarh has notified Industrial Area and most of the industries are either in Industrial Area Phase-I or Industrial Area Phase-II except Hotel/Restaurant/Hospitals etc which are in sectors the details of industries in Chandigarh Red Category - 192 Orange Category - 575 Green Category - 577 White Category - 1625

Electroplating	98
Foundries	33
Hotel & Restaurants	229
Sewage Treatment Plants	05
Potable Alcohol's bottling	10

<table>
<tr><td></td><td><table>
<tr><td>plants</td><td></td></tr>
<tr><td>Automobile Service Stations</td><td>91</td></tr>
<tr><td>Hospitals</td><td>44</td></tr>
<tr><td>Wire Drawing with Pickling</td><td>48</td></tr>
<tr><td>Wire Drawing without Pickling</td><td>07</td></tr>
<tr><td>Slaughter House (Abattoir)</td><td>01</td></tr>
<tr><td>Zinc processing units</td><td>03</td></tr>
<tr><td>Microbreweries</td><td>11</td></tr>
</table></td></tr>
<tr><td>Sector-wise total water consumption in MLD</td><td><table>
<tr><td>Electroplating</td><td>0.371</td></tr>
<tr><td>Foundries</td><td>0.053</td></tr>
<tr><td>Hotel & Restaurants</td><td>5.498</td></tr>
<tr><td>Potable Alcohol's bottling plants</td><td>0.352</td></tr>
<tr><td>Automobile Service Stations</td><td>0.479</td></tr>
<tr><td>Hospitals</td><td>1.212</td></tr>
<tr><td>Slaughter House (Abattoir)</td><td>0.048</td></tr>
<tr><td>Microbreweries</td><td>0.300</td></tr>
</table></td></tr>
<tr><td>Sector-wise industrial effluent generation in MLD</td><td><table>
<tr><td>Electroplating</td><td>0.161</td></tr>
<tr><td>Foundries</td><td>0.001</td></tr>
<tr><td>Hotel & Restaurants</td><td>0.176</td></tr>
<tr><td>Potable Alcohol's bottling plants</td><td>0.022</td></tr>
<tr><td>Automobile Service Stations</td><td>0.127</td></tr>
<tr><td>Hospitals</td><td>0.387</td></tr>
<tr><td>Slaughter House (Abattoir)</td><td>0.001</td></tr>
<tr><td>Microbreweries</td><td>0.048</td></tr>
</table></td></tr>
<tr><td>Existing capacity of captive ETPs and CETPs in MLD</td><td>All the units which require to treat waste water are having captive ETPs except Restaurant however, all the restaurant are equipped with oil & grease trap as per the mandate of notification of MoEF&CC. At present there is no CETP in Chandigarh.</td></tr>
<tr><td>Sludge generated from STPs as well as municipal solid waste management</td><td>Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration were asked to provide the details however, no reply was received from Engineering Department, Chandigarh Administration. Municipal Corporation, Chandigarh has informed that their STPs are being operated by private contractor and disposal of STP sludge lies with them and being lifted accordingly. No further</td></tr>
</table>

	information was provided by MCC. Sludge from ETPs of Industrial units which is not hazardous is being disposed with municipal waste and sludge which is hazardous in nature in being disposed through TSDF Nimbua.

9. Observations on Gap Analysis etc.

<table>
<tr><td colspan="2">Observations on Gap Analysis w.r.to</td></tr>
<tr><td>Sewage management</td><td>Total Sewage Generated : 245 MLD
Treatment capacity : 221 MLD
Gap (245-221) : 24 MLD</td></tr>
<tr><td>Industrial effluent management</td><td>All the industries which are required to treat their waste water are allowed to operate only after having proper ETP hence, there is no gap.</td></tr>
<tr><td>Operation and maintenance of existing STPs</td><td>Existing STPs are being maintained by MCC and Engg. Deptt. by themselves or through private contractors.</td></tr>
<tr><td>operation and maintenance of existing captive ETPs</td><td>ETPs are being maintained and operated by concerned industry.</td></tr>
<tr><td>operation and maintenance of existing CETPs</td><td>N.A.</td></tr>
<tr><td colspan="2">Compliance status w.r.to the industries located in the catchment area of river Ghaggar and its tributaries within the jurisdiction of the respective SPCB/PCC)</td></tr>
<tr><td>(a) List of industries not having valid consents under Water (Prevention and Control of Pollution) Act, 1974 and authorisation under the HW & OW (M & TM) Rules, 2016 as amended</td><td>Nil</td></tr>
<tr><td>(b) List of Industries complying and non-complying to the effluent discharge norms prescribed by the respective SPCB/PCC;</td><td>
<table>
<tr><th>Month</th><th>No. of inspections</th><th>Remarks</th></tr>
<tr><td>September 2018</td><td>40 Nos.</td><td>All units are complying.</td></tr>
<tr><td>October 2018</td><td>14 Nos.</td><td>All units are complying except one which was service station and</td></tr>
</table>
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<table>
<tr><td></td><td>
<table>
<tr><td></td><td></td><td>releasing waste water without treatment. Unit is sealed and case for filing prosecution has already been handed over to counsel.</td></tr>
<tr><td>November 2018</td><td>49 Nos.</td><td>All units are complying.</td></tr>
</table>

Further, as per the directions of Executing Committee on 08.01.2019, samples were collected from various industries, status of which are given below:-

Total inspected unit : 26
Complying : 22
Non complying : 4 (Show Cause Notice is being issued)
(03- Electroplating & 01- Bottling Plant)
List enclosed at annexure-VIII</td></tr>
<tr><td>(c) List of industries indulged in illegal disposal of industrial effluent;</td><td>Nil</td></tr>
<tr><td>(d) Industrial hazardous waste (generated from industries, captive ETPs and CETPs) management</td><td>Hazardous waste generated in industrial units is disposed through recyclers/reprocessor/TSDF situated in other states. Details of which has been already been provided at Sr. No. 4.2 (d) above.</td></tr>
</table>

10. **Proposed action plans (short term, medium and long term plans) with time lines including the organisation/agency responsible for its implementation- action plan should cover aspects as detailed below:-**

<u>Action Plan for control of Domestic Sewage</u>

As per information received from Engineering Department, Chandigarh Administration, Municipal Corporation, Chandigarh and Chandigarh Smart City Limited, action plan has been prepared regarding stoppage of discharge waste water into Sukhna Choe & N-Choe, upgradation of existing STPs and installation of new STPs. Details of which are given as under.

Action Plan for control of discharge of waste water into Sukhna Choe

Sr. No.	Point	Status as on December 2018	Long Term/Short Term Action Plan	Financial Implications	Implementing Agency
1	Kishangarh Outlet	There is sewage water discharge from the outlet.	STP has been proposed to treat the waste water (Will be commissioned by Nov. 2021)	-	Chandigarh Smart City Ltd.
2	Outlet of Village Kishangarh inside Forest Nursery	There is sewage water discharge from the outlet.	Engineering Department, Chandigarh Administration will tap the same by 31.03.2019.	Rs. 19.94 Lakhs	Engg. Deptt., Chd. Admn.
3	Outlet of Village Hallomajra	Around 70 % household have already been connected to sewer line.	By 31.01.2019 all the household will be connected to sewer line. After that there will no discharge of waste water.	-	MC, Chd.
4	Second outlet of Bapu Dham Colony (Known as Madrasi Colony)	The slum developers have constructed their toilets on the existing CBD. Matter has now been taken up with Estate Office, U.T. Chandigarh for removal of encroachment on the CBD at Bapu Dham Colony, so that flow coming into	Municipal Corporation Chandigarh has stopped all such discharges points and there is no waste water discharge. (For long term CBD will be replaced by RCC pipe and will be completed by 31.12.2019)	Rs. 22.00 Lakhs	MC, Chd.

		Choe may be plugged.			

Action Plan for control of discharge of waste water into N-Choe

Sr. No.	Point	Status as on December 2018	Long Term/Short Term Action Plan	Financial Implications	Implementing Agency
1	Leisure valley	01 outlets is discharging waste water	One Outlet has been plugged and there is little discharge from one outlet, will be plugged by 31.12.2018.	Rs. 5.00 Lakhs	MC,Chd.
2	01 outlet in Beant Memorial	Water logging	This is major work and will be completed by August, 2019.	Rs. 182.00 Lakhs	MC,Chd.
3	Sector 52 (starting)	Two outlets discharging Sewage Water	The work will be taken care when the work of Sr. No. 2 will be completed (Will be plugged by 31.12.2019).	-	MC,Chd.
4	Sector 52 (End)	Two outlets discharging Sewage Water	One outlet has been plugged and another outlet will be plugged by 31.12.2019.	-	MC,Chd.

Sewage Treatment Plant

Chandigarh Smart City Limited is in process for **upgradation** of below 05 STPs to treat the waste water upto the level of 5 mg/l BOD and also in the process for setting up of new STPs as per detail given below.

Sr. No.	Location of STP	Capacity	Action Plan	Implementing Agency

1.	Diggian	30 MGD (136.2 MLD)	Will be upgraded to treat the waste water upto the level of 5 mg/l BOD **by Nov. 2021**	Chandigarh Smart City Limited
2.	3 BRD	11 MGD (49.94 MLD)	Will be upgraded to treat the waste water upto the level of 5 mg/l BOD **by Nov. 2021**	Chandigarh Smart City Limited
3.	Raipur Kalan	5 MGD (22.7 MLD)	Will be upgraded to treat the waste water upto the level of 5 mg/l BOD **by Nov. 2021**	Chandigarh Smart City Limited
4.	Raipur Khurd	1.25 MGD (5.67 MLD)	Will be **upgraded to 2.0 MGD** Capacity and to treat the waste water upto the level of 5 mg/l BOD **by Nov. 2021**	Chandigarh Smart City Limited
5.	Dhanas	1.6 MGD (7.26 MLD)	Will be upgraded to treat the waste water upto the level of 5 mg/l BOD **by Nov. 2021**	Chandigarh Smart City Limited

Further, the following Sewage Treatment Plants are **under construction:-**

Sr. No.	**Location of STPs**	**Capacity**	**Timelines**	**Implementing Agency**
1.	Maloya	5 MGD (22.70 MLD)	Will be operational by 31.01.2019	Municipal Corporation, Chandigarh
2	Raipur Kalan	1.25 MGD (5.67 MLD)	Will be operational by 30.06.2019.	Engineering Department, Chandigarh Administration.

One new Sewage Treatment Plant is also **proposed** to be constructed in Kishangarh Near Sukhna Lake, detail of which is given below:-

Sr. No.	**Location of STPs**	**Capacity**	**Timelines**	**Implementing Agency**
1	Kishangarh near Sukhna Lake	2.0 MLD	Will be Completed by November 2021	Chandigarh Smart City Limited

(I) Domestic Sewage Management	
including source reduction and	Bulk generators and even houses where

control measures by bulk sewage generators	tertiary water supply is available are asked to use as much as possible tertiary water which will reduce the fresh water consumption.
measures for conveyance of sewage through dedicated sewer lines connectivity to STPs	Whole of Chandigarh connected with Sewerage System and dedicated sewerage lines are there to carry the waste water directly to the sewage treatment plant.
measurement of flows of drains connected to the river/tributaries under reference	Despite of request to MCC and Engg. Deptt. Chd. Admn, no department has measured the flows of drains.
on-site or in-site treatment measures	Waste water from whole of the Chandigarh goes to Terminal Sewage Treatment Plants. Now, as per order of Hon'ble NGT residential societies having more than 10,000 sq. meters built up area have to install on site STP which is being enforced.
end use of treated sewage for beneficial use complying to the prescribed standards	Treated water is being supplied to various gardens and institutions for gardening purpose. Further, network is being laid to supply the treated water in all areas after which around 20 MGD tertiary waste water will be supplied. This will be completed by March 2020.
preparation and execution of the project proposals for sewage management through state-of-the–art STP	Chandigarh Smart City Limited is going to upgrade all the existing STPs to treat the waste water upto the level of 5 mg/l BOD.
strict vigilance effective enforcement of standards prescribed under the Environment (Protection) Act, 1986	CPCC is monitoring performance of STPs on monthly basis and results are shared with concerned agencies to take corrective measures.
actions initiated against violators, sewage management in rural areas with low cost treatment technologies like constructed wet lands)	N.A.

(II) Industrial effluent management	
measures which include source control like adoption of state-of-the-art technologies	Presently there is no CETP in Chandigarh being a very small city and very less generation of waste water. There are around 100 electroplating units all of which have captive ETPs. Because of cost of land no CETP is feasible in U.T. Chandigarh. Now, there is one firm which is in process for

	setting up of CETP in Punjab and ready to accept the waste of electroplating units of Chandigarh.
reuse of treated industrial effluent to reduce fresh water consumption	Treated industrial effluent goes to Sewage Terminal Treatment Plant and again treated there from where tertiary treated waste water is supplied to various gardens and institute.
adoption of zero liquid discharge	Possibility in this regard will be looked out.
sludge management	Sludge from ETPs of Industrial units which is not hazardous is being disposed with municipal waste and sludge which is hazardous in nature in being disposed through TSDF Nimbua.
recovery and reuse of recovered chemicals in the process	N.A.
measures for conveyance of industrial effluent through dedicated lines and its connectivity to ETPs/CETPs	There is no CETP in Chandigarh.
preparation and execution of the project proposals for industrial effluent management (ETPs/CETPs)	Presently there is no CETP in Chandigarh being a very small city and very less generation of waste water. There are around 100 electroplating units all of which have captive ETPs. Because of cost of land no CETP is feasible in U.T. Chandigarh. Now, there is one firm which is in process for setting up of CETP in Punjab and ready to accept the waste of electroplating units of Chandigarh.
Strict vigilance	All efforts are being done to monitor industries and applicable actions as and when required are being taken.
Effective Enforcement of standards prescribed under the Environment (Protection) Act, 1986, action against violators	

(III) Ground water management	
obtaining of NOC from CGWB for use of ground water resources	On enquiring, it has been informed that in case of Chandigarh CGWB is not giving NOC it is being done by Municipal Corporation, Chandigarh.
ground water survey for quality assessment	Ground water data has already been given in Table 2.
identification of problem sources	Till date as per the available data there is no such problem in ground water of U.T. Chandigarh.

sealing of contaminated hand pumps/tube wells used by the general public for drinking water purposes	Municipal Corporation, Chandigarh has already banned use of hand pump for drinking purpose. Tube wells are used for supply only by MC, Chd.
supply of ground water to the public living in areas where ground water is contaminated	N.A.
measures to control depletion of groundwater table as well as for increasing ground water levels (ground water recharge measures)	There is no such problem in U.T. Chandigarh.
remedial measuresfor decontamination of highly polluted groundwater resources within the jurisdiction of the respective State/UT	There is no polluted ground water source in U.T. Chandigarh.

(IV) Restoration of river Ghaggar and Its tributaries water quality

All the efforts are being done to ensure that no sewer/waste water will be allowed to discharge into Sukhna choe and no industrial waste water goes to river ghaggar so in future (after implementation of action plan) there will not be any pollution load in river Ghaggar.

(V) Maintaining of E-Flows for having ecological balance in the river system

River Ghaggar is passing around 7.0 K.M. far from Chandigarh hence maintaining of E-flow is not applicable in case of U.T. Chandigarh.

(VI) Awareness on :

Effective use of groundwater resources for agriculture purpose	N.A.
Health status and organising health camps	Health camps was organised by Health Department on **11.11.2018**. In future more health camps will be organised to aware general public regarding ill effect of improper disposal of waste water. **(Annexure-IX)**

(vii) Monitoring of executing the actions plans:

Execution of Action Plan will be monitored by Chandigarh Pollution Control Committee.

Annexure-I

CHANDIGARH ADMINISTRATION
DEPARTMENT OF ENVIRONMENT

ORDER

A District Level Special Task Force and State Level Special Task Force consisting of the following members are hereby constituted as per the direction of Hon'ble National Green Tribunal, New Delhi in the matter O.A. No. 138 of 2016 and O.A. No. 139 of 2016 titled "Stench Grips Mansa's Sacred Ghaggar River".

District Level Special Task Force:-

1. District Magistrate, U.T., Chandigarh	-	Chairman
2. Superintendent of Police, Chandigarh Police	-	Member
3. One person to be nominated by the District Judge in his capacity of Head of the District Legal Services Authority.	-	Member
4. Superintending Engineer, Public Health Division, Engineering Department, Chandigarh Administration.	-	Member
5. Superintending Engineer, Public Health Division, Municipal Corporation, Chandigarh.	-	Member
6. Scientist 'B', Chandigarh Pollution Control Committee	-	Member Secretary

State Level Special Task Force:-

1. Advisor to the Administrator, U.T., Chandigarh	-	Chairman
2. Secretary Environment, Chandigarh Administration	-	Member
3. Secretary, Urban Planning, U.T., Chandigarh	-	Member
4. Secretary, Local Body, U.T., Chandigarh.	-	Member
5. Commissioner, Municipal Corporation, Chandigarh	-	Member
6. Chief Engineer, Engineering Department, Chandigarh Administration	-	Member
7. Member Secretary, Chandigarh Pollution Control Committee	-	Member Secretary

The District Level Special Task Force so constituted shall identify the persons responsible for violation of law in the said matter. The District Level Task Force will submit a monthly action taken report to the State Level Special Task Force and State Level Special Task Force will furnish 3 monthly report or the action taken report to the Central Pollution Control Board.

This is issued with the approval of Competent Authority.

Dated Chandigarh
the September 7th, 2018

DEBENDRA DALAI, IFS
Special Secretary Environment
Chandigarh Administration

Endst.No.ED/2018/1310 - 1322 Chandigarh, dated the 7/9/18

A copy is forwarded to the following for information and necessary action:-

1. Advisor to the Administrator, U.T., Chandigarh.
2. Secretary Environment, Chandigarh Administration.
3. Secretary, Urban Development, U.T., Chandigarh.
4. Secretary, Local Body, U.T., Chandigarh.
5. Commissioner, Municipal Corporation, Chandigarh.
6. Chief Engineer, Engineering Department, Chandigarh Administration.
7. Member Secretary, Chandigarh Pollution Control Committee.
8. District Magistrate, U.T., Chandigarh.
9. Superintendent of Police, Chandigarh Police.
10. One person to be nominated by the District Judge in his capacity of Head of the District Legal Services Authority.
11. Superintending Engineer, Public Health Division, Engineering Department, Chandigarh Administration.
12. Superintending Engineer, Public Health Division, Municipal Corporation, Chandigarh.
13. Scientist 'B', Chandigarh Pollution Control Committee.

DEBENDRA DALAI, IFS
Special Secretary Environment
Chandigarh Administration

Endst.No.ED/2018/1323 Chandigarh, dated the 7/9/18

A copy is forwarded to the Secretary to the Administrator, U.T. Chandigarh for the kind information of the H.E. the Administrator, U.T., Chandigarh.

Annexure-II

(60)

Minutes of the meeting held on 12th September, 2018 regarding preparation of Action Plan w.r.t. Up-gradation of existing Sewage Treatment Plants & Tapping of untreated waste water into Choes/Drainage.

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A meeting to discuss the matter regarding preparation of Action Plan w.r.t. Up-gradation of existing Sewage Treatment Plants & Tapping of untreated waste water into Choes/Drainage is held in the O/o Member Secretary, Chandigarh Pollution Control Committee. The following members were present:-

1. Sh. T.C. Nautiyal, IFS, Member Secretary, Chandigarh Pollution Control Committee.
2. Sh. Vivek Pandey, Scientist 'B', Chandigarh Pollution Control Committee.
3. Sh Harish Kumar Saini, Executive Engineer, Municipal Corporation, Chandigarh.
4. Sh. Amit Sharma, Sub Divisional Engineer, Municipal Corporation, Chandigarh.
5. Sh. Kamal Kishore, Executive Engineer, Chandigarh Administration.
6. Sh. Rajinder Singh, Superintending Engineer, Chandigarh Administration.

The following points have been discussed in the meeting:-

1) Stoppage of sewer discharge point in N-Choe.
2) Stoppage of untreated waste water discharge near Sector 48 (3BRD).
3) Stoppage of waste water discharge points in Sukhna Choe specifically about colony no. 4 & Hallomajra.
4) Stoppage of going of industrial waste water into Sukhna Choe (pump house behind poultry farm)
5) Stoppage of waste water behind Gaushala, Industrial Area, Phase-I, Chandigarh.
6) Stoppage of waste water inside the forest area, Phase-I.
7) Upgradation of existing STPs
8) Construction of new STPs
9) Quantification of complete waste water discharge (Total Load).

During discussion, it has been decided that a joint field visit will be carried out on 18.09.2018 at 11:00 AM onwards alongwith the officers of Engineering Department, Chandigarh Administration and Municipal Corporation, Chandigarh for indentification of all the discharge points of untreated waste water into drains. Thereafter, Engineering Department, Chandigarh Administration and Municipal Corporation, Chandigarh will submit the action plan by 21.09.2018.

Rajinder Singh,
Superintending Engineer, Engg. Deptt. Chd. Admn.

Kamal Kishore,
Executive Engineer, Engg. Deptt. Chd. Admn.

Harish Kumar Saini,
Executive Engineer, MCC

Amit Sharma,
Sub Div. Engineer, MCC

T.C. Nautiyal, IFS
Member Secretary, CPCC

Vivek Pandey,
Scientist 'B', CPCC

Annexure-III

(65)

MINUTES OF THE JOINT INSPECTION HELD ON 18TH SEPTEMBER, 2018 TO CHECK THE DISCHARGE OF UNTREATED WASTE WATER IN SUKHNA CHOE.

A joint inspection was carried out by the following Officers of Engineering Department, Chandigarh Administration, Municipal Corporation, Chandigarh and Chandigarh Pollution Control Committee to check the various points where sewage water is discharged without treatment into Sukhna Choe:-

1. Sh. T.C. Nautiyal, IFS, Member Secretary, Chandigarh Pollution Control Committee.
2. Sh. Vivek Pandey, Scientist 'B', Chandigarh Pollution Control Committee.
3. Sh. Kamal Kishore, Executive Engineer, Chandigarh Administration.
4. Sh. Prabhjot Singh, Sub. Divisional Officer, Municipal Corporation, Chandigarh.
5. Sh. Sukhraj Singh, Sub. Divisional Engineer, Engineering Department, Chandigarh Administration.
6. Sh. Bhupinder Singh, Junior. Engineer, Municipal Corporation, Chandigarh.

The observations are given as under:-

Sr. No.	Point	Status
1	Kishangarh Outlet	There is sewage water discharge from the outlet.
2	Outlet of Village Kishangarh inside Forest Nursery	There is sewage water discharge from the outlet.
3	Outlet of Shastri Nagar	There is sewage water discharge of sewage water.
4	First outlet of Bapu Dham near bridge on the road connecting IT park with Sector 26, Chandigarh	There is sewage water discharge at first outlet of Bapu Dham near bridge on the road connecting IT Park
5	Second outlet of Bapu Dham Colony (Known as Madrasi Colony)	There is sewage water discharge at second outlet of Bapu Dham colony
6	Outlet from back of Gaushala, Industrial Area, Phase-I, Chd.	There is substantial sewage discharge from back of Gaushala, Industrial Area, Phase-I, Chd.
7	Outlet near CTU workshop Industrial Area, Phase-I, Chd. (Inside Forest Area)	There is sewage discharge at the outlet near CTU workshop.

8	Indl. Area, Phase - I, Colony No. 4.	There is discharge from many outlets from Indl. Area, Phase - I, Colony No. 4.
9	Pump House operated by Municipal Corporation behind Central Poultry Development Organization, Indl. Area, Phase - I, Chandigarh.	In case of Non-operation of pump, waste water directly goes to Sukhna Choe on regular basis.
10	Outlet of Village Hallomajra	There is substantial sewage discharge from the outlet of Village Hallomajra.

Other than above, there was one point at Makhan Majra, where waste water leakage is there which is assured by Engineering Department, Chandigarh Administration that they will repair the same with immediate effect.

Thereafter, Engineering Department, Chandigarh Administration and Municipal Corporation, Chandigarh have assured that they will submit the action plan by 21.09.2018 (Friday) on the following points:-

1. Stoppage of Sewage waste water from above points.
2. Up-gradation of existing Sewage Treatment Plants.
3. Tapping of untreated waste water into Choes/Drainage.

Prabhjot Singh, Sub. Div. Officer, MCC

Sukhraj Singh, Sub. Div. Engineer, Engg. Deptt., Chd. Admn.

Bhupinder Singh, Jr. Engineer, MCC

Vivek Pandey, Scientist 'B', CPCC

Kamal Kishore, Executive Engineer, Engg. Deptt. Chd. Admn

T.C. Nautiyal, IFS Member Secretary, CPCC

(171) Annexure - IV

MINUTES OF MEETING OF DISTRICT LEVEL TASK FORCE HELD ON 01.10.2018 AT 11:00 A.M. UNDER THE CHAIRMANSHIP OF DISTRICT MAGISTRATE, U.T. CHANDIGARH IN COMPLIANCE OF HON'BLE NGT ORDER DATED 07.08.2018 IN THE MATTER OF OA NO.138 OF 2016 (TNHRC) (CASE NO. 559/19/11/14) AND OA NO. 139 OF 2016 (TNHRC) TITLED STENCH GRIPS MANSA'S SACRED GHAGGAR RIVER (SUO-MOTU CASE) AND YOGENDER KUMAR.

The following officers were present in the meeting: -

Sr. No.	Name of Officer & Designation	Deptt's. Name	Mobile No.
1.	Sh. Amarinder Sharma, Secretary,	District Legal Services Authority,	7569730007
2.	Sh. Vivek Pandey, Scientist 'B'	Chandigarh Pollution Control Committee	9888116680
3.	Sh. Suresh Kumar, XEN	PH-2, M.C.	-----
4.	Ms. Sarita Roy, SI	I/C Neelam Police Post	9779580932
5.	Sh. Sukhraj Singh, SDE	PH Divn., Engg. Deptt., Chd.	7508185457

At the outset, Sh. Vivek Pandey, Scientist 'B', CPCC apprised about the directions of the Hon'ble National Green Tribunal, New Delhi regarding the discharge of waste water – industrial as well as municipal into River Ghaggar. The District Level Special Task Force will identify the defaulters for discharging the waste water into the drains which ultimately reaches to Ghaggar river. Under the statutory scheme, the Pollution Control Boards are required to prosecute all those who are responsible for discharging the effluents beyond standards and also to close all such commercials/industrial establishments. The District Level Special Task Force will submit monthly report to the State Level Special Task Force. Then, the State Level Task Force will submit a 3 monthly report or recommendation to the Executing Committee.

The following points were discussed in the meeting: -

1. Stoppage of Sewer discharge points in N-Choe.
2. Stoppage of waste water discharge points in Sukhna Choe specifically about colony No.4 & Hallomajra.
3. Stoppage of going of industrial waste water into Sukhna Choe (pump house behind poultry farm).
4. Upgradation of existing STPs/setting up of new STPs.
5. Maintenance of Log Book.
6. Formation of Action Plan.
7. Identification of the defaulters by M.C.

The following decisions were taken in the meeting: -

1. Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration will upgrade the existing STPs/set up new STPs in their respective jurisdiction to meet with the standards directed by CPCB/CPCC

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and action plan in this regard alongwith timeline will be submitted within 15 days. The CPCB will further ensure the purity of water up to 5 BOD.

2. The officers of Chandigarh Pollution Control Committee (CPCC), Engineering Department Chd. Admn. and Municipal Corporation, Chd. have identified the 10 points where sewerage water is discharged without treatment into Sukhna Choe. Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration will take measures to tap these points to ensure that no untreated waste water release into Sukhna Choe. Status report in this regard will be submitted by the M.C. within 15 days.

3. Prior intimation shall be given by the CPCC to the Police Deptt. for providing police protection to the officers for carrying out inspection and deputing the beat cops with the team.

4. Municipal Corporation, Chandigarh will provide the list of industrial plots who have not taken sewer connection.

5. Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration will make standby arrangement of pumps alongwith the existing pumps at sewage pumping stations and Log Book shall be maintained at each pumping station.

6. Points where waste water is being discharged into N-Choe to be identified in the coming time in scheduled manner. M.C. and CPCC will submit plan of action in 15 days.

7. CPCC will provide the quality of drains at entry/exit points of Chandigarh region.

8. MC, Chd. will provide the details of discharge points at Patiala ki rao and provide the action plan for stoppage of the same.

9. MC, Chd. will identify the people who have laid down illegal pipelines and discharging waste water into storm water drainage system/drains and Public Notice shall be given by the CPCC in this regard. Police will follow this.

10. The next meeting will be held on 10.10.2018.

Amarinder Sharma, Secretary
O/o District Legal Services Authority
(Member)

Vivek Pandey, Scientist 'B'
O/o Chd. Pollution Control Board
(Member)

Suresh Kumar, XEN
O/o P.H. Divn. No.2, M.C.
(Member)

Sarita Roy, SI
I/C Neelam Police Post
O/o Superintendent of Police,
(Member)

Sukhraj Singh, SDE
O/o P.H. Divn. Engg. Deptt.
(Member)

Sachin Rana, IAS
District Magistrate, Chd.
(Chairman)

Annexure-V

MINUTES OF 2nd MEETING OF DISTRICT LEVEL TASK FORCE HELD ON 11.10.2018 AT 09:30 A.M. UNDER THE CHAIRMANSHIP OF SHRI SACHIN RANA, IAS, DISTRICT MAGISTRATE, U.T. CHANDIGARH IN COMPLIANCE OF HON'BLE NGT ORDER DATED 07.08.2018 IN THE MATTER OF OA NO.138 OF 2016 (TNHRC) (CASE NO. 559/19/11/14) AND OA NO. 139 OF 2016 (TNHRC) TITLED STENCH GRIPS MANSA'S SACRED GHAGGAR RIVER (SUO-MOTU CASE) AND YOGENDER KUMAR.

The following officers were present in the meeting: -

Sr. No.	Name of Officer & Designation	Deptt's. Name	Mobile No.
1	Sh. Vivek Pandey, Scientist 'B'	Chandigarh Pollution Control Committee	9888116680
2	Sh. Suresh Kumar Gill, XEN	PH-2, M.C.	9872511258
3	Insp. Pavnesh Kumar	Chandigarh Police	9779580998
4	Sh. Sukhraj Singh, SDE	PH Divn., Engg. Deptt., Chd.	7508185457

Initially, Sh. Vivek Pandey, Scientist 'B', CPCC submitted the test reports of water quality of all the three drains at Entry and Exit points of Chandigarh and also submitted the list showing waste water discharge points at N-Choe. He also informed that public notice w.r.t. prohibition of discharge of waste water into drains, as decided in 1st meeting, has been published in various newspapers. He further apprised that BOD/TSS levels are very high at all the exit points which should be less than 30 mg/l for BOD and 100 mg/l for TSS as per existing norms. He has also submitted that there is no provision for treatment of coliform in the existing STPs except in Diggian which is also not sufficient. He, thereafter informed the Chair that the action plan has not been received from both the deptt. and DO letters have also been sent by the Secretary Environment.

Further, Sh. Suresh Kumar, XEN, P.H., Divn. No. 2, M.C apprised that waste water discharge in N-Choe has been stopped upto sector 23 and action plan for stopping of remaining points will be submitted by the M.C. immediately in two days of this meeting.

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The following decisions were taken in the meeting: -

1. The points through which the waste water is being discharged directly into the N-choe should be closed within 15 days by the M.C. with the support of police.

2. The format for action plan will be given by CPCC to the Municipal Corporation and Engg. Deptt., Chd. Admn. by today and thereafter the action taken report will be submitted by both the departments within three days.

3. The next meeting will be held on 22.10.2018 at 04:00 p.m.

Vivek Pandey, Scientist 'B'
O/o Chd. Pollution Control Board
(Member)

Suresh Kumar, XEN
12/10/18
O/o P.H. Divn. No.2, M.C.
(Member)

Pavnesh Kumar, Insp. 12/X/18
O/o Superintendent of Police,
(Member)

Sukhraj Singh, SDE
O/o P.H. Divn. Engg. Deptt.
(Member)

Sachin Rana, IAS
District Magistrate, Chd.
(Chairman)

Annexure-VI

MINUTES OF 3rd MEETING HELD ON 07.12.2018 AT 03:00 P.M. UNDER THE CHAIRMANSHIP OF DEPUTY COMMISSIONER, U.T. CHANDIGARH IN CONNECTION WITH THE DIRECTIONS DATED 07.08.2018 ISSUED BY THE HON'BLE NGT IN THE MATTER O.A. No. 138 of 2016 AND O.A. No. 139 of 2016 TITLED – "STRENCH GRIPS MANSA's SACRED GHAGGAR RIVER AND YOGENDER KUMAR".

The following officers were present in the meeting: -

Sr. No.	Name of Officer & Designation	Deptt's. Name	Mobile No.
1.	Sh. Amarinder Sharma, Secretary,	District Legal Services Authority,	7569730007
2.	Er. Sh. Sanjay Arora, SE	S.E. (PH) MCC	995711456
2.	Sh. Vivek Pandey, Scientist 'B'	Chandigarh Pollution Control Committee	9888116680
3.	Sh. Suresh Gill, XEN	M.C., P.H.-2	9872511258
4.	Sh. I.D. Sharma, XEN	P.H., M.C.	9872511231
5.	Ms. Shobhna Pathania, Nodal Officer, Health Department	GMSH-16, Chd.	9041046076
6.	Sh. Kamal Kishore, XEN	P.H.-3, Chd.	9915222400
7.	Sh. Vijay Kumar, XEN	M.C. P.H.	9872511245
8.	Sh.Sukhraj Singh, SDE	O/o EE PH-3	7508185457
9.	Sh. Rajbir Singh, SDE	P.H., MC	9872511352
10.	Sh. Harish Saini, XEN	PH-1, M.C.	9872511254
11.	Dr. Amrit, MOH	M.C.	9888348852
12.	Sh. Jaspal Singh, SHO, PS-17	Police Deptt.	9779580917
13.	Sh. N.P. Sharma, General Manager	Chandigarh Smart City Ltd.	9781010000
14.	Sh. Surinder Kumar, SDO (Bldg.)	Estate Office	9216465070

At the outset, Sh. Vivek Pandey, Scientist 'B', CPCC apprised about the directions of the Hon'ble National Green Tribunal, New Delhi regarding the discharge of effluents – industrial as well as municipal into River Ghaggar. The District Level Special Task Force will identify the defaulters for discharging the effluents into the Ghaggar river beyond standards. Under the statutory scheme, the Pollution Control Boards are required to prosecute all those who are responsible for discharging the affluents beyond standards and also to close all commercials establishments. The District Level Special Task Force will submit monthly report to the State Level Special Task Force. Then, the State Level Task Force will submit a 3 monthly report or recommendation to the Central Pollution Control Board.

Sh. Vivek Pandey Informed that River Ghaggar is passing around 7 Kms. far from Chandigarh and there are two main sources of discharge from Chandigarh 1) Sukhna Choe 2) N-Choe. In these choes two types of waste water is being discharged

1) Treated waste water from the STPs.
2) Direct discharge of untreated waste water

Thereafter Municipal Corporation and Engg. Department were asked to provide the information related to action taken on discharge points in Sukhna Choe and N-Choe and action

plan where action is yet to be taken. Details w.r.t. action taken and action plan are as given below :

STATUS OF UNTREATED WASTE WATER DISCHARGE IN SUKHNA CHOE

Sr. No.	Point	Status as on September 2018	Status as on 07.12.2018	Action Plan
1	Kishangarh Outlet	There is sewage water discharge from the outlet.	As a short term measure proposal has been submitted to lift the waste water and connect it with sewerage line	STP has been proposed to treat the waste water (Will be commissioned by Nov. 2022)
2	Outlet of Village Kishangarh inside Forest Nursery	There is sewage water discharge from the outlet.	Still sewage is being discharged	Chandigarh Administration will tap the same by 31.03.2019.
3	Outlet of Shastri Nagar	There is sewage water discharge.	Sump has already been created	Sewage water will be pumped to the sewer line.
4	First outlet of Bapu Dham near bridge on the road connecting IT park with Sector 26, Chandigarh	There is sewage water discharge at first outlet of Bapu Dham near bridge on the road connecting IT Park	Leakage has been plugged.	-
5	Second outlet of Bapu Dham Colony (Known as Madrasi Colony)	There is sewage water discharge at second outlet of Bapu Dham colony	The slum developers have constructed their toilets on the existing CBD. Matter has now been taken up with Estate Office, U.T. Chandigarh for removal of encroachment on the CBD at Bapu Dham Colony, so that flow coming into Choe may be plugged.	Municipal Corporation Chandigarh will stop all such discharges within 10 days by providing alternate arrangements for the locals i.e. 18.12.18
6	Outlet from back of Gaushala, Industrial Area, Phase-I, Chd.	There is substantial sewage discharge from back of Gaushala, Industrial Area, Phase-I, Chd.	-	Municipal Corporation Chandigarh will plug the discharge within 10 days i.e. 18.12.18
7	Outlet near CTU workshop Industrial Area, Phase-I, Chd. (Inside Forest Area)	There is sewage discharge at the outlet near CTU workshop.	CTU has plugged the waste water flow. Now there is no waste water discharge.	Regular inspection will be done to ensure that there is no waste water discharge into

				Sukhna Choe.
8	Indl. Area, Phase - I, Colony No. 4.	There is discharge from many outlets from Indl. Area, Phase - I, Colony No. 4.	Waste water has already been tapped and diverted to sewer line.	Regular inspection will be done to ensure that there is no waste water discharge into Sukhna Choe.
9	Pump House operated by Municipal Corporation behind Central Poultry Development Organization, Indl. Area, Phase - I, Chandigarh.	In case of Non-operation of pump, waste water directly goes to Sukhna Choe on regular basis.	New stand by motor has already been installed and now no waste water is being discharged into Sukhna Choe.	Regular inspection will be done to ensure that there is no waste water discharge into Sukhna Choe.
10	Outlet of Village Hallomajra	There is substantial sewage discharge from the outlet of Village Hallomajra.	Around 70% of household have been connected to sewer line and for remaining 30% work is under process.	By 31.01.2019 all the household will be connected to sewer line.
11	Village Daria	There is discharge of sewage water from Village Daria	Excess sewage of unauthorised colony in village Daria has been tapped and put in the sump and the same is being pumped into the sewer line.	-

STATUS OF UNTREATED WASTE WATER DISCHARGE IN N- CHOE

Sr. No.	Point	Status as on September 2018	Status as on 07.12.2018	Action Plan
1	leisure valley	02 outlets are discharging waste water	Outlets have been plugged. Now there is no waste water discharge.	-
2	Near red cross (Madhya Marg)	01 outlet discharging waste water	Outlet has been plugged. Now there is no waste water discharge.	-
3	Sec 23 near B.D Hospital (Neuro Psychiatry)	01 outlet discharging waste water	Outlet has been plugged. Now there is no waste water discharge.	-

4	Bal Bhawan side	Very less discharge	Outlet has been plugged. Now there is no waste water discharge.	-
5	01 outlet in Beant Memorial	Water logging	-	This is major work and will be completed by August, 2019.
6	sector 52 (starting)	Two outlets discharging Sewage Water	-	Municipal Corporation Chandigarh will plug the discharge within 10 days i.e. 18.12.18
7	sector 52 (End)	Two outlets discharging Sewage Water	-	Municipal Corporation Chandigarh will plug the discharge within 10 days i.e. 18.12.18
8	One outlet coming from Sec 51	Sewage Water	Already tapped.	-

STATUS OF TREATED WASTE WATER FROM STPs DISCHARGE INTO RIVER GHAGGAR

At present five Sewage Treatment Plants are **operational** in Chandigarh as per detail given below.

Sr. No.	Location of STP	Capacity
1.	Diggian	30 MGD (1.36,200 KLD)
2.	3 BRD	11 MGD (49,940 KLD)
3.	Raipur Kalan	5 MGD (22,700 KLD)
4.	Raipur Khurd	1.25 MGD (5,675 KLD)
5.	Dhanas	1.6 MGD (7,264 KLD)

Chandigarh Smart City Limited is in process for **upgradation** of below 05 STPs to treat the waste water upto the level of 5 mg/l BOD and also in the process for setting up of new STPs as per detail given below.

Sr. No.	Location of STP	Capacity	Action Plan
1.	Diggian	30 MGD (1,36,200 KLD)	Will be upgraded to treat the waste water upto the level of 5 mg/l BOD by **Nov. 2022**
2.	3 BRD	11 MGD (49,940 KLD)	Will be upgraded to treat the waste water upto the

			level of 5 mg/l BOD by Nov. 2022
3.	Raipur Kalan	5 MGD (22,700 KLD)	Will be upgraded to treat the waste water upto the level of 5 mg/l BOD by Nov. 2022
4.	Raipur Khurd	1.25 MGD (5,675 KLD)	Will be upgraded to 2.0 MGD Capacity and to treat the waste water upto the level of 5 mg/l BOD by Nov. 2022
5.	Dhanas	1.6 MGD (7,264 KLD)	Will be upgraded to treat the waste water upto the level of 5 mg/l BOD by Nov. 2022

02 Nos. new Sewage Treatment Plants are **under construction.**

Sr. No.	Location of STPs	Capacity	Remarks	Timelines
1.	Maloya	5 MGD (22,700 KLD)	Constructed by Municipal Corporation, Chandigarh	Will be operational by 31st January 2019
2	Raipur Kalan	1.25 MGD (5,675 KLD)	Constructed by Engineering Department, Chandigarh Administration.	Not provided

Further, 01 No. new Sewage Treatment Plant is **proposed.**

Sr. No.	Location of STPs	Capacity	Remarks	Timelines
1	Kishangarh near Sukhna Lake	2.0 MLD (2,000 KLD)	As informed by Chandigarh Smart City Limited	Will be Completed by November 2022

However it was informed by Sh. Vivek Pandey that some of the STPs are not meeting with the prescribed norms (Designed criteria). Chairman told the Municipal Corporation and Engg. Deptt., Chd. Admn. to look into the matter immediately and to ensure that all the waste water treated from STPs should meet with prescribed norms otherwise responsibility will be fixed and suitable action would be taken. Following decisions were also taken during meeting :

1. Action Plan as prepared above should be complied by all the respective deptt.
2. One Seminar will be conducted by Municipal Corporation Chandigarh in association with Health department and CPCC to aware/sensitize the public regarding ill effects and penal provisions w.r.t. illegal discharge of waste water into drains/Choes.
3. During next sampling CPCC will inform MCC and Engg. Deptt., Chd. Admn. So that they can also take samples simultaneously if they want.
4. SDO (Bldg.) will provide the list of industrial plots, by 17.12.18, who have not taken sewerage connection till date.

5. Health Deptt. will conduct health camp in the month of December also.
6. Municipal Corporation will provide the information related to ground water extraction as required by CPCC by 17.12.18.

The meeting ended with a vote of thanks to the Chair.

Annexure-VII

Monthly Status Report for October w.r.t. O.A. No. 138 of 2016 and O.A. No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu case)

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It is submitted that Hon'ble National Green Tribunal, Principal Bench, New Delhi has passed an order dated 7th August, 2018 **(flag 'A')** vide which it is informed that proceedings in the matter O.A. No. 138 of 2016 and O.A. No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu case) were initiated before the Tribunal on a reference received from the National Human Right Commission (NHRC). The NHRC took Suo-Motu action on the basis of a news item appearing in The Tribune, dated 12.05.2014 under the caption "Stench Grips Mansa's Sacred Ghaggar River" to the effect that the river Ghaggar had turned into a polluted water body on account of discharge of effluents – industrial as well as municipal.

In pursuant to the order of Tribunal dated 09.12.2016, a joint inspection has been carried out by the representatives of the Central Pollution Control Board, Punjab State Pollution Control Board, Haryana Pollution Control Board, Himachal Pradesh State Pollution Control Board. Officials of Union Territory, Chandigarh also joined the said inspection team. Further, as per report, submitted by the concerned Pollution Control Boards to the NHRC as well as Minutes of the meetings on various dates in which the respective States participated. The joint analysis report of the joint monitoring of river Ghaggar samples has also been filed. The findings of the joint inspection report are that values of various parameters such as BOD, TSS, Faecal Coliform, Lead and Iron were beyond permissible limits at most of the locations in Himachal Pradesh, Haryana, Punjab and Chandigarh.

The Chief Secretaries of the States of Himachal Pradesh, Haryana, Punjab and also the Administrator of U.T., Chandigarh have been directed to constitute Special Task Force (STFs) comprising of District Magistrate, Superintendent of Police, Regional Officer of the State Pollution Control Board in concerned District and one person to be nominated by the District Judge in every District in his capacity of Head of the District Legal Services Authority. Such STF may identify persons responsible for violation of law so that action can be taken. At the State Level, the STF will comprise of the Chief Secretary, Secretary Environment, Secretary of Urban Development and Secretary of Local Body. The District Level Special Task Force will submit a monthly action taken report to the State Level Task Force and State Level Special Task Force will furnish 3 monthly report or the action taken to the Central Pollution Control Board

An Executive Committee was also constituted by Hon'ble NGT (as per para 8 of the order) under the Chairmanship of Justice Pritam Pal, Former Judge, Punjab and Haryana High Court. A preliminary meeting of the representatives of all the State/UT was held on 31.08.2018, in which, the issue of constitution of Special Task Force (STF) in compliance of the above referred order of the Hon'ble NGT was also discussed (para 6 of the order).

		(placed **at Annexure-III**)
6	CPCC will provide the quality of drains at entry/exit points.	CPCC has provided the Data in 2nd meeting (placed **at Annexure-IV**).
7	MC, Chd. will provide the details of discharge points at Patiala kiRao and provide the action plan for stoppage of the same.	Not provided by Municipal Corporation, Chandigarh
8	MC, Chd. will identify the people who have laid down illegal pipelines and discharging waste water into storm water drainage system/drains and Public Notice shall be given by the CPCC in this regard	Not provided by Municipal Corporation, Chandigarh

The second meeting of District Level Special Task Force was held on 11.10.2018. The detail of decisions taken in the said meeting and action taken on the decisions are given as under:-

Sr. No.	Decision taken in the meeting	Action taken report
1	The points through which the waste water is being discharged directly into the N-choe should be closed within 15 days by the M.C.	No reply was received from Municipal Corporation, Chandigarh
2	The draft of action plan will be given by the Environment Deptt. to the Municipal Corporation by today and thereafter the action taken report will be submitted by the Municipal Corporation within todays.	Format for Action Plan has been provided to both Agencies but Action Plan has not been received.
3	The pipeline laid down illegally by the road side vendors near the N-choe should be closed by the M.C. within 3-4 days.	No reply has been received.
4	Advertisement should be given by the M.C. in which the team is going for removal of pipeline laid down illegally in the area under the Chandigarh jurisdiction by the roadside vendors near the N-choe.	No intimation was provided by Municipal Corporation, Chandigarh

Thereafter, meeting of all the concerned Head of Departments alongwith their Nodal Officers as well as State Level Special Task Force and District Level Special Task Force was held on 22nd October, 2018 under the Chairmanship of Justice Pritam Pal, Chairman, Executing Committee.

As per the directions of Executing Committee reply has been filed by the Municipal Corporation, Chandigarh w.r.t. Solid Waste Management and Waste Water discharge however no reply from Engineering Department, Chandigarh Administration (which is managing some areas of drains & STPs)

and Chandigarh Smart City Limited (which is going to upgrade existing STPs & setting up of new STPs).

Sub:- Interim monthly Status Report for Nov w.r.t. O.A. No. 138 of 2016 and O.A. No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu case)

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Interim report regarding progress on the points discussed earlier is as follows:

Sr. No.	Decision taken in the meeting	Action taken report
1	Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration will upgrade the existing STPs/set up new STPs in their respective jurisdiction to meet with the standards directed by CPCB/CPCC and action plan in this regard alongwith timeline will be submitted within 15 days.	Action Plan has been submittedby Municipal Corporation on 06.11.2018
2	The officers of Chandigarh Pollution Control Committee (CPCC), Engineering Department Chd. Admn. and Municipal Corporation, Chd. have identified the 10 points where sewerage water is discharged without treatment into SukhnaChoe. Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration will take measures to tap these points to ensure that no untreated waste water release into SukhnaChoe. Status report in this regard will be submitted by the M.C. within 15 days.	Reply submitted by Municipal Corporation, Chandigarh & Engineering Department, Chandigarh Administration is placed at **Annexure-I & II**.
3	Prior intimation shall be given by the CPCC to the Police Deptt. for providing police protection to the officers for carrying out inspection and deputing the beat cops with the team.	Action will be taken whenever required.
4	Municipal Corporation, Chandigarh will provide the list of industrial plots who have not taken sewer connection.	To be provided by SDO Building branch who grants permission for sewerage connection on completion of building
5	Points where waste water is being discharged into N-Choe to be identified in the coming time	CPCC has provided the list of points where waste water is being discharged into N-Choe in 2nd meeting (placed **at Annexure-III**)

		7 points of discharge into N-Choe have been plugged. Only one at Beant Memorial is left now, estimate of approx. 3 crores, for the same is being prepared. 9 Months time is required for the same.
6	CPCC will provide the quality of drains at entry/exit points.	CPCC has provided the Data in 2nd meeting (placed **at Annexure-IV**).
7	MC, Chd. will provide the details of discharge points at Patiala kiRao and provide the action plan for stoppage of the same.	Sewerage treatment plant to tap the discharge points is in commissioning stage and all the discharge points will be tapped in next three months.
8	MC, Chd. will identify the people who have laid down illegal pipelines and discharging waste water into storm water drainage system/drains and Public Notice shall be given by the CPCC in this regard	The sullageidentified as coming through the standpostsstands plugged.
9	The points through which the waste water is being discharged directly into the N-choe should be closed within 15 days by the M.C.	Complied as detailed in S.No. 5 above
10	The draft of action plan will be given by the Environment Deptt. to the Municipal Corporation by today and thereafter the action taken report will be submitted by the Municipal Corporation within todays.	Action plan has been received.
11	The pipeline laid down illegally by the road side vendors near the N-choe should be closed by the M.C. within 3-4 days.	Needful has been done.
12	Advertisement should be given by the M.C. in which the team is going for removal of pipeline laid down illegally in the area under the Chandigarh jurisdiction by the roadside vendors near the N-choe.	Needful has been done.

Minutes of 1st Meeting of State Level Special Task Force held on 19th December, 2018 under the Chairmanship of Worthy Advisor to the Administrator in compliance to the Hon'ble NGT order dated 07.08.2018 in the matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) and Yogender Kumar.

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1st Meeting of State Level Special Task Force was held on 19th December, 2018 under the Chairmanship of Worthy Advisor to the Administrator in U.T., Secretariat, Sector 9, Chandigarh to discuss the report submitted by District Level Special Force in compliance to the Hon'ble NGT order dated 07.08.2018 in the matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) and Yogender Kumar. The list of officials who attended the meeting is enclosed as Annexure-I.

The Chairman welcomed all the Members of State Level Special Task Force as well as officers of Chandigarh Administration. Thereafter the Member Secretary, State Level Special Task Force informed the members about the order of Hon'ble NGT and constitution of Executing Committee, District level Special Task Force and State Level Special Task Force. He further informed that District Level Special Task Force has conducted three meeting and submitted the report to State Level Special Task Force. Accordingly, all the information has been compiled and shown to the members in the form of Power Point Presentation. During presentation, Member Secretary informed about the status of waste water discharge and other related issues. He further informed that water supply in Chandigarh was coming from Bhakra main line through Kajouli and Sector 39 Water Works. Around 67 MGD water is being supplied from this and 22 MGD water is being supplied through tubewells. Total around 89 MGD is being supplied daily to Chandigarh and as per the information provided by Municipal Corporation, Chandigarh total waste water generation is around 58 MGD and treatment capacity is 48.85 MGD. At present 05 Nos. of Sewage Treatment Plants are operational in Chandigarh.

Thereafter, members were apprised of status of waste water discharge points at Sukhna Choe and N-Choe and action taken along with Action plan to stop the same as per details given below :-

Sr. No.	Point	Status as on September 2018	Status as on 07.12.2018	Status as on 19.12.2018	Long Term/Short Term Action Plan
1	Kishangarh Outlet	There is sewage water discharge from the outlet.	As a short term measure proposal has been submitted to lift the waste water and connect it with sewerage line	-	STP has been proposed to treat the waste water (Will be commissioned by Nov. 2022)
2	Outlet of Village Kishangarh inside Forest Nursery	There is sewage water discharge from the outlet.	Still sewage is being discharged	-	Chandigarh Administration will tap the same by 31.03.2019.
3	Outlet of Shastri Nagar	There is sewage water discharge.	Sewage water has been tapped.	-	-
4	First outlet of Bapu Dham near bridge on the road connecting IT park with Sector 26, Chandigarh	There is sewage water discharge at first outlet of Bapu Dham near bridge on the road connecting IT Park	Leakage has been plugged.	Leakage has been plugged	-
5	Second outlet of Bapu Dham Colony (Known as Madrasi Colony)	There is sewage water discharge at second outlet of Bapu Dham colony	The slum residents have constructed their toilets on the existing CBD. Matter has now been taken up with Estate Office, U.T. Chandigarh for removal of encroachment on the CBD at	All such discharges points have been plugged	-

			Bapu Dham Colony, so that flow coming into Choe may be plugged.		
6	Outlet from back of Gaushala, Industrial Area, Phase-I, Chd.	There is substantial sewage discharge from back of Gaushala, Industrial Area, Phase-I, Chd.	-	Municipal Corporation Chandigarh has plugged the discharge points	-
7	Outlet near CTU workshop Industrial Area, Phase-I, Chd. (Inside Forest Area)	There is sewage discharge at the outlet near CTU workshop.	CTU has plugged the waste water flow. Now there is no waste water discharge.	-	-
8	Indl. Area, Phase - I, Colony No. 4.	There is discharge from many outlets from Indl. Area, Phase - I, Colony No. 4.	Waste water has already been tapped and diverted to sewer line.	-	-
9	Pump House operated by Municipal Corporation behind Central Poultry Development Organization, Indl. Area, Phase - I, Chandigarh.	In case of Non-operation of pump, waste water directly goes to Sukhna Choe on regular basis.	New stand by motor has already been installed and now no waste water is being discharged into Sukhna Choe.	-	-
10	Outlet of Village Hallomajra	There is substantial sewage discharge from the outlet of	Around 70% of household have been connected to sewer line and	All the household will be connected to sewer line within time	By 31.01.2019 all the household will be connected to

		Village Hallomajra.	for remaining 30% work is under process.	line.	sewer line.
11	Village Daria	There is discharge of sewage water from Village Daria	Excess sewage of unauthorised colony in village Daria has been tapped and put in the sump and the same is being pumped into the sewer line.	-	-

Status of N-Choe

Sr. No.	Point	Status as on September 2018	Status as on 07.12.2018	Status as on 19.12.2018	Action Plan/Action Taken
1	leisure valley	02 outlets are discharging waste water	Outlets have been plugged. Now there is no waste water discharge.	-	-
2	Near red cross (Madhya Marg)	01 outlet discharging waste water	Outlet has been plugged. Now there is no waste water discharge.	-	-
3	Sec 23 near B.D Hospital (Neuro Psychiatry)	01 outlet discharging waste water	Outlet has been plugged. Now there is no waste water discharge.	-	-

4	Bal Bhawan side	Very less discharge	Outlet has been plugged. Now there is no waste water discharge.	-	-
5	01 outlet in Beant Memorial	Water logging	-	-	This is major work and will be completed by August, 2019.
6	Sector 52 (starting)	Two outlets discharging Sewage Water	-	-	(related with Sr. No. 5) Will be plugged by 31.12.2019
7	Sector 52 (End)	Two outlets discharging Sewage Water	-	-	One outlet has been plugged and another outlet will be plugged by 31.12.2019.
8	One outlet coming from Sec 51	Sewage Water	Already tapped.	-	-

The Member Secretary also informed that the status of existing STPs, under construction STPs and proposed STPs. It was also informed that Chandigarh Smart City Ltd. is going to upgrade existing STPs to treat the waste water upto the level of less than 5 mg/l BOD and the work will be completed by Nov. 2022. The details of STPs are given as under:-

Existing STPs Operational in Chandigarh:-

Sr. No.	Location of STP	Capacity
1.	Diggian	30 MGD (1,36,200 KLD)
2.	3 BRD	11 MGD (49,940 KLD)
3.	Raipur Kalan	5 MGD (22,700 KLD)
4.	Raipur Khurd	1.25 MGD (5,675 KLD)
5.	Dhanas	1.6 MGD (7,264 KLD)

Sewage Treatment Plants **under construction:-**

Sr. No.	Location of STPs	Capacity	Remarks	Timelines
1.	Maloya	5 MGD (22,700 KLD)	Constructed by Municipal Corporation, Chandigarh	Will be operational by 31.01.2019
2	Raipur Kalan	1.25 MGD (5,675 KLD)	Constructed by Engineering Department, Chandigarh Administration.	Will be operational by 30.06.2019.

Proposed Sewage Treatment Plant:-

Sr. No.	Location of STPs	Capacity	Remarks	Timelines
1	Kishangarh near Sukhna Lake	2.0 MLD (2,000 KLD)	As informed by Chandigarh Smart City Limited	Will be Completed by November 2022

Advisor to the Administrator appreciated the action taken on Short Term Plans and advised for continuous monitoring on Long Term Plan. He further suggested that the Municipal Corporation, Chandigarh should explore setting up of localised Sewage Treatment Plants in existing colonies. Commissioner, Municipal Corporation informed that Sewage Treatment Plant of Maloya is now ready and under commissioning stage.

Advisor to the Administrator also directed that if there is any discharge found other than the above points, the same should be stopped immediately.

Member Secretary informed that presently some of the STPs are not running up to the mark and even fail to achieve the designed level of BOD i.e. 30 mg/l. Advisor directed all concerned to look into the matter and to take appropriate action so that all STPs meet the prescribed norms. Sh. Sanjay Arora, Suptt. Engineer, Public Health Chandigarh Admn. informed that gap between the treatment capacity and waste water generation is not correct projection as water loss during transmission has not been accounted for. Thereafter Advisor directed him to provide the exact figures to CPCC so that same can be incorporated in Action Plan to be forwarded to Executing Committee.

Advisor also desired to call Chief Architect, Chandigarh Administration as Special Invitee from next meeting onwards.

The Member Secretary informed the committee about the Industrial Scenario in Chandigarh, Bio-Medical Waste Management, Municipal Solid Waste

Management in Chandigarh, Hazardous Waste Management, Plastic Waste Management and E-Waste Management in Chandigarh, which is being carried out as per the prescribed rules.

District Commissioner, Chairman of the District Level Task Force complimented the Engg. Department of U.T. Admn. and Municipal Corporation for speedy action in stopping the waste water discharge in Sukhna Choe and N-Choe. Advisor also appreciated the efforts of both the Engg. wings and directed to ensure continuous compliance of orders of Hon'ble NGT. The Committee discussed and approved the Action Plan with Timeline of upgradation of existing STPs and setting up of new STPs as well as stopping of discharge of waste water into drains.

The meeting ended with thanks to the Chair.

Test Results of Industries

Annexure - VIII

Sr No.	Name of the Unit	Address	Process ↓ / Permissible Limit	PARAMETERS							STATUS
				pH	TSS (mg/l)	COD (mg/l)	BOD (mg/l)	NH_3-N (mg/l)	PO_4-P (mg/l)	O& G (mg/l)	
				5.5-9.0	600	...	350	50	....	20	
1	A.B. MOTORS	Plot No. 53, Indl. Area Ph-II, Chd	Service Station	7.50	13	114	38	2.48	0.22	<1	Complied
2	KLG Enterprises (Hotel KLG)	Plot No. 51, Indl. Area Ph-II, Chd	Hotel	7.18	10	58	29	0.37	0.03	<1	Complied
3	Krishna Automobiles	Plot No. 177-E, Indl. Area Ph-I, Chd	Service Station	7.31	189	219	111	3.60	0.39	2.5	Complied
4	Em Pee Motors Ltd.	Plot No. 177-H, Indl. Area Ph-I, Chd	Service Station	7.17	80	276	50	3.60	0.28	3.5	Complied
5	Rock & Storm Bottlers Pvt. Ltd.	Plot No. 214, Indl. Area Ph-I, Chd	Bottling Plant	6.31	59	13800	6750	2.91	0.19	1.3	Non-Complied
6	Kujjal Builders Hotel (The Lalit)	RGCTP, Kishangarh	Hotel	7.56	187	495	123	6.34	0.50	<1	Complied
7	DLF Info City Developers (Chandigarh) Ltd	PLOT NO. 2, RGCTP, Kishangarh	IT Industry	7.03	20	59	31	6.34	6.02	<1	Complied
8	Infosys Limited	PLOT NO.1, RGCTP, Kishangarh	IT Industry	7.14	12	66	23	45.12	2.09	<1	Complied
9	Tech Mahindra Ltd.	PLOT NO.23 (SEZ) PH-II, RGCTP, Kishangarh	IT Industry	7.37	35	79	42	37.67	3.92	1	Complied
10	Punjab State Co-op. Milk Producer's Fed Ltd. (Milk Plant	Indl. Area, Ph-I, Chd.	Milk Plant	8.14	116	153	56	2.48	1.78	2.3	Complied
11	Freaking Amazing Foods Pvt. Ltd.	SCO 32, Sec 26, Chd	Micro Brewery	6.95	17	13	4	1.85	0.27	<1	Complied
12	Lemon Tree Hotels	Plot No. 3 (MW), Indl. Area Ph-I, Chd	Hotel	7.90	109	375	165	38.72	2.04	<1	Complied
13	Hind Inns & Hotels Ltd.	Plot No. 15, Indl. Area Ph-I, Chd	Hotel	7.15	15	64	18	18.90	1.23	<1	Complied
14	PASCO Motors	Plot No. 2, Indl. Area Ph-I, Chd	Service Station	7.05	17	88	21	3.85	0.32	1.1	Complied

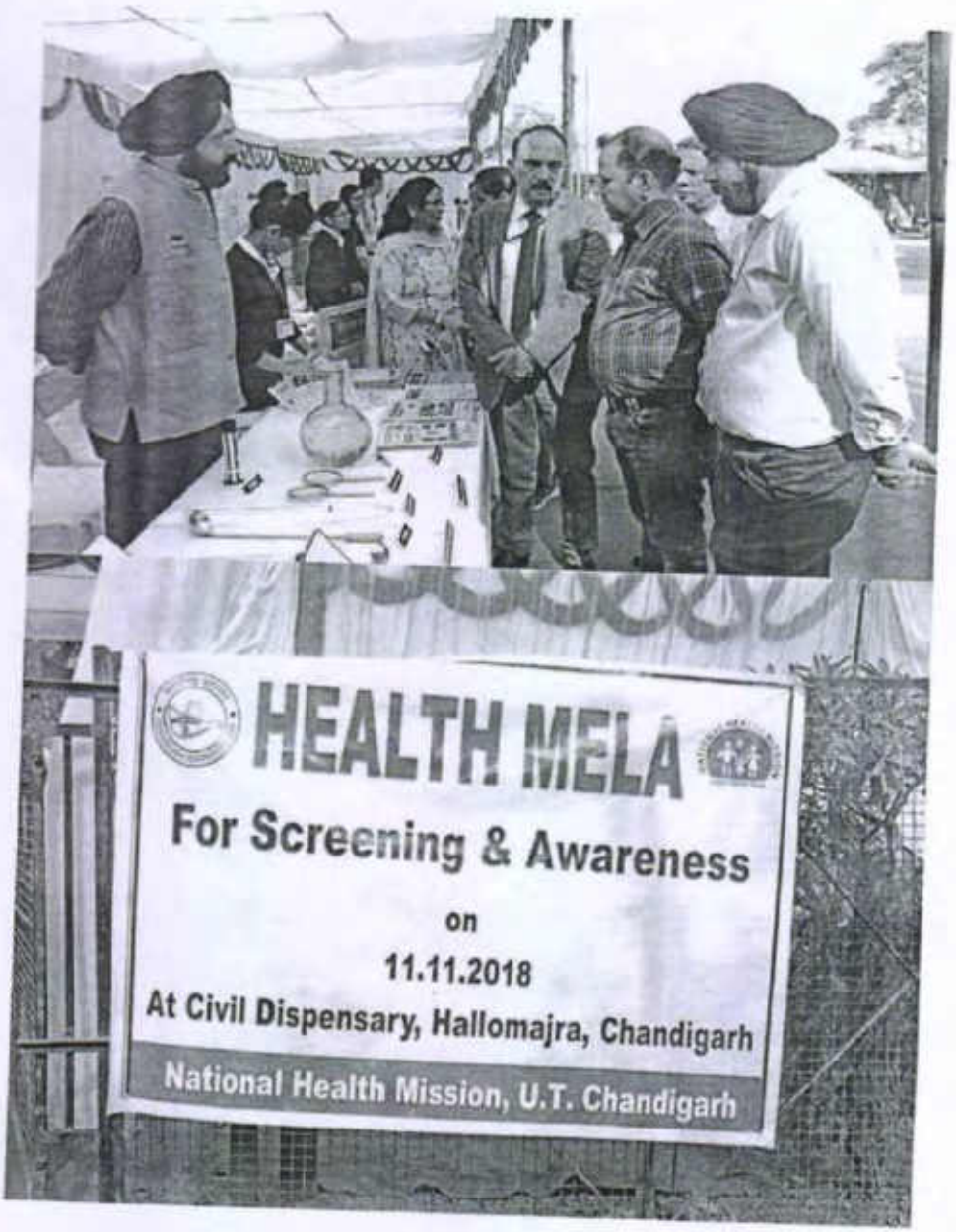
Sr No.	Name of the Unit	Address	Process ↓	PARAMETERS							STATUS
				pH	TSS (mg/l)	COD (mg/l)	BOD (mg/l)	NH_3-N (mg/l)	PO_4-P (mg/l)	O& G (mg/l)	
			Permissible Limit	**5.5-9.0**	**600**	**...**	**350**	**50**	**....**	**20**	
15	Charisma Goldwheels	Plot No. 7, Indl. Area Ph-I, Chd	Service Station	6.95	112	223	63	3.00	0.41	1.8	Complied
16	Sterling Mobikes Pvt. Ltd.	Plot No. 167, Indl. Area Ph-I, Chd	Service Station	7.10	8	36	11	1.51	0.56	<1	Complied
17	Lally Motors Ltd.	Plot No. 6, Indl. Area Ph-I, Chd	Service Station	7.05	173	247	71	3.42	0.64	1.3	Complied
18	G.M.P. Motors	Plot No. 128, Indl. Area Ph-I, Chd	Service Station	7.05	13	106	45	4.88	0.38	<1	Complied
19	Modern Automoblies	Plot No. 4 (MW), Indl. Area Ph-I, Chd	Service Station	6.95	30	127	36	5.05	0.4	<1	Complied

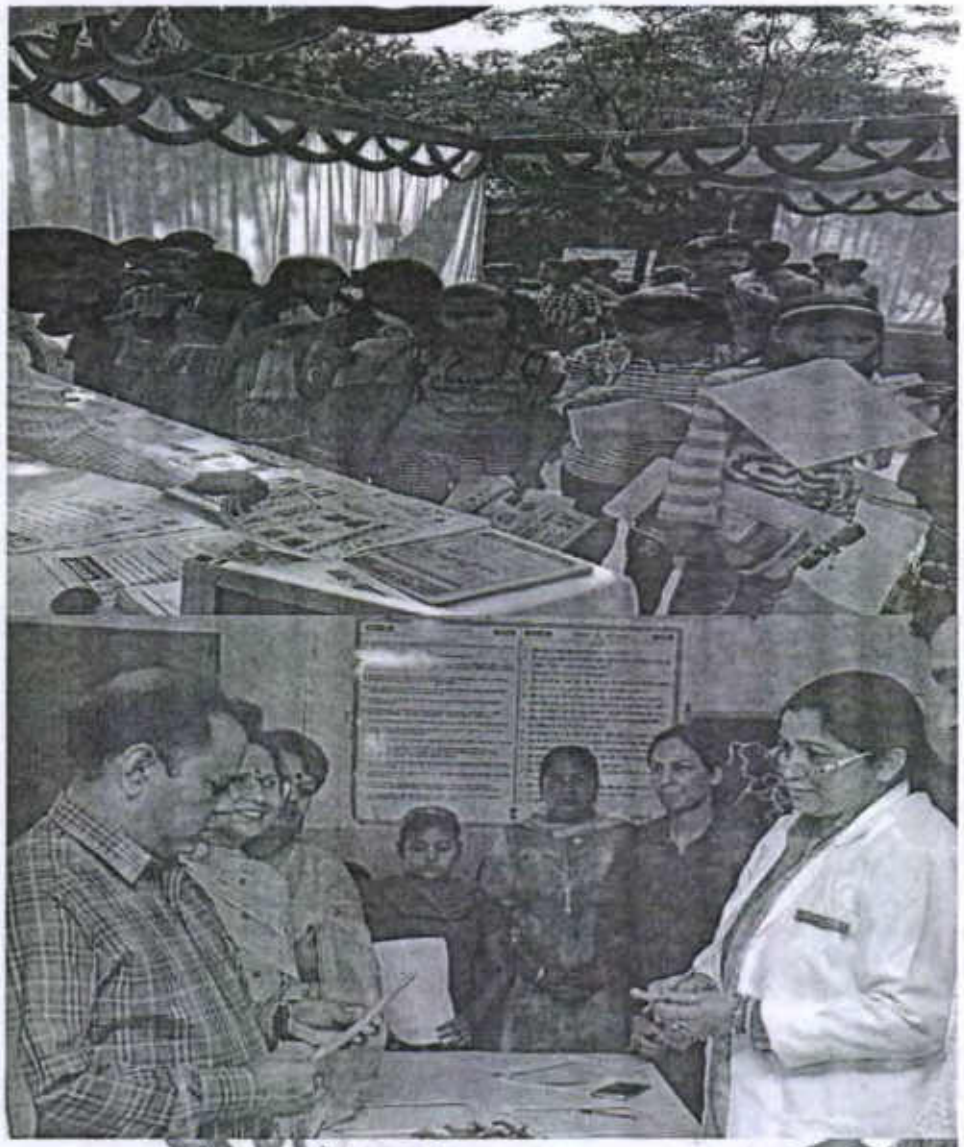
Test Results of Industries

Sr No.	Name of the Unit	Address	Process ↓ PERMISSIBLE LIMIT →	PARAMETERS																STATUS
				pH	TSS (mg/l)	COD (mg/l)	BOD (mg/l)	NH_3-N (mg/l)	PO_4-P (mg/l)	O& G (mg/l)	Al (mg/l)	Cu (mg/l)	Zn (mg/l)	Cd (mg/l)	Pb (mg/l)	Ni (mg/l)	Total Cr (mg/l)	Sn (mg/l)	Ag (mg/l)	
				6.0-9.0	100	....	....	50	5	10	5	3	5	2	0.1	3	2	2	...	
1	Khanna Sanitations Pvt.Ltd	Plot No. 121, Indl. Area Ph-I, Chd	Electroplating	8.50	486	....	....	2.74	0.29	1.3	<1	0.103	<0.1	0.016	<0.1	<0.5	0.515	BDL	BDL	COMPLIED
2	H.S.Fastners	Plot No. 316, Indl. Area Ph-I, Chd	Electroplating	8.25	205	....	....	7.02	0.55	<1	<1	0.113	0.192	0.017	<0.1	<0.5	<0.5	BDL	BDL	COMPLIED
3	Groz Beckert Asia Pvt.Ltd	Plot No. 177-A, Indl. Area, Ph-I, Chd.	Electroplating	8.89	118	....	....	5.43	0.03	<1	<1	<0.1	<0.1	<0.01	<0.1	<0.5	1	BDL	BDL	COMPLIED
4	Deepak Fasteners	136-140/57 Indl. Area Ph-I, Chd	Electroplating	9.60	179	....	....	10.65	0.03	<1	<1	0.114	0.182	<0.01	<0.1	0.95	3.153	BDL	BDL	NON-COMPLIED
5	Srijan Exports	Plot No. 280, Indl. Area Ph-I, Chd	Electroplating	2.90	38	204	47	6.42	0.23	<1	<1	<0.1	30.4	0.066	0.76	449	12.8	BDL	BDL	NON-COMPLIED
6	Thapar Industries	Plot No. 335, Indl. Area Ph-I, Chd	Electroplating	7.50	190	266	59	3.25	0.30	<1	<1	<0.1	57.9	0.023	<0.1	<0.5	<0.5	BDL	BDL	NON-COMPLIED
7	S.G.Industries	Plot No. 3106, Indl. Area Ph-II, Chd	Electroplating	6.80	200	....	....	47	0.80	<1	<1	<0.1	0.195	<0.01	<0.01	<0.5	<0.5	BDL	BDL	COMPLIED

Annexure:-Tx

HEALTH DEPARTMENT CHANDIGARH
under guidance of National Green Tribunal
is organising a
HEALTH AWARENESS & CHECK UP CAMP
at
CIVIL DISPENSARY, HALLOMAJRA, Chandigarh
on 11th, NOVEMBER, 2018
9:00 A.M. TO 2:00 P.M.


HEALTH MELA
For Screening & Awareness
on
11.11.2018
At Civil Dispensary, Hallomajra, Chandigarh
National Health Mission, U.T. Chandigarh



Annexure-XIX

(Action Plan For Rejuvenation of River Ghaggar Submitted by Punjab)

No: 10/375/2018-STE(5)/14634971

Government of Punjab
Department of Science Technology & Environment
(STE Branch)

To

Chairman, Executing Committee (River Ghaggar),
Tower No. 5, 4th Floor,
Forest Complex,
Sector 68, SAS Nagar.

Dated: Chandigarh, the 25-01-2019

Subject : Regarding Action Plan for Clean River Ghaggar.

Sir,

Kindly refer to the subject cited above.

2. I am directed to forward a copy of action plan for controlling pollution in river Ghaggar approved by the State Level Special Task Force (SLSTF) under the Chairmanship of Chief Secretary, Punjab.

D.A.: As Above.

Additional Secretary

Action Plan for Clean Ghaggar

18th Jan 2019

Directorate of Environment and Climate Change
Department of Science, Technology and Environment,
Government of Punjab

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Chapter 1 - Introduction

1.1. Punjab – Land of Rivers

1.1.1. The word Punjab is a compound of two Persian words, panj ("five") and āb ("water"), thus signifying the land of five waters. The erstwhile Punjab State had five rivers namely Beas, Chenab, Jhelum, Ravi, and Sutlej. However after the partition of India in 1947, only two rivers, the Sutlej and the Beas, lie within Punjab's territory, while the Ravi flows only along part of its western border.

1.1.2. The rivers in the Statehave been used as a source of irrigation, drinking purpose especially in sourthern Punjab, development of hydro-electric projects to meet the energy requirements in the State and various activities including industrial purposes. The rivers have played a significant role in the socio-economic and industrial development of the State.

1.2. Rapid Urbanization and Industrialization – Main cause of River Pollution

1.2.1. The rapid urbanization and industrialization during the last few decades has adversely impacted the environment of the State. The quantum of sewage and sullage generated from the habitation areas has significantly increased and finding its way into natural drains, eventually leading to riverine system of the State. In the rural areas, due to increase in the population, the capacity of most of the ponds has been exhausted due to which this sewage and sullage has also started flowing into the natural drains and finally becoming a part of river waters.

1.2.2. Therefore, the quality of water flowing in the water bodies has deteriorated as these water bodies lack sufficient assimilation capacity for self purification not only due to increase in the quantum of discharge of untreated sewage/ sullage, but, also due to decrease in the quantum of water in the water bodies owing to construction of check dams on the upstream side.

1.3. About Ghaggar

1.3.1. The Ghaggar, an intermittent, Endorheic river flows only during the monsoon season. The river is known as Ghaggar before the Ottu barrage near Sirsa and as the Hakra downstream of the barrage. The basin is classified in two parts, Bangar and Khadar. The higher area which is not flooded in rainy season is called Bangar and the lower flood-prone area is called Khadar.

1.3.2. It originates in the village Dagshai in the Shivalik Hills of Himachal Pradesh at an elevation of 1,927 metres (6,322 ft) above mean sea level and flows through Punjab and Haryana states into Rajasthan just southwest of Sirsa, Haryana and by the side of Talwara Lake in Rajasthan. From Ottu barrage near Sirsa, Ghaggar feeds two irrigation canals that extend into Rajasthan.

1.3.3. Initially, it receives municipal sewage of various towns located in Himachal Pradesh and Haryana namely Parwanoo, Kalka and Pinjore through Sukhna Nallah merging into Kaushalya

river tributary of Ghaggar near Amravati Enclave. Besides, Ghaggar river also receives the sewage of various towns of Haryana including that of Panchkula before entering into the State of Punjab. It enters Punjab near Village Mubarikpur, District Mohali.

1.3.4. After passing through District Mohali, District Patiala and District Sangrur, river Ghaggar carrying sewage of some of the towns of Punjab, re-enters State of Haryana and then enters into Sardulgarh, District Mansa of Punjab before finally re-entering into Haryana.

1.3.5. The drains meeting with the river are non-perennial and treated / partially treated / untreated sewage / sullage of some of the cities, towns and villages situated nearby these drains as well as surface run off from fields falling in their catchment area during rainy season is discharged into river Ghaggar directly or indirectly through various drains / choes etc.

1.4. State's past efforts to control pollution in Ghaggar

1.4.1. Keeping in view deterioration in the water quality of Ghaggar, the Government of Punjab (GOP) intiated action in 2008 to identify the sources of its pollution in coordination with Punjab Pollution Control Board (PPCB). Meetings were regularly held under the chairmanship of Chief Minister, Punjab from the year, 2008 onwards. Eight meetings have been held by the higher authorities of the State of Punjab, UT Chandigarh, Haryana, and Himachal Pradesh.

1.4.2. The State Government is serious to control the pollution in river Ghaggar and the concerned departments have already identified the sources of wastewater falling into river Ghaggar at various towns and cities located in the catchment area of the river. As of now, out of 30 towns, which are discharging their wastewater into river Ghaggar, a total of 43 STPs need to be installed out of which 20 STPs have already been installed, 4 are under installation and remaining 19 are under various stages of planning for establishment.

1.5. Directions issued by NGT

1.5.1. National Green Tribunal (NGT) vide its order dated 7.08.18 passed in case OA no. 138 of 2016 and O.A. no. 139 of 2016 directed to restore the standard of water quality in the river Ghaggar to the prescribed level. NGT also constituted an 'Executing Committee' under Chairmanship of Justice Pritam Pal, State level Special Task Force under Chief Secretary and District level Special Task Force under Deputy Commissioner to monitor the compliance of the order.

1.5.2. NGT vide another order dated 20.09.18 passed in OA no. 673/2018 titled as news item published in "The Hindu" authored by Shri. Jacob Kosuhy titled "More river stretches are now critically polluted: CPCB" has directed to prepare Action Plans within two months for bringing all the polluted river stretches to be fit at least for bathing purposes (i.e BOD <3 mg/l and FC< 500 MPN/100 ml) within six months from the date of finalization of the action plans.

1.5.3. There are 4 number of polluted river stretches falling under the jurisdiction of State of Punjab as per the details given in the judgement:

(i). Ghaggar (Sardulgarh to Mubarkpur)
(ii). Sutlej (Roopnagar to Harike bridge)
(iii). Kali Bein (SultanpurLodhi to Confluence point to Beas)
(iv). Beas (along Mukerian)

1.5.4. It has been directed that the action plans be prepared by four-member Committee comprising Director, Environment; Director, Urban Development; Director Industries; Member Secretary, State Pollution Control Board of concerned State. This Committee will also be the Monitoring Committee for execution of the action plan. The Committee may be called "River Rejuvenation Committee" (RRC). The RRC will function under the overall supervision and coordination of Principal Secretary, Environment. The Chief Secretaries of the State and Administrators / Advisors to Administrators of the Union Territories will be personally accountable for failure to formulate action plan, as directed.

Chapter 2 – Vision, Mission and Strategy

2.1. Overarching Vision of the State - Mission Tandrust Punjab

The Government of Punjab has launched Mission Tandrust Punjab to make Punjab a healthy State with healthy people by ensuring the quality of air, water, food and a good living Environment. Mission Tandrust Punjab comprises of nine sub missions namely Clean Air, Clean Water, Improve Waste Management, Safe Food, Safe Drugs, Preventive Health, Khedo Punjab, Green Punjab, Conservation Agriculture.

2.2. Vision for Clean Ghaggar

To restore the quality of water in Ghaggar to prescribed standards to ensure ecological balance and socio-economic well being of the people.

2.3. Mission Clean Ghaggar

To prepare and implement a comprehensive action plan for clean Ghaggar:

(i). Creating awareness about the adverse impact of water pollution
(ii). Identifying the sources of water pollution
(iii). Setting up facilities for treating the pollutants
(iv). Ensuring effective operations of the facilities
(v). Ensuring effective monitoring of the quality of water
(vi). Mitigating adverse impact on health of the people in the surrounding areas

2.4. Strategy for Clean Ghaggar

2.4.1. Identification of the Stakeholders

The State of Punjab envisages a comprehensive plan for cleaning of river Ghaggar by involving all the Stakeholders namely:

(i). Department of Science, Technology and Environment
  (a). Directorate of Environment and Climate Change
  (b). Punjab Pollution Control Board

(ii). Department of Water Resources
  (a). Chief Engineer, Drainage

(iii). Department of Local Government
  (a). Muncipal Corporations/ Municipal Councils/ Nagar Panchayats
  (b). Punjab Water Supply and Sewerage Board

(iv). Department of Housing and Urban Development
  (a). Greater Mohali Area Development Authority
  (b). Patiala Development Authority

(v). Department of Rural Development and Panchayat
  (a). Direcorate of Rural Development and Panchayat
  (b). District/ Block Development and Panchayat Officers and Village Panchayats

(vi). Department of Industries and Commerce
  (a). Punjab Small Industries and Export Corporation

(vii). Department of Agricultrue
  (a). Directorate of Soil and Water conservation

(viii). Department of Health and Family Welfare

(ix). District Administration

2.4.2. **Nodal Department**

The Department of Science, Technology and Environment will be the nodal department for coordinating and monitoring activites of the plan.

2.4.3. **Integration of Departmental plans**

The Nodal Department will integrate plans of individual departments for control of pollution from various sources and prepare a comprehensive plan and will coordinate its execution by tracking the progress through a centralized IT platform.

2.4.4. **Monitoring and Governance**

(i). There will be rigorous monitoring of implementation of the comprehensive plan:
  (a). Monitoring of physical and financial progress of works being executed
  (b). Monitoring of operations and management of facilities set up
  (c). Monitoring of quality of water
  (d). Monitoring of health and diseases in the surrounding areas
  (e). Monitoring of awareness campaign

(ii). Setting up of IT platform for tracking progress and analysis

(iii). The monitoring will be done at the District level, State Level and Executing Committee set up by NGT

Chapter 3 – Current Status and Trends of Water Quality in Ghaggar

3.1. Monitoring Locations

The water quality of river Ghaggar is being monitored at 14 locations, starting from upstream of Mubarikpur (where it enters State of Punjab) upto Sardulgarh in Distt. Mansa on monthly basis:

(i). Ghaggar at Mubarikpur Rest House
(ii). Ghaggar at Bhankarpur, Dera Bassi
(iii). Ghaggar at D/s Chattbir
(iv). Ghaggar at U/s Jharmal Nadi
(v). Ghaggar at D/s Jharmal Nadi
(vi). Ghaggar at U/s Dhakansu Nallah
(vii). Ghaggar at D/s Dhakansu Nallah
(viii). Ghaggar at Rattanheri D/s of Patiala Nadi
(ix). Ghaggar at 100 m D/s of Khanauri
(x). Ghaggar at Moonak
(xi). Ghaggar at U/s Sardulgarh
(xii). Ghaggar at D/s Sardulgarh
(xiii). Ghaggar at U/s Sagarpara (wef May 2018)
(xiv). Ghaggar at D/s Sagarpara (wef May 2018)

3.2. CPCB's norms for designated best use

The Central pollution Control Board has laid down criteria for designated best use class of the water of the water bodies, which is as under:

S.N.	Constituent Parameters	Designated Best Use Class				
		A	B	C	D	E
1.	Dissolved oxygen, mg/l, Min	6	5	4	4	-
2.	Biochemical Oxygen Demand, mg/l, Max	2	3	3	-	-
3.	Total coliform Organisms MPN/100 ml, Max	50	500	5000	-	-
4.	pH value	6.5-8.5	6.5-8.5	6-9	6.5-8.5	6-8.5
5.	Free ammonia (As N) mg/l, Max	-	-	-	1.2	-

6.	Electrical conductivity µs/cm max.	-	-	-	-	2250
7.	Sodium absorption ratio, Max.	-	-	-	-	2.6
8.	Boron, mg/l, Max	-	-	-	-	2

Note:
Class A: Drinking water sources without conventional treatment, but, after disinfection.
Class B: Organized outdoor bathing.
Class C: Drinking water sources with conventional treatment followed by disinfection.
Class D: Propagation of wild life and fisheries.
Class E: Irrigation, Industrial cooling and controlled water disposal.

3.3. **Current Status of Quality of Water in Ghaggar**

3.3.1. The representative quality of water of river Ghaggar at 14 locations for the month of October, 2018 is given in **Annexure-A**.The quality of water at few locations has degraded which may pose threat of water borne diseases to the health of people residing in the catchment area of river Ghaggar. The river Ghaggar being an unlined water body and the polluted water flowing in it might have deteriorated the groundwater quality in the catchment area. In order to ascertain the extent of effect of polluted water of river Ghaggar on the health of inhabitants, the State Government has planned to hold health check camps in the catchments areas of river Ghaggar.

3.3.2. The details of analysis results of surface water monitoring under National Water Monitoring Program (NWMP) for the year 2015-16, 2016-17 & 2017-18 are given in **Annexure-B.**It is evident that Class-D quality of water enters the State of Punjab, which becomes Class-E, thereafter, while travelling a distance of approximately 165 Km. The deterioration of water quality is due to untreated waste being discharged in the river directly or indirectly.

3.3.3. It is pertinent to mention here that earlier the river Ghaggar was a perennial water body, but, due to construction of check dams and watersheds, it has become an non-perennial water body carrying sewage and sullage of the habitation areas located in its catchment area. It finally terminates near Sardulgarh.

3.4. **Ground Water Quality in the catchment area of river Ghaggar**

3.4.1. **Samplng by Central Ground Water Board**

The Central Ground Water Board (CGWB) has carried out ground water sampling in the catchment area of river Ghaggar and the information supplied by CGWB regarding quality of ground water is as under:

(i). **Ground Water Quality**

During the month of May, 2017 ground water samples were collected from the structures spread uniformly over the area. The water samples were analyzed for major cations (Ca, Mg, Na, K) and anions (CO_3, HCO_3, Cl, NO_3, SO_4) in addition to pH, EC, F, SiO_2, PO_4 and TH as $CaCO_3$ and Heavy Metals such as Cd, Cu, Mn, Pb, Zn in the Regional Chemical Laboratory by following 'Standard analytical procedures' as given in APHA 2017.

(ii). **Composition of Water**

Chemical analysis shows that the ground water is slightly to moderately alkaline in nature. The pH values range from 7.44 at Sirsini in SAS Nagar district to 9.71 at Fatta Maluka in Mansa district. Hardness reported in terms of $CaCO_3$ ranges from 31 at Bhikhi in Mansa to 936 mg/l at Raipur in Mansa district. EC value of ground water in the area varies from 233 at Dehri in SAS Nagar district to 4898 µS/cm at Raipur in Mansa district. Chloride content of ground water normally follows the distribution pattern of EC and it ranges from 14 mg/l to 681 mg/l in the Ghaggar Basin of the State. Chloride concentration above 400 mg/l gives salty taste to water, Nitrate in ground water above 5.0 mg/l reflects contamination at some stage of its percolation and circulation. Nitrate in water samples varies from traces to 208 mg/l at Burj Bhalaike in Mansa district, whereas the fluoride concentration in ground water ranges from BDL to 5.63 mg/l at Bhateri in Fatehgarh Sahib District. Fluoride concentration upto 1.0 mg/l in drinking water is desirable, upto 1.5 mg/l is permitted and above 1.5 mg/l is injurious.

(iii). **Heavy Metals**

Presence of heavy metals in ground water is also monitored by CGWB and studies were carried out during the year 2017. Some elements such as Fe, Mn, Zn, Cu, Se, Sn, Mo are essential in trace amounts for growth and development of living organisms as well as plants. Nevertheless, these are hazardous in large amounts.The details are as under:

(a). Cadmium in shallow ground water varies from 0.00006 mg/l at Goga in district SAS Nagar to 0.02 mg/l at Raipur in districtMansa. Copper in shallow ground water has been found to be within permissible limits of 1.5mg/l (as per BIS Limit) except at Issapur in Dera Bassi Block of district SAS Nagar.

(b). Manganese in shallow ground water ranges from 0.0024mg/l at Sunam in district Sangrur to 1.457 mg/l at Bassama Pipla in district Patiala. Concentration of Lead in shallow ground water ranges from 0.0008mg/l at Handesra in district SAS Nagar to 1.896mg/l at Lachru Kalan in district Patiala.

(c). Zinc in shallow ground water ranges from 0.002mg/l at Patran in district Patiala to 5.615mg/l at Bhutan in district Sangrur. All locations show that

Zinc has been observed within permissible limit of 15 mg/l (as per BIS Limit). Arsenic in shallow ground water at all locations has been observed within permissible limits.

3.4.2. Ground water sampling in the vicinity of river Ghaggar

The Punjab Pollution Control Board has carried out ground water sampling at 79 locations in and around 62 industries (in some industries, more than one sample was drawn) to ascertain the quality of ground water in respect of parameters such as fluoride, sulphate, cadmium, copper, lead, nickel, zinc, arsenic, mercury and oil & grease. Out of these, 71 samples were found conforming to the prescribed standards as laid down in IS: 10500 – 2012. In 8 samples, the concentration of either fluoride or sulphate or both was found beyond the prescribed standards. The Board will take necessary action and monitor the quality of ground water regularly and the same will be reviewed at the district and state level.

Chapter 4 – Sources of Water Pollution in River Ghaggar

4.1. Major Drains

4.1.1. There are 13 major drains/ choes/ nallahs which are directly discharging into the river Ghaggar The details of these drains/ choes/ nallahs are given in **Annexure-C**. There are 29 creeks which are discharging into 13 major drains, which are given in **Annexure-D**.It is also mentioned here that wastewater of 47 Local Bodies/ Villages is directly discharged into river Ghaggar. The list of the same is given in **Annexure –E**. The list of urban and rural habitations discharging indirectly through various drains/nallahs/creeks is given in **Annexure-F.**

4.1.2. There are following major sources polluting the river Ghaggar:

(i). Sewage/ sullage generated from Urban Areas
(ii). Sewage/ sullage generated from Rural Areas
(iii). Industrial sources

4.2. Sewage/ sullage generated from Urban Areas

4.2.1. There are 30 local bodies which are discharging their wastewater either directly or indirectly into river Ghaggar. STPs have been installed and commissioned in 14 towns meeting their full requirements. STPs have been installed in another 4 towns meeting partial requirement. The details of fully completed and partially completed STPs are given in **Annexure-G (A) and G(B).** Status regarding total sewage generation, available capacity of the STPs, additional STPs to be installed and balance quantity of sewage to be treated is given in **Annexure-G (C)**.

4.3. Sewage/ sullage generated from Rural Areas

There are 389villages, which are discharging wastewater through various creeks and drains into Ghaggar. The Details of these villages are given in **Annexure-F**. In order to install necessary treatment facilities to treat the wastewater of rural areas, 389 villages will be prioritise into following phases:

Phase 1: Villages having discharge more than 300 KLD – 114 villages
Phase 2: Villages having discharge between 100 KLD and 300 KLD – 157 villages
Phase 3: Villages having discharge less than 100 KLD – 118 villages

4.4. Industrial Sources

4.4.1. Industrial units located at Dera Bassi and adjoining areas

(i). There are 41 water polluting industries in the catchment area of river Ghaggar at Dera Bassi and adjoining areas. None of the industries is allowed to discharge the untreated / treated wastewater into the drains/ choes leading to river Ghaggar. A list of these industries is as per **Annexure-H.** The brief detail about these industries is as under:

Sr. No.	Type of industry	No. of units	No. of industries installed ETPs	No. of industries installed online continous monitoring system
1)	Pharmaceutical industries	11	11	5
2)	Pharmaceutical formulation units	3	3	0
3)	Dyeing units	8	8	0
4)	Pulp & Paper mills	2	2	2
5)	Electroplating industries	5	CETP*	0
6)	Engineering goods units	3	CETP	
7)	Pesticide manufacturing	1	1	1
8)	Distillery unit	1	1	1
9)	Brewery unit	1	1	0
10)	Meat Plant	2	2	0
11)	Gelatine manufacturing unit	1	1	0
12)	Organic Chemical manufacturing units	2	2	0
13)	Resin Manufacturing	1	1	0

** Tied up with M/s JBR Technologies (P) Ltd., Ludhiana, who is the operator of the CETP at Ludhiana meant for treatment of wastewater containing heavy metals.*

(ii). However, the screening plants of Dera Bassi area are partly discharging their wastewater into river Ghaggar, but, their wastewater neither contains any organic materials contributing BOD/ COD nor any chemicals. Therefore, the PPCB envisages to pursue the industries to devise a mechanism for 100% recirculation of the wastewater generated from the washing of river bed material.

4.4.2. **Industrial units located in the catchment area of Patiala Nadi**

(i). There are 7 water polluting industries in Distt. Patiala in the catchment area of river Ghaggar. A list of these industries is attached herewith as **Annexure-I**. The break-up of these industries is as under:

Sr. No.	Type of industry	No. of units	No. of industries installed ETPs	No. of industries installed online continous monitoring system
1	Pulp & Paper mills	4	4	3
2	Distillery unit	1	1	1
3	Board mills	2	2	0

(ii). Since, all these industries are located near the bank of Patiala Nadi/ Jacob drain, as such, there is need to monitor all these industries in odd hours to rule out the possibility for discharge of wastewater into said drains during odd hours.

Chapter 5 –Other sources of pollution and their management

5.1. Bio Medical Waste

5.1.1. The bio-medical waste of all the Healthcare Facilities in the State is collected, transported, treated and disposed of by 4 authorized Common Bio-Medical Waste Treatment Facilities (CBWTF) located at Ludhiana, SAS Nagar, Amritsar and Pathankot. The Bio-Medical Waste generation in the State is in the range of 14-15 tons per day (TPD) depending upon patient load. The status of HCFs operating in towns falling in catchment areas of river Ghaggar is given in **Annexure-J.**

5.1.2. The collection vehicles of the CBWTF operators are equipped with Global Positioning System (GPS) with access to Punjab Pollution Control Board (PPCB).The CBWTF operators are using Bar-code based software system for collection of bio-medical waste from Healthcare Facilities since 2012 and the data of collection of bio-medical waste from the healthcare facility is sent online to server within 1-2 minutes and the access of same is available with PPCB.CCTV cameras are also installed in the processing areas of all the 4 CBWTF operators with access to PPCB to monitor the working of the facility.

5.1.3. The stack of the incinerator installed in all the 4 CBWTFs have been provided with Online Continuous Emission Monitoring System and the data is transferred online to PPCB and CPCB. This system helps in observing/monitoring the emissionsdischarged while treatment of bio-medical waste is being done.

5.1.4. Since, the Bio-Medical Waste generated in the catchment area of River Ghaggar is handled and managed in proper manner through the Common Bio-Medical Waste Treatment Facilities (CBWTF), as such, there is no impact of this waste on the water quality of River Ghaggar.

5.2. Hazardous Waste

5.2.1. The Government of India has framed Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 for the scientific handling of hazardous waste. The occupier of the facility is to apply for authorization for handling, generation, collection, storage, packaging, transportation, use, treatment, processing, recycling, recovery, pre-processing, co-processing, utilization, offering for sale, transfer or disposal of the waste to the Board. A pass book is issued along-with authorization to the actual user of the hazardous waste.

5.2.2. As per the interim order dt. 14-10-2003 of Hon’ble Supreme Court in Writ Petition (Civil) No. 657 of 1995, regarding handling of hazardous waste and development of common treatment, storage and disposal facility, a Common Treatment, Storage and Disposal Facility (CTSDF) at Village Nimbuan, Tehsil Dera Bassi, Distt. SAS Nagar was constructed by M/s Nimbuan Green Field Punjab Limited (NGPL) and commissioned in October, 2007.

5.2.3. The facility has been designed for 15 years capacity considering the generation of storable quantity of hazardous waste as 36,000MTA based on the assessment study carried out by

M/s Tetratech India Limited. The total capacity of the facility is 5,40,000 MT.The capacity to store hazardous waste in the existing CTSDF is sufficient upto year 2030 at the present rate of generation. The vehicles used by the common facility operator for transportation of hazardous waste are equipped with GPS system.

5.2.4. At present no common incinerator has been installed at CTSDF and the same is under planning. All the major industries generating incinerable hazardous waste have installed captive incinerator in their premises for disposal of incinerable waste. Eighteen such captive incinerators are in operation for the disposal of incinerable waste. In addition to the above, the incinerable waste from the remaining industries is received by the operator of CTSDF and is incinerated at the incinerator installed by the CTSDF at its another unit at Kanpur.

5.2.5. Since, the Hazardous Waste generated by the industries in the catchment area of River Ghaggar is handled and managed in proper manner through the Common Treatment, Storage & Disposal Facility installed at Vill. Nimbuan, Tehsil Dera Bassi, Distt. SAS Nagar, as such, there is no impact of this waste on the water quality of River Ghaggar.

5.2.6. Data of quantity of hazardous waste generated during the period January, 2018 to December, 2018 is as under :

S.N.	**Name of District**	**Quantity of hazardous waste generated (in TPA)**		
		Incinerable	**Disposable**	**Recyclable**
1	Sangrur	72.53	664.176	332.426
2.	Mansa	92.08	2.2	170.33 & 8400 drums
3.	SAS Nagar	1453.148	7263.23	120
4.	Patiala	243.18	1053.39	5355.75

5.3. **E-Waste**

5.3.1. Government of India has framed E-Waste (Management & Handling) Rules, 2016 as amended on 22.3.2018. PPCB has granted NOC / 'Consent to Operate' to one dismantling facility, M/s Ramky Enviro Engineers Limited, Vill. Nimbua, Tehsil DeraBassi, Distt. SAS Nagar with capacity to handle 4 TPD of E-waste.

5.3.2. PPCB has granted 'Consent to Establish' to two industries i.e. M/s Black Diamond Cements Pvt. Ltd., Tehsil DeraBassi, district SAS Nagarand M/s Spreco Recycling, Tehsil Raikot, District Ludhiana to establish E-Waste recycling facility of capacities 30 TPD and 0.8 TPD respectively. These said industries have yet not commissioned the said facility. Two parties each in Amritsar and Jalandhar, have also been given go ahead by PPCB for setting up of the E-Waste recycling facilities.

5.3.3. Although, the channelization of E-Waste has recently been started, disposal of such waste has never been noticed in the River Ghaggar.

5.4. **Solid Waste**

5.4.1. The Department of Local Government (DLG) vide notification dated 09.07.2018 has notified the Punjab State Solid Waste Management Policy, 2018. In view of the past experience, it has been decided to adopt both decentralized and centralized solid waste management approach depending upon the profile of the locality.

5.4.2. Further, in compliance to the orders of the Hon'ble Punjab and Haryana High Court in CWP No. 7039 of 2010, a Common Action Plan containing 10 points was prepared in 2012 for viable alternative measures for disposal of garbage till setting up of Solid Waste Management Plants. The Directorate of Local Government is the implementing agency for this Action Plan and PPCB is monitoring the status of compliance.Out of 167 Urban Local Bodies (ULBs), 113 ULBs are partially complying with the Common action plan and remaining 54 ULBs are yet to comply with the same.

5.4.3. The Ministry of Environment and Forests, GOI has notified Solid Waste Management Rules, 2016. Implementation of these Rules is being monitored by the Board.As per Rule 24 of the Solid Waste Management Rules, 2016, the local body shall submit its annual report to the Board on or before the 30th day of June every year. Further, the Board is required to submit the consolidated annual report to the Central Pollution Control Board and Ministry of Urban Development by the 31st day of July of each year. The same are regularly uploaded on the official website of the Board also.

Chapter 6 – Utilization of Treated Wastewater and Sludge from STPs

6.1. The State Treated Waste Utilization Policy

6.1.1. The Department of Local Govt. has notified "The State Treated Waste Policy -2017" to promote the recycling and reusing the treated sewage for non-potable applicationsand to make sewage project economical and environmentally sustainable,.

6.1.2. The policy envisages to tackle the issues pertaining to the provisions of adequate wastewater collection and treatment facilities, consideration of treated effluents as resource for reuse in irrigation/industrial/other fields and thereby improvement of the socio-economic conditions in the areas to served by the proposed systems.

6.1.3. The Department of Soil and Water Conservation, Punjab is executing projects for utilization of treated wastewater for irrigation of various towns/cities across the State by laying network of underground pipelines in agricultural fields.

6.2. Utilization of treated wastewater in the catchment area of Ghaggar River

6.2.1. The Department of Soil and Conservation has already commissioned irrigation projects from 8 STPs to utilise the treated wastewater of the STPs located in the catchment area of River Ghaggar. Two more projects are under progress. The details are given in **Annexure-K**. These projects utilise about 33 MLD of treated wastewater and about 959 hectares of agricultural land is being irrigated.

6.2.2. From the experience of using STP's treated wastewater for irrigation purposes, following issues emerge, which need to be addressed:

(i). In case of STPs based on SBR technology, the discharge of treated wastewater is not continuous and for the gap period of about 45 minutes, the pump through which the treated wastewater is pumped for utilization onto land for irrigation is required to be shutdown, which discourages the farmers to utilize the treated wastewater. Therefore, there is a need to provide a storage tank of sufficient capacity for treated wastewater so that without shutting down the pumping station, the wastewater can be made available to the farmers.

(ii). The payment of electricity bill is required to be regulated by fixing the responsibility of the concerned department and funds for this purpose need to be made available with the operating agency.

(iii). The farmers need to be educated and made aware about the advantages of use of treated wastewater for irrigation purpose.

6.3. Management of sludge from STPs

The management of sludge from STPs will be carried out as per the standards laid down by the Board from time to time. The quality of sludge and compliance will be monitored by the Board and reported for review at the district and State level.

Chapter 7 - Measures for control of water pollution & timelines

7.1. Categories of Projects

7.1.1. The action plan envisages the following facilities to be set up/ upgraded to meet the challenges of pollution in river Ghaggar:

(i). Setting up of treatment facilities for sewage/sullage in Urban areas
(ii). Setting up of online system for monitoring STPs
(iii). Setting up of treatment facilities for sewage/sullage in Rural areas
(iv). Setting up of facilities for reuse of treated wastewater
(v). Setting up of treatment facilities in Industrial Areas
(vi). Setting up of online system for monitoring industrial effluents

7.1.2. Each project will have timelines for various stages of the project. Following stages have been identified to monitor the progress:

Name of the Project			
Brief Scope of the Project			
Sno.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPR		
2	Financial Closure		
3	Tendering of the Work including allotment		
4	Commencement of Work		
5	Quarterly Milestones during the construction Stage		
6	Completion and Commissioning		

7.2. Timelines for Setting up of treatment facilities for sewage/sullage in Urban areas

(i). **Department of Local Government**

The Department of Local Government has chalked out plans for setting up of new STPs, upgrading STPs and laying down sewerage system for left out areas. The details are given in **Annexure-L.**

(ii). **Military Engineering Service, Patiala**

Militatry Engineering Service, Patiala has given the plan for completing the STP, which is given at **Annexure-M**.

7.3. **Timelines for installing online continuous monitoring system for STPs**

In order to get real time data of the quality of treated wastewater, there is need to install Online Continuous Monitoring System with facility of flow meter at the outlet of all the STPs of the towns / cities located in the catchment area of River Ghaggar and this system should be attached with server of the concerned department as well as PPCB so that quality of treated wastewater can be put in the public domain. Further CCTV cameras will be installed to monitor the operation of STPs.All concerned agencies, which are operating the facilities will ensure online system as per the timelines. The timelines for installing online systems and CCTVs is given in **Annexure –N.**

7.4. **Timelines for Setting up of treatment facilities for sewage/sullage in Rural areas**

The Department of Rural Development and Panchayat has to prioritise the villages for setting up of treatment facilities. The complete list of villages identified is given in **Annexure-O**. The Department has yet to finalize the treatment technology to be adopted in rural areas.

7.5. **Timelines for setting up of Reuse of treated wastewater**

The Department of Soil and Water Conservation has given the timelines for setting up of reuse of treated wastewarer. The details are given in **Annexure-P.**

7.6. **Timelines for setting up of treatment facilities in Industrial Areas**

The Department of Industries and Commerce through Punjab State Industries & Export Corporation (PSIEC) is currently executing two projects. The details are given in **Annexure-Q.**

7.7. **Timelines for installing online continuous monitoring system by Industries**

All the 17 categories of industries have installed online continuous monitoring system, which are attached with server of CPCB as well as PPCB. Therefore, out of 48 industries, 15 fall in the list of 17 categories of industries, have already installed online continuous monitoring system. As such, the remaining industries having discharge of trade effluent 50 KLD or more are required to install Online Continuous Monitoring System with facility of flow meter at the outlet of their ETPs.The time schedule for installing online system is given in **Annexure -R**

Chapter 8–Monitoring Requirements and Formats

8.1. Monitoring Requirements

There are following key components of monitoring

(i). Monitoring of progress of projects for setting up of new/ upgraded facilities
(ii). Monitoring of operations and management of STPs
(iii). Monitoring of ETPs and Industrial Effluents
(iv). Monitoring of Quality of Water of River Ghaghar
(v). Monitoring of Ground Water quality
(vi). Monitoring of adverse impact on health of the people in surrounding areas due to water pollution
(vii). Monitoring of Awareness campaign
(viii). Monitoring of other violations of laws/ regulations

8.2. Monitoring of Progress of projects for setting up of new/up graded facilities

In order to ensure that the stakeholder departments adhere to the timelines given for setting up of new/upgraded treatment facilities, the departments shall submit progress of the project on monthly basis in the proforma attached as **Annexure-S**for monitoring.

8.3. Monitoring of operations and management of STPs

To ensure proper functioning of the STPs, regular availability of funds for operation and maintenance has to be ensured. All the STPs should also have standby source of power. The O&M contracts shall have the responsibilities of the Operator clearly defined.Monthly reports as per **Annexure-T& U** will be submitted for monitoring.

8.4. Monitoring of ETP's and Industrial Effluents

Punjab Pollution Control Board shall visit the industries located in the catchment area of River Ghaggar as per protocol regarding frequency of visit to the industries to carry out monitoring of Effluent Treatment Plants & ground water and maintain proper record of all these visits. PPCB will submit report as per the proforma given in **Annexure-V.**

8.5. Monitoring of Quality of Water of River Ghaghar

The Punjab Pollution Control Board shall continue to monitor the quality of water of River Ghaggar at 14 locations under National Water Monitoring Programme and shall report to State Level Special Task Force on monthly basis in the proforma as per **Annexure-W**. Further, the 6 continuous monitoring systems will be installed to get the real time data regarding quality of water of river Ghaggar, which will be put in public domain for information of public in general.

8.6. **Monitoring of Ground Water Quality**

The Punjab Pollution Control Board will monitor the ground water quality by taking samples in the Industrial areas. The data from Central Ground Board will also be taken. The reports will be presented for review at the district and state level.

8.7. **Monitoring of adverse impact on health of the people in surrounding areas**

The District Level Special Task Force shall get organized / conducted the health check up camps of the people in the catchment area of River Ghaggar and shall submit the monthly report in proforma as per **Annexure-X**, which will be reviewed by State Level Special Task Force and the Executing Committee.

8.8. **Monitoring of Awareness campaign**

The PPCB will organizeawareness programme in partnership with the Department of Health & Family Welfare and other stakeholders in the habitation area falling in the catchment area in River Ghaggar to educate them about the harmful effects of water pollution. The PPCB shall submit monthly report in the proforma as per **Annexure-Y**.

8.9. **Monitoring of other violations of laws/ regulations**

The PPCB will monitor any violation not covered above and shall take appropriate action against the violator and report in this regard to the State Level Special Task Force and Executing Committee.

8.10. **Role of Nodal officers of Stakeholder departments**

The Nodal officers of the stakeholder departments will be responsible to send the status reports of the projects related to their departments and monitoring reports in the prescribed proformas. The Departments will appoint Nodal Officers, who would have necessary authority and influence to collect and provide reports. Once the centralised web based IT system is developed, the relevant officers shall directly update the information on the portal and Nodal officer shall monitor the same.

Chapter 9–Governance and Supervision

9.1. Three Tier Monitoring

9.1.1. Monitoring will be done by the concerned Departments/ Agencies, which are executing or responsible for particular activities and it will be their primary responsibility to ensure compliance of the Action Plan.

9.1.2. In addition, there will be three level of Committees to review and monitor the status:

(i). District Level Special Task Force
(ii). River Rejuvenation Committee
(iii). State Level Special Task Force /Executing Committee

9.1.3. PPCB will set up a dedicated team for supporting coordination and monitoring of the Action Plan. The team will collate and analyse data from all the concerned agencies and escalate the issues and challenges to the appropriate level for resolution. It will also develop suitable IT platform for monitoring purposes.

9.2. District Level Special Task Force (DLSTF)

(i). The mandate of this task force as per order dated 14.11.2018issued by the Govt. of Punjab, Deptt. of Science, Technology & Environment is as under:

(a). It shall identify all persons responsible for violation of law and norms relating to pollution in Ghaggar river and the drains joining it.
(b). It shall review action by the Competent Authority w.r.t. Civil and Criminal action against the violators as well as those who fail to perform their duties in this regard.
(c). It shall submit a monthly report on all actions taken by it to the State Level Special Task Force (SLSTF), by first week of every month.
(d). It shall assist the SLSTF in preparation of the action plan and finalizing the timelines.
(e). It shall involve Civil Society Organizations and public participation in preparing the action plan in all the relevant areas.
(f). It shall ensure periodic sampling of river water as well as ground water to check water quality.

9.3. River Rejuvenation Committee

The River Rejuvenation Committee will monitor the Status of implementation of the Action Plan at the State Level.

9.4. State Level Special Task Force

(i). The mandate of this task force as per order dated 14.11.2018issued by the Govt. of Punjab, Deptt. of Science, Technology & Environment is as under:

(a). It shall finalize the Action Plan with firm timelines and review the same.
(b). It shall submit quarterly report on action taken during the quarter to the Central Pollution Control Board.
(c). It will also ensure that the quarterly Action Taken Reports are uploaded on the website of Punjab Pollution Control Board.
(d). It shall Co-ordinate with the Executing Committee, appointed by NGT

(ii). The State Level Special Task Force will accordingly hold regular meetings to review the progress and taken necessary action against the defaulters.

9.5. **Executing Committee**

(i). The National Green Tribunal (NGT) has constituted an 'Executing Committee' with the following mandate:

(a). The Committee is entitled to issue appropriate directions to concerned authorities for ensuring compliance of the orders of the Hon'ble Tribunal.
(b). The target of the Committee will be to restore the standard of water quality in the river to the prescribed level.
(c). The Committee may carry out personal visits, if necessary or call for information or reports.
(d). The Committee may also consider need for getting organised health camps and need for providing clean drinking water for the affected inhabitants.
(e). The sampling of ground water may also be done apart from the sampling of the river water periodically.
(f). Submit fortnightly basis report to the Hon'ble NGT through e-mail i.e. filing.ngt@gmail.com

(ii). The Executing Committee will accordingly review the progress from time to time and issue necessary directions to the concerned authorities.

Chapter 10–Risk Mitigation Plan

10.1. Identification of Major Risks in the Action Plan

10.1.1. The Action Plan to clean Ghaggar and restore the quality of water to the prescribed standards is a complex multi sectoral and multi agency action plan. Successful implementation would face many challenges. Following major risks have been identified

(i). Accuracy and completeness of Baseline Data
(ii). Accuracy and completeness of Project timelines
(iii). Financial closure and timely releases of funds
(iv). Discharge from unapproved habitation areas
(v). Tracking the Progress and program management
(vi). Resolution of Administrative and Technical Issues

10.2. Mitigation Plan for identified Risks

It is important to devise strategies and plans to mitigate the identified risks. Action plan will remain on paper if the bottlenecks and the risks are not dealt satisfactorily. Mitigation plan for each of the identified risk has been prepared in the following paras.

10.3. Accuracy and completeness of Baseline Data

Due to paucity of time, the information about the sources of pollution, current treatment facilities, quantity and quality of discharges etc. could not be properly validated and there could be gaps in the same, which may lead to substantial alterations in the plans. In order to ensure accuracy and completeness of baseline data, another round of validation of the same would be got done through the respective Administrative Departments and Action plan updated accordingly. This will be completed in 30 days.

10.4. Accuracy and completeness of Project timelines

Due to paucity of time, the information about the project timelines could not be properly validated and deliberated and there could be gaps in the same. In order to ensure accuracy and completness of Project timelines, each Administrative Department would be aksed to validate the project timelines carefully after taking into account all the relevant factors. The needful will be done in 45 days in parallel to the activity in para 10.3 and Action plan updated accordingly.

10.5. Discharge from unapproved habitation areas

There are certain unapproved colonies or villages, which have come under municipal limit, which are currently not covered in the plans but are discharging their untreated sewage directly or indirectly into river Ghaggar. The concerned authorities for urban and rural areas will be asked to identifysuch localities and plan for their connectivity with the main sewer or development of the sewer system shall be worked out.

10.6. **Financial closure and timely releases of funds**

Availability of funds for completing the projects on time is a major risk. Some of the projects have still not achieved financial closure. It has also been observed that the release of funds is often not regular even though the project had appropriate financial approval. In case of operation and maintenance of the facilities, substantial blame has been apportioned to lack of regular release of funds for maintenance, which resulted in failure of STPs to treat the wastewater and as a result untreated water has been discharged in the drain. In order to overcome the challenges, efforts will be made towards:

(i). Seeking a firm commitment of Department of Finance to release the funds for the projects on priority.
(ii). In case of operation and maintenance, seeking firm commitment of ULBs/ Department of Local Government to treat this as committed expenditure according it highest priority and release the funds regularly. Further, arrangement may be worked out with the Administrative Department and Department of Finance that in case of default of ULB to pay to the operator, funds will be deducted from the grant to be released to ULB and paid directly to the Operator.

10.7. **Tracking the Progress and program management**

The action plan for clean Ghaggar is a complex, multi department and multi agency program and the current capacity and skill sets in PPCB are not adequate to track the progress of various milestones and carry out effective program management for succesfuly implementing the program. In order to mitigate the risk, a dedicated team with requisite Program Management and IT skills will be positioned to collate data, analyse the same, prepare status updates, escalate issues and assist various committees in review and issue resolution.

10.8. **Resolution of Administrative and Technical Issues**

There are some other administrative and technical issues, which may hold up the progress of the implementation of the Action Plan:

(i). Acquisition of land,
(ii). Usage of water being more than the designed norm of 135 lpcd
(iii). Mixing of treated/ untreated industrial effluents with domestic sewage system
(iv). Left out residential pockets need to be integrated with the System
(v). Treatment technologies

The Program management team will continuous track and identify such issues and escalate to the appropriate level. The three tier monitoring and review system will help in resolving the issues.

Annexure A - Representative Quality of Water for the month of October, 2018

S. N.	Point of Sample Collection	pH	DO mg/l	BOD mg/l	T.Coli MPN/ 100ml	Cond µs/Cm	Boron mg/l	DBU Classification
1.	Ghaggar at Mubarikpur Rest House	7.9	5.2	6	24000	528	0.08	D
2.	Ghaggar at Bhankarpur	7.7	4.2	11	35000	623	0.10	D
3.	Ghaggar at Chattbir	7.7	3.3	9	28000	606	0.10	E
4.	U/s Jharmal Nadi	7.4	3.9	8	22000	610	0.11	E
5.	D/s Jharmal Nadi	7.6	3.7	10	28000	756	0.09	E
6.	U/s Dhakanshu Nallah	7.6	4.3	10	15000	877	0.09	D
7.	D/s Dhakanshu Nallah	7.5	3.9	13	21000	898	0.10	E
8.	Ghaggar at Rattanheri	7.5	3.7	14	22000	774	0.11	E
9.	U/s Sagar Para	7.5	4.0	14	21000	760	0.11	D
10.	D/s Sagar Para	7.7	2.9	36	28000	1069	0.12	E
11.	Ghaggar at Khanauri	7.3	3.4	42	35000	987	0.10	E
12.	Ghaggar at Moonak	7.4	3.0	39	28000	755	0.15	E
13.	U/s Sardulgarh	7.8	3.5	9	21000	871	0.14	E
14.	D/s Sardulgarh	7.8	3.3	11	24000	991	0.14	E

Annexure B - Analysis Resuts of Surface Water Monitoring 2015-16 to 2017-18

Sno.	Sampling points at river Ghaggar	2015-16	2016-17	2017-18	2015-16	2016-17	2017-18	2015-16	2016-17	2017-18	2015-16	2016-17	2017-18	2015-16	2016-17	2017-18
		DO (mg/l)			pH			BOD (mg/l)			T.Coliform (MPN/100 ml)			D.B.U. classification		
1	Mubarkpur Rest House	6.2	5.6	5.13	7.4	8.1	7.9	8.8	4.2	6.07	6862	16642	21000	D	D	D
2	Bhankarpur, DeraBassi	4.7	4.6	3.61	7.5	7.6	7.5	13	7.9	12.93	19485	25667	26417	D	D	E
3	D/S Chattbir	4.9	4.5	4.17	7.4	7.6	7.6	12	6.5	8.11	19825	24273	19417	D	D	D
4	U/S JharmalNadi	4.7	3.9	2.83	7.4	7.6	7.6	14	10.2	14.92	17350	21583	20083	D	E	E
5	D/S JharmalNadi	3.9	2.4	1.97	7.7	7.6	7.7	21	17.8	25.58	27625	26917	25250	E	E	E
6	U/S Dhakansu Nallah	4.3	3.6	3.24	7.4	7.6	7.7	16	9.6	10.25	22100	14091	14500	D	E	E
7	D/S Dhakansu Nallah	3.7	3.1	2.94	7.3	7.7	7.7	18	11.8	12.23	30375	20709	18667	E	E	E
8	Rattanheri D/S of PatialaNadi	3.7	2.9	1.76	7.5	7.7	7.7	20	51.7	33.06	31500	24333	24333	E	E	E
9	100 m D/s of Khanauri	3.5	2.1	1.42	7.6	7.7	7.8	25	30.3	41.08	39200	26833	34083	E	E	E
10	Moonak	3.2	2.2	1.75	7.6	7.8	7.9	33	25.5	25.50	52625	29333	24000	E	E	E
11	U/S Sardulgarh	3.7	2.7	2.23	7.4	7.9	7.8	18	19.4	18.83	56700	19258	17417	E	E	E
12	D/S Sardulgarh	3.6	2.5	2.03	7.4	7.9	7.9	20	19.8	20.83	55975	24733	21583	E	E	E

Annexure C - List of 13 major drains directly discharging into river Ghaggar

Sno.	Name of the drain	Point of origin	Approx. Length (in Km)	Coordinates at which the drain meets river Ghaggar	Location at which it meets river Ghaggar	Approx. Discharge (MLD)
1.	Sukhna Choe	Sukhna Lake	8.17	30^{O} 36'49'' N 76^{O} 50'09'' E	450 m upstream of Bhankhapur Bridge	105
2.	Dera Bassi Choe	Near Village Haripur Hinduan, Dera Bassi	8.75	30^{O} 36'13'' N 76^{O} 48'51'' E	Near upstream of Village Satabgarh	17.5
3.	Jharmal Choe	Near village Rampur Sainian, Tehsil Dera Bassi, Distt. SAS Nagar	22.86	30^{O} 28'27'' N 76^{O} 46'11'' E	Near Village Tiwana	17.5
4.	Basauli Drain	Near Village Jaula Khurd, Distt. SAS Nagar	24.39	30^{O} 26'39'' N 76^{O} 44'54'' E	Near Village Sadhanpur	12.5
5.	Bagna Drain	Near Village Salempur, Distt. SAS Nagar	19.5	30.3397 76.6986	Village Nanheri, Rajpura	-
6.	Pachisdara Drain (Dakansu Choe)	Near PCS, Sector-2, Chandigarh under the name of N-choe	22	30.305197 76.627918	Near Village Sarala-Khurd	125
7.	Patiala Nadi	Village Cholti Kheri, Distt. Fatehgarh Sahib	73	30.078934 76.243909	Village Ratanheri	150
8.	Sagarpara Drain	Kurkshetra (Haryana)	7.92	29.8975741 76.169735	Village Sagara	180
9.	Kaithal Drain	From Keorak, Distt. Kaithal (Haryana)	6.4	29^{O} 50'50'' N 76^{O} 06'00'' E	Near Khanauri Bridge	15
10.	Jhambowali choe	Village Chanarthal Kalan, Distt. Fatehgarh Sahib	72	29.8291 76.0011	Village Chandu, Tehsil Moonak	32.5
11.	Lehragagga Main	Near Kalajar	67	29^{0}50'03'' 75^{0} 45' 41''	Near Village Bakshiwala, Distt. Sangrur	82.5
12.	Sirhind Choe	Near Bassi Pathana	166	29.7460 75.4726	Near Village Kheri, Haryana	245

13.	Miranpur Choe	Near Village Haripur, Sub Tehsil Ghanour	58.69	30.0980 76.3069	Near Village Khambera, Haryana	125

Note: Analysis of water of two points of origin i.e. at Sr. No. 1 & 8 has been carried out, whereas, for other points the same is to be determined in due course of time.

Annexure D - List of 29 creeks discharging into main drains

Sr. No.	Name of the creek
1.	Drain passing through K-area
2.	Singh Nallah
3.	Gazipur Drain
4.	Dhabi Nallah
5.	Banur Drain
6.	Chhoti Nadi
7.	Khadoli Drain
8.	Jacob Drain
9.	Model Town Drain
10.	Kalwano Drain
11.	L-6 Drain
12.	Nabha Drain
13	Sangrur Drain
14	Bareta Drain
15	Ladal Drain
16	Mander Drain
17	Toderpur Drain
18	Hargobindpura Datewas Drain
19	Khiwa Sahajada Drain
20	Dodra Drain
21	Bahadur Singh Wala Drain
22	Balian Drain
23	Bhagwanpura Link Drain
24	Dhuri Drain
25	Sahoke Main Drain
26	Jassarwal Drain
27	Buggar Link Drain
28	Shekhupura Adalatipura Drain
29	Hassanpura Drain

Annexure E- List of urban and rural areas discharging directly into river Ghaggar

Sr No	Name of the source	Identification mark	Location / Coordinates at the outfall (latitude & Longitude)	Approximate Discharge (KLD)	Present treatment facility installed, if any
1	Village Mubarikpur, Distt. SAS Nagar	D-1	30.618993 76.852268	250	No
2	Village Bhankharpur, Distt. SAS Nagar	D-2	30°36'16 "N 76°49'23"E	1100	No
3	MC, Zirakpur	D-3	30.3609 76.4904	15000	Installed
4	Village Manoli Surat, Distt. Patiala	D-4	30.515277 76.765277	668	No
5	Village Nanheri, Distt. Patiala	D-5	30.277222 76.692777	196	No
6	Village Samaspur, Distt. Patiala	D-6	30.365833 76.688333	196	No
7	Village Utsar, Distt. Patiala	D-7	30.365833 76.70716	225	No
8	Village Chamaru, Distt. Patiala	D-8	30.335555 76.661111	457	No
9	Village Rampur, Distt. Patiala	D-9	30.3302777 76.644722	349	No
10	Village Maru, Distt. Patiala	D-10	30.288424 76.6011796	451	No
11	Village Mandi/ Pur, Distt. Patiala	D-11	30.271858 76.550271	186	No
12	Village Sirkapra, Distt. Patiala	D-12	30.287427 76.580975	219	No
13	Village Hadana, Distt. Patiala	D-13	30.248568 76.545608	488	No
14	Village Hasanpur Kamboj, Distt. Patiala	D-14	30.209991 76.529837	320	No
15	Village RurkiBudh Singh, Distt. Patiala	D-15	30.198125 76.524154	355	No
16	Village Ram Nagar Chuniwala, Distt. Patiala	D-16	30.188423 76.517152	1202	No
17	Village Badla, Distt. Patiala	D-17	30.171519 76.487979	109	No
18	Village Kapuri, Distt. Patiala	D-18	30.183286 76.514487	278	No
19	Village Kheri Raju Singh, Distt. Patiala	D-19	30.15762 76.480933	207	No
20	Village Bhasmara, Distt. Patiala	D-20	30.151285 76.468842	192	No
Total				22448	

21	Village Mehmudpur, Distt. Patiala	D-21	30.149398 76.454012	315	No
22	Village SadhunagarurfJalahkheri, Distt. Patiala	D-22	30.142181 76.450986	22	No
23	Village Kotbhai Lakheya, Distt. Patiala	D-23	30.7788 76.2423	135	No
24	Village Ratanheri, Distt. Patiala	D-24	30.07788 76.2423	326	No
25	Village Marori, Distt. Patiala	D-25	30.6798 76.22828	754	No
26	Village Harchandpura Town, Distt. Patiala	D-26	30.03198 76.19351	94	No
27	Village HarchandpuraHavali, Distt. Patiala	D-27	30.02684 76.15519	75	No
28	Village Seona Kath, Distt. Patiala	D-28	29.983211 76.196813	825	No
29	Village Arnetu, Distt. Patiala	D-29	29.958466 76.196936	652	No
30	Village Karim Nagar Urf Chicarwala, Distt. Patiala	D-30	29.903727 76.171937	807	No
31	Village Rasoli, Distt. Patiala	D-31	29.903438 76.170917	320	No
32	Village Shatrana, Distt. Patiala	D-32	29.877390 76.137291	3447	No
33	Village Matoli, Distt. Patiala	D-33	29.871764 76.136660	520	No
34	Vill. Dera Jheel, Distt. Patiala.	D-34	29.940701 76.170949	110	No
35	Vill. Makror Sahib, Distt. Sangrur (three outlets)	D-35	29°47'30.8"N 75°57'12.8"E	268.10	No
			29°47'26.7"N 75°56'50.3"E		
			29°47'22.2"N 75°56'44.8"E		
36	Vill. Mandvi, Distt. Sangrur (three outlets)	D-36	29°49'05.6"N 75°59'21.8"E	427.35	No
			29°48'40.3"N 75°59'11.3"E		
			29°48'29.8"N 75°59'01.2"E		
37	Vill. Fulad, Distt. Sangrur	D-37	29°47'07.4"N 75°56'02.2"E	120.40	No
38	Vill. Shahpur Their, Distt. Sangrur	D-38	29°49'48.1"N 76°01'00.0"E	63.84	No
39	Vill. Chandu, Distt. Sangrur	D-39	29°49'41.7"N 75°59'58.8"E	112.28	No
	Total			9393.97	

40	M.C., Moonak, Distt. Sangrur	D-40	29.812017 5.889865	1500	STP of 3 MLD capacity installed
41	Village Phoos Mandi, Distt. Mansa	D-41	29.7025 75.2755	75	No
42	MC, Sardulgarh, Distt. Mansa	D-42	29.6991 75.2391	4000	WSP installed
43	Village Rorki, Distt. Mansa	D-43	29.6892 75.2096	105	WSP installed
44	Village Jhanda Khurd, Distt. Mansa	D-44	29.6703 75.1783	210	No
45	Village Bhunder 1, Distt. Mansa	D-45	29.697150 75.226098	5	No
46	Village Bhunder 2, Distt. Mansa	D-46	29.695267 75.224569	11	No
47	Vill. Bhagwanpur Higna Distt. Mansa	D-47	29.685953 75.332885 29.687 75.335	7 3	No No
	Total			5916	
	Grand Total			**37757.97 KL**	

Annexure F - List of urban / rural areas discharging indirectly into Ghaggar

1. Sukhna Choe						
1.1 Drain passing near K-area						
S.N.	**Name of the Source**	**Identification mark**	**Location of the outfall into drain**	**Coordinates at the outfall into the drain**	**Apprx. Discharge (KLD)**	**Present treatment facility installed, if any.**
1	K-area (MC, Zirakpur)	IN-2.1.1.1	Bridge near Gurudwara Sahib	30.64 9651 76.83 71 57	180	Not connected to STP of 17.3 MLD capacity
1.2. Singh Nallah						
1.	Green City, Mamta Enclave / Baltana Area	IN-2.1.2.1	Dera Bassi, Kalka Road, Near Green city bridge	30.664357 76.843824	50	Not connected to STP of 17.3 MLD capacity
1.3 Gazipur Drain						
1.	Gazipur (MC, Zirakpur)	IN-2.1.3.1	Confluence point of Gazipur Drain and Sukhna Choe	30.63 54 29 76.84 05 75	1000	Not connected to STP of 17.3 MLD capacity
Total					1230	

2 Dera Bassi Choe						
S.N.	**Name of the Source**	**Identification mark**	**Location of the outfall into drain**	**Coordinates at the outfall into drian**	**Apprx. Discharge in KLD**	**Present treatment facility installed, if any.**
1.	Vill. Haibatpur	IN-2.2.1	Up steam of village Haibatpur approx. 1.5 Km	30°35'48"N 76°53'07"E	192	No
2.	M.C., Dera Bassi	IN-2.2.2	Near over bridge (two no. outlets)	30.593051 76.846355	2500	STP of 4 MLD capacity installed & commissioned on 17.11.2018
3.	Vill. Issapur located within MC	IN-2.2.3	Habitpur drain passing into Issapur Road, near bridge.	30.60486 76.831447	140	No
2.1 Dhabi Nallah						
1.	Domestic effluent of industry through storm water sewer of Focal Point	IN-2.2.1.1	Bridge near M/s. Nibber Castings	30°36'26" 76°51'37"	20	The industries will connect by 15.1.19.
2.	STP (2 MLD), Industrial Area, Focal point Dera Bassi	IN-2.2.1.2	Industrial Area, Dera Bassi	30.604039 76.854303	500	2 MLD
3.	Silver City	IN-2.2.1.3	Near PCCPL bridge	30.603779 76.849283	480	STP installed
3 Jharmal Choe						
1.	Vill.Gulabgarh located within limits of MC, Dera Bassi, Distt. SAS Nagar.	IN-2.3.1	D/s of Vill. Gulabgarh Near GBP Flats	30.577264 76.863174	100	No
	Total				3932	

2.	Vill.Mahiwala located within limits of MC, Dera Bassi, Distt. SAS Nagar.	IN-2.3.2	D/s of Vill. Mahiwala Near Bridge	30.570767 76.855121	40	No
3.	Vill. Jawaharpur, Distt. SAS Nagar. (within MC limits)	IN-2.3.3	Near Bridge	30.557355 76.832997	235	No
4.	Vill. Gholumajra, Distt. SAS Nagar. . (within MC limits)	IN-2.3.4	Near Vill. Gholumajra	30°31'56''N 76°49'35''E	100	STP of 0.3 MLD has been proposed
5.	Vill. Kheri Gujran, Distt. SAS Nagar.	IN-2.3.5	Near bridge Vill. Kheri Gujran	30.557381 76.872394	180	No
6.	Vill. Bijanpur, Distt. SAS Nagar.	IN-2.3.6	Near bridge of Bijanpur	30°31'42''N 76°51'27''E	142	No
7.	Vill. Dapper within MC limits of Lalru, Distt. SAS Nagar.	IN-2.3.7	Near vill. Dapper	30°31'08''N 76°48'55''E	600	STP of 1.0 MLD has been proposed
8.	Vill. Chaundheri located within MC limits of Lalru, Distt. SAS Nagar.	IN-2.3.8	Near Bridge of Chaundheri	30.512129 76.812967	115	STP of 0.3 MLD has been proposed
Total					1412	

9.	Nagar Panchayat, Lalru, Distt. SAS Nagar.	IN-2.3.9	Entering into Jharmal Choe	30°29'21''N 76°47'29''E 30°29'14"N 76°47'32"E	2500	STP of 1.5 MLD capacity installed but operated to treat 0.5 MLD of wastewater. Another STP of 1.5 MLD is yet to be installed at Grain Market, Lalru
10.	Vill. Dehar within MC limits of Lalru, Distt. SAS Nagar.	IN-2.3.10	At the bridge, where from Jharmal Choe passes	30.478121 76.777919	170	No
11.	Vill. Tiwana, Distt. SAS Nagar	IN-2.3.11	Near village Tiwana	30°28'27" 76°46'10"	130	No
3.1 Hassanpura Drain						
1.	Village Hassanpur	IN-2.3.1.1	From Vill. Hassanpur	30°30'53''N 76°47'38''E	120	No
2.	Dappar Colony (Within MC limits of Lalru)	IN-2.3.1.2	In Garden Estate	30°31'00''N 76°47'00''E	100	STP of 0.2 MLD proposed
Total					3020	

4	**Basauli Choe**					
1	Vill. Jaula Khurd, Distt. SAS Nagar	IN-2.4.1	Up stream of Cad Chem Industry bridge	30.461867 76.878166	100	No
2.	Vill. Basauli, Distt. SAS Nagar	IN-2.4.2	Near bridge of village Basauli	30.449688 76.861485	150	No
3.	Vill. Kurli, Distt. SAS Nagar	IN-2.4.3	Near Vill. Kurli	30° 26'32" 76°47'35"	250	No
5	**Bhagna Nadi**					
1.	Village Bhasma, Distt. SAS Nagar	IN-2.5.1	Near village Bhasma	30.46555 76.72666	442	No
2.	Village Tepla, Distt. Patiala.	IN-2.5.2	Near Village Tepla	30.440000 77.003611	818	No
6	**Pachisdara Drain (Dhakansu Choe)**					
1.	Village Jagatpura, Distt. SAS Nagar	IN-2.6.1	Near Gurudwara Sahib	76.4537 30.4051	101	No
2.	Village Ambsahib Colony, Distt. SAS Nagar	IN-2.6.2	Near Culvert	76.4513 30.4044	300	No
3.	Village Kambala, Distt. SAS Nagar	IN-2.6.3	Bridge on Rudewal Road	76.4458 30.3953	300	No
	Total				2461	

4.	Village Kambali, Distt. SAS Nagar	IN-2.6.4	Near Hot mix plant	76.4509 30.4031	250	No
5.	Village Papri, Distt. SAS Nagar	IN-2.6.5	Bridge on drain	76.4437 30.3923	150	No
6.	MC, SAS Nagar	IN-2.6.6	Near the STP	76.7238 30.6522	45000	45 MLD capacity STP installed
7.	Village Manoli, Distt. SAS Nagar (Two outlets)	IN-2.6.7	Near S. Pyara Singh Field	76.4320 30.3343	320	No
			Bridge on Drain	76.4327 30.3829		
8.	Village Chachumajra Distt. SAS Nagar	IN-2.6.8	Bridge on Drain	76.4441 30.3922	100	No
9.	Village Sainimajra (Prem Nagar), Distt. SAS Nagar	IN-2.6.9	Near Pakka Outlet to drain	76.4309 30.3801	70	No
10.	Village Chahumajra, Distt. SAS Nagar	IN-2.6.10	Near H/o Sewa Singh	76.4251 30.3736	160	No
	Total				46050	

11.	Village Dehri, Distt. SAS Nagar	IN-2.6.11	Bridge on Drain	76.4133 30.3705	60	No
12.	Village Nageri, Distt. SAS Nagar	IN-2.6.12	Bridge on Drain	76.4109 30.3631	80	No
13.	Village Kaloli, Distt. SAS Nagar	IN-2.6.13	Bridge on Drain	76.4059 30.3508	85	No
14.	MC, Banur	IN-2.6.14	Near the STP	76.6925 30.5608	4000	4 MLD STP installed
15.	MC, Rajpura and Focal Point area of Rajpura	IN-2.6.15	At Ambala Road Rajpura	30.47936, 76.60753	3700	STP of 7 MLD capacity installed at Ambala Road Rajpura
6.1 Banur Drain						
1.	Village Kaloli, Distt. Patiala	IN-2.6.1.1	Near village Kaloli	30.585555, 76.68277	378	No
7 Patiala Nadi						
1.	Village Gauspur	IN-2.7.1	Near habitation area	30.255722 76.303608	105	No
	Total				8408	

2.	Village Shankarpura	IN-2.7.2	-do-	30.255881 76.303644	300	No
3.	Village FatehpurJattan	IN-2.7.3	-do-	30.25728 76.294283	247	No
4.	Village Mohabatpura	IN-2.7.4	-do-	30.255787 76.285561	89	No
5.	Village Kauli	IN-2.7.5	-do-	30.25555 76.302215	629	No
6.	Village Alampur	IN-2.7.6	-do-	30.245757 76.293879	312	No
7.	Village Bhateri	IN-2.7.7	-do-	30.23396 76.262062	353	No
8.	Village Doun Kalan	IN-2.7.8	-do-	30.24278 76.281014	940	No
9.	Village DounKhurd	IN-2.7.9	-do-	30.24233 76.24449	359	No
10.	Village Rasulpur Joran	IN-2.7.10	-do-	30.233654 76.262487	226	No
11.	Village Daulatpur	IN-2.7.11	-do-	30.222779 76.254515	150	No
12.	Village Kalwa	IN-2.7.12	-do-	30.423076 76.423715	320	No
13.	Village Mirjapur	IN-2.7.13	-do-	30.40663 76.43478	143	No
14.	Village Sefdipur	IN-2.7.14	-do-	30.2149039 76.2623697	202	No
15.	Village MehmoodpurAraian	IN-2.7.15	-do-	30.2149039 76.2623697	52	No
16.	Village Faloli	IN-2.7.16	-do-	30.211363 76.254298	83	No
17.	Focal Point, Patiala	IN-2.7.17	-do-	30.3756310 76.4292680	1250	No
	Total				5655	

18.	Outlet of Shanti Nagar & Virk Colony within MC limits of Patiala	IN-2.7.18	-do-	30.356682 76.429527	150	Outlet in Badi Nadi
19.	Nagar Panchayat, Sanour, Distt. Patiala.	IN-2.7.19	-do-	30.320038 76.417061	2500	No
20.	Outlet of treated sewage of Urban Estate Patiala	IN-2.7.20	-do-	30.335933 76.425814	5000	STP of capacity 13 MLD installed by PUDA
21.	Outlet of Storm water carrying sewage / sullage of habitation area near Patiala Nadi	IN-2.7.21	-do-	30.336438 76.425488	1875	No
22.	Two no. Nalas falling into Badi Nadi from Internal area of Patiala City	IN-2.7.22	-do-	30.299030 76.390280	3000	No
23.	Village Rewas Brahmna	IN-2.7.23	-do-	30.28, 76.38	323	No
24.	Village Jalal Khera	IN-2.7.24	-do-	30.142181 76.450986	127	No
25.	Village Kalar Bhani	IN-2.7.25	-do-	30.24 76.33	471	No
26.	Village Dhurad	IN-2.7.26	-do-	30.26 76.35	335	No
27.	Village Passiana	IN-2.7.27	-do-	30.29 76.37	809	No
	Total				14590	

28.	Village Sher Majra	IN-2.7.28	-do-	30.22 76.32	501	No
29.	Village Main	IN-2.7.29	-do-	30.25 76.32	590	No
30.	Village Bhanra	IN-2.7.30	-do-	30.24 76.31	688	No
31.	Village Bhanri	IN-2.7.31	-do-	30.25 76.32	497	No
32.	Village Langroi	IN-2.7.32	-do-	30.24 76.31	375	No
33.	Village Dakala (two outlets)	IN-2.7.33	-do-	30.13 76.32 30.23 76.19	1240	No
34.	Village Mavi Sappan	IN-2.7.34	-do-	30.18 76.28	397	No
35.	Village Daroli	IN-2.7.35	-do-	30.21 76.29	267	No
36.	Village Darola	IN-2.7.36	-do-	30.34 76.34	250	No
37.	Village Madho Majra	IN-2.7.37	-do-	30.21 76.37	234	No
38.	Village Train	IN-2.7.38	-do-	30.23 76.32	433	No
39.	Village Harinagar Khedki (two outlets)	IN-2.7.39	-do-	30.10 76.28 30.18 76.16	481	No
	Total				5953	

7.1 Chhoti Nadi						
1.	Badha Road, Tej Bagh Colony, Patiala (Near slaughter House)	IN-2.7.1.1	Near Mathura Colony	30.328738 76.412954	1250	This outlet is to be connected with existing STP
2.	SST Nagar, Patiala Near, Chotti Masjid Muslim Colony	IN-2.7.1.2	Near transport area	30.334128 76.413971	750	-do-
3.	Shree Santoshi Mata Mandir area	IN-2.7.1.3	Near Mandir	30.331478 76.413876	1675	-do-
7.2 Khadoli Drain						
1.	A part of the sewage of Rajpura town located towards Patiala side	IN-2.7.2.1	Near the Habitation area	30.46910 76.56616	6000	STP of 10 MLD capacity is under stabilization.
	Total				9675	

7.3	**Jacob Drain**					
1.	Outlet of Dhillon Colony & Kesar Bagh, Patiala	IN-2.7.3.1	-do-	30.315532 76.399751	06	Individual untapped points on the embankments of Jacob drain will be connected with the STP of Shermajra of capacity 46 MLD sewer is already laid in these colonies.
2.	Moti Bagh, Patiala & Darru Kutia area	IN-2.7.3.2	-do-	30.308700 76.381793	06	Individual untapped points on the embankments of Jacob drain will be connected with the STP of Shermajra of capacity 46 MLD sewer is initially laid in these colonies.
	Total				12	

3.	Dakala, Terin, Bhanari, Main Road, Sullar Colony, (From Military Area) Within MC limit, Patiala	IN-2.7.3.3	Near Dargah of Sullar Colony	30.301800 76.375237	30	No
7.	Outlet of MES Patiala	IN-2.7.3.4	-do-	76.373482 76.373482	5500	MES has submitted the proposal to install STP based on MBBR technology of capacity 6 MLD by August, 2020.
8.	Outlet of STP Shermajra (46 MLD)	IN-2.7.3.5	-do-	30.283308 76.365508	46000	STP of 46 MLD capacity installed at Shermajra
7.3.1 Model Town Drain						
1.	Outlet of STP Ablowal (10 MLD)	IN-2.7.3.1	Adjoining to STP	30.349564 76.349342	7000	STP of 10 MLD capacity installed at Ablowal
	Total				58530	

8	**Sagarpara Drain**					
1.	Vill. Jhagir, Distt. Patiala.	IN-2.8.1	Near habitation area	29H885155 76H207242	28	No
9	**Kaithal Drain**					
1.	Village Guru Nanakpura	IN-2.9.1	Near Habitation area	29.840699 76.116888	205	No
2.	Village Dhabi Gujran (two outlets)	IN-2.9.2	Near Habitation area	29.81280 76.12101 29.80451 76.12161	904	No
3.	Village Jalalpur (Basti Plata)	IN-2.9.3	Near Habitation area	29.970819 76.183261	32	No
4.	Sewage of Nagar Panchaya, Khanauri	IN-2.9.4	In front of STP Khanauri	29.840619 76.117315	1500	STP of capacity 3 MLD installed
	Total				2669	

10	**Jhambowali Choe, Patiala**					
1	Village PhaganMajra Distt. Patiala	IN-2.10.1	Near the Habitation area	30.440265, 76.390524	570	No
2	Village Kathmathi Distt. Patiala	IN-2.10.2	Near the Habitation area	30.43234576.334371	311	No
3	Village KheriManian Distt. Patiala	IN-2.10.3	Near the Habitation area	30.389693, 76.292799	218	No
4	Village Dharmkot Distt. Patiala	IN-2.10.4	Near the Habitation area	30.380004, 76.291354	114	No
5	Village Jhambo alias Balipur Distt. Patiala	IN-2.10.5	Near the Habitation area	30.38004, 76.291354	103	No
6	Village Kalyan Distt. Patiala	IN-2.10.6	Near the Habitation area	30.357895, 76.300945	614	No
7	Village Chuharpur Marasian Distt. Patiala	IN-2.10.7	Near the Habitation area	30.291359, 76.277879	83	No
	Total				2013	

8	Village Mehmadpur Distt. Patiala	IN-2.10.8	Near the Habitation area	30.290464, 76.28149	221	No
9	Village Kakrala Distt. Patiala	IN-2.10.9	Near the Habitation area	30.2818102 76.3076544	212	No
10	Village Fatehpur Distt. Patiala	IN-2.10.10	Near the Habitation area	30.284833, 76.255942	247	No
11	Village Tarora Kalan Distt. Patiala	IN-2.10.11	Near the Habitation area	30.267335, 76.228732	216	No
12	Village Tarora Khurd Distt. Patiala	IN-2.10.12	Near the Habitation area	30.26822976.216484	132	No
13	Village Gajumajra Distt. Patiala	IN-2.10.13	Near the Habitation area	30.25689476.205275	508	No
14	Village Lalochhi Distt. Patiala	IN-2.10.14	Near the Habitation area	30.244227, 76.18786	949	No
15	Village Majri Distt. Patiala	IN-2.10.15	Near the Habitation area	30.21058, 30.21371 76.1745 76.17575	477	No
	Total				2962	

16	Village Danipur (Jeto patti Dera) Distt. Patiala	IN-2.10.16	Near the Habitation area	30.21058 76.1745	443	No
17	Village Gajipur Distt. Patiala	IN-2.10.17	Near the Habitation area	30.19956 76.16409	446	No
18	Village Kahangarh Bhootna Distt. Patiala	IN-2.10.18	Near the Habitation area	30.18485 76.15552	499	No
19	Village Bhamna Distt. Patiala	IN-2.10.19	Near the Habitation area	30.18468 76.15524	1296	No
20	Village Basti Bhamna Distt. Patiala	IN-2.10.20	Near the Habitation area	30.18468 76.15524	119	No
21	Village Bhedpuri Distt. Patiala	IN-2.10.21	Near the Habitation area	30.15309 76.14985	307	No
22	Village Dodra Distt. Patiala	IN-2.10.22	Near the Habitation area	30.14501 76.15463	274	No
23	Village Sehjpur Kalan Distt. Patiala	IN-2.10.23	Near the Habitation area	30.12435 76.15232	241	No
Total					3625	

24	Village Sehjpur Khurd Distt. Patiala	IN-2.10.24	Near the Habitation area	30.12951 76.16383	254	No
25	Outlet of Samana STP of 10 MLD capacity	IN-2.10.25	Near the Habitation area	30.00825 76.191833	7500	STP of 10 MLD capacity installed at Samana
26	Village Kularan Distt. Patiala	IN-2.10.26	Near the Habitation area	30.12213 76.13134	1810	No
27	Village Ghagroli Distt. Patiala	IN-2.10.27	Near the Habitation area	30.12002 76.1175	323	No
28	Village Dharmgarh Distt. Patiala	IN-2.10.28	Near the Habitation area	30.11773 76.12323	128	No
29	village Baras Distt. Patiala	IN-2.10.29	Near the Habitation area	30.047986 76.055797	933	No
30	village Dugal Kalan Distt. Patiala	IN-2.10.30	Near the Habitation area	29.994244 76.041356	1008	No
	Total				11956	

31.	village Dugal Khurad Distt. Patiala	IN-2.10.31	Near the Habitation area	29.988309 76.041255	921	No
32.	village Jeonpura Distt. Patiala	IN-2.10.32	Near the Habitation area	29.95728 76.0394	145	No
33.	village Chunagran Distt. Patiala	IN-2.10.33	Near the Habitation area	29.948901 76.039708	690	No
34.	Outlet of Patran STP of 4 MLD capacity at Chunagra Road Patran	IN-2.10.34	Near the Habitation area	29.948667, 76.039667	2800	STP of 4 MLD capacity installed at Patran
35.	Village Deogarh Distt. Patiala	IN-2.10.35	Near the Habitation area	29.937973 76.037758	584	No
36.	village Hariau Khurd Distt. Patiala	IN-2.10.36	Near the Habitation area	29.91162 76.02029	446	No
37.	village Hariau Kalan Distt. Patiala	IN-2.10.37	Near the Habitation area	29.9079 76.02066	1134	No
	Total				6720	

38.	village Khanewal Distt. Patiala	IN-2.10.38	Near the Habitation area	29.88455 76.02144	756	No
39.	Bharaj (Distt. Sangrur) (Th. Rohti Drain)	IN-2.10.39	Near the Habitation area	30°17'31"N 76°10'52"E	66	Seechewal Model STP (Work being Started)
40.	Lakhewal (Distt. Sangrur)	IN-2.10.40	Near the Habitation area	30°17'16"N 76°9'31"E	43	Seechewal Model STP (Work being Started)
41	Channo (Distt. Sangrur)	IN-2.10.41	Near the Habitation area	30°16'30"N 76°10'13"E	126	Seechewal Model STP (Work being Started)
42	Baghrol (Distt. Sangrur)	IN-2.10.42	Near the Habitation area	30°6'09"N 75°6'12"E	130	No
43	Safipur Kalan (Distt. Sangrur)	IN-2.10.43	On Kakrala Road	30°5'04"N 75°6'37"E	147	No
44	Sihal (Distt. Sangrur)	IN-2.10.44	On Gagga Road	30°3'56"N 75°04'31"E	106	No
45	Dhandia I(Distt. Sangrur)	IN-2.10.45	Jeonpur Near Avtar Singh Fields.	29°57'26"N 76°1'52"E	129	No
	Total				1503	

46.	Bangan (Distt. Sangrur)	IN-2.10.46	D/S of Bridge Near Chandu	29°51'26"N 76°0'53"E	183	No
47.	Nawan Gaon (Distt. Sangrur)	IN-2.10.47	D/S of Bridge Near Chandu	29°51'26"N 76°0'53"E	186	No
10.1. Kalwanu Drain						
1.	Village Kalwanu, Distt. Patiala	IN-2.10.1.1	Near Habitation area	29.996608 76.136216	1331	No
2.	Village Daroli, Distt. Patiala	IN-2.10.1.2	-do-	29.973939 76.115354	634	No
3.	Village Tambuwala, Distt. Patiala	IN-2.10.1.3	-do-	29.965649 76.096308	304	No
4.	Village Banwala, Distt. Patiala	IN-2.10.1.4	-do-	29.96051 76.09069	432	No
5.	Village Kahngarh Ghracho, Distt. Patiala	IN-2.10.1.5	-do-	29.941986 76.081488	400	No
6.	Village Khaspur, Distt. Patiala	IN-2.10.1.6	-do-	29.941986 76.081488	305	No
7.	Village Hamjheri, Distt. Patiala	IN-2.10.1.7	-do-	29.919371 76.049844	831	No
Total					4606	

11	**Lehragagga Main**					
1.	Sewage of M.C., Lehra, Distt. Sangrur	IN-2.11.1	Bacside STP Lehragaga	29.937728 75.8058515	1500	STP of 4 MLD capacity of installed
2	Kalia Distt. Sangrur	IN-2.11.2	Near Ghaggar Escape.	29°49'03"N 75°45'13"E	136	No
3	Alisher Distt. Sangrur	IN-2.11.3	RHS of L/gaga Link Drain	29°52'02"N 75°46'35"E	111	No
4	Kotra Lehal Distt. Sangrur	IN-2.11.4	RHS of L/gaga Link Drain	29°54'20"N 75°46'39"E	180	No
5	Chotian Distt. Sangrur	IN-2.11.5	LHS of Lehragaga Main near Bridge.	29°50'33"N 75°47'26"E	232	Seechewal Model STP (Work being Started)
6	Gurne Distt. Sangrur	IN-2.11.6	LHS of Drain Near Bus Stand of Alampur.	29°52'39"N 75°48'03"E	58	No
7	Bakhora Kalan Distt. Sangrur	IN-2.11.7	Near Bus Stand	29°56'15"N 75°48'39"E	316	No
8	Bakhora Khurd Distt. Sangrur	IN-2.11.8	Near School	29°53'11"N 75°48'42"E	89	No
9	Gobindpura Jawaharwala Distt. Sangrur	IN-2.11.9	Near Gurudawara Sahib	29°53'42"N 75°48'07"E	130	No
10	Rampura Jawaharwala Distt. Sangrur	IN-2.11.10	Near Gurudawara Sahib	29°54'02"N 75°48'11"E	100	No
11	Balran Distt. Sangrur	IN-2.11.11	Near Chular Road	29°50'26"N 75°50'39"E	460	Seechewal Model STP (Work being Started)
	Total				3312	

12	Lehal Kalan Distt. Sangrur	IN-2.11.12	Near Peer	29°50'36"N 75°51'22"E	416	No
			Near Tower	29°52'52"N 75°51'7"E		
13	Lehal Khurd Distt. Sangrur	IN-2.11.13	LHS of Lehragaga Link Drain	29°55'24"N 75°50'06"E	218	No
14	Khai Distt. Sangrur	IN-2.11.14	RHS of Lehragaga Link Drain	29°56'19"N 75°44'39"E	92	No
15	Kalbanjara Distt. Sangrur	IN-2.11.15	Near Water Works	29°55'58"N 75°53'36"E	188	No
16	Jhaloor Distt. Sangrur	IN-2.11.16	Near SC Shamshanghat	29°56'15"N 75°55'22"E	227	No
17	Bhutal Kalan Distt. Sangrur	IN-2.11.17	Near Guga Marri	29°54'14"N 75°52'11"E	391	No
			Near Commnity Centre	29°54'14"N 75°52'11"E		
18	Ramgarh Sandhuan Distt. Sangrur	IN-2.11.18	RHS Lehragaga Link Drain	29°56'53"N 75°50'58"E	186	No
19	Sekhuwas Distt. Sangrur	IN-2.11.19	RHS L-3 Link Drain	29°58'44"N 75°51'47"E	193	No
20	Ghorenab Distt. Sangrur	IN-2.11.20	LHS Lehragaga Link Drain	29°57'35"N 75°52'46"E	254	No
21	Bhai Ki Pishor Distt. Sangrur	IN-2.11.21	RHS L-3 Link Drain	29°56'53"N 75°50'58"E	243	No
22	Rorewala Distt. Sangrur	IN-2.11.22	RHS South Side.	29°57'20"N 75°54'57"E	133	No
23	Harigarh Distt. Sangrur	IN-2.11.23	Jhaloor Road Near Bhagwant Singh Fields	29°57'22"N 75°56'12"E	142	No
24	Shadihari Distt. Sangrur	IN-2.11.24	Near Hari Singh Fields.	29°56'12"N 75°56'53"E	344	No
25	Kohrian Distt. Sangrur	IN-2.11.25	On Bhai Ki Pishor Road.	29°59'38"N 75°54'26"E	259	No
26	Ubhia Distt. Sangrur	IN-2.11.26	On Ladbanjara Road	29°59'13"N 75°58'10"E	185	No
Total					3471	

27	Khetla Distt. Sangrur	IN-2.11.27	On Kheri Naga Road.	30°1'28"N 75°59'3"E	288	No
28	Rogla Distt. Sangrur	IN-2.11.28	Near Mukhtiar Singh Fields	30°0'48"N 75°56'14"E	411	No
29	Diwangarh Kempar Distt. Sangrur	IN-2.11.29	On Khetla Road.	30°1'50"N 75°59'0"E	163	No
30	Kadial Distt. Sangrur	IN-2.11.30	On Dirba Road	30°3'47"N 75°01'13"E	202	No
31	Kamalpur Distt. Sangrur	IN-2.11.31	Near Satyabharti School	30°6'45"N 76°2'31"E	226	No
			Near Bus Stand	30°6'49"N 76°2'45"E		
			On Ghanaur Rajputtan Road	30°6'50"N 76°2'43"E		
32	Munshiwala Distt. Sangrur	IN-2.11.32	LHS on Masani Road.	30°15'9"N 76°8'33"E	53	Seechewal Model STP (Work being Started)
33	Kheri Gillan Distt. Sangrur	IN-2.11.33	Near Pond.	30°17'16"N 76°9'27"E	75	Seechewal Model STP (Work being Started)
34	Kalajhar Distt. Sangrur	IN-2.11.34	Near Pond.	30°6'15"N 76°9'11"E	141	Seechewal Model STP (Work In-progress)
11.1 L-6 Drain						
1.	Bhootgarh Distt. Patiala	IN-2.11.1.1	Directly	75.93201 29.91247	674	No
12 Sirhind Choe						
1.	Village Mahadiyan, Tehsil Sirhind Distt. Fatehgarh Sahib	IN-2.12.1	Outlet of village pond	30.4001, 76.2514	107	No
Total					2340	

2.	Village Badali, Tehsil Amloh Distt. Fatehgarh Sahib	IN-2.12.2	Near bridge on road leading to Amoh	30.36083, 76.17116	73	No
3.	Sirhind Mandi, Tehsil Sirhind	IN-2.12.3	Sirhind Mandi	30.635696, 76.380802	2200	No
4.	Sirhind City Road (Zone-II)	IN-2.12.4	Near Pully of sirhind city road	-		No
5.	Focal Point Mandi Gobindgarh	IN-2.12.5	Near village Ambey Majra, Tehsil Amloh	30.627004, 76.319103	3000	No
6.	STP, Mandi Gobindgarh outlet, Tehsil Amloh	IN-2.12.6	village Kumbra, Tehsil Amloh	30.620825, 76.299315	19000	STP- 25 MLD
7.	MC, Bassi Pathana	IN-2.12.7	Namdev Road	30.687287 76.406558	600	STP of 3.0 MLD is under installation
			Near ITI	30.681626 46.403936	300	
			Mohalla Singhpura Chungi	30.687681 76.397627	500	
			Brota Majri Chowk	30.687384 76.395645	300	
			Near BSNL Exchange	30.685063 76.402374	300	
8.	MC, Amloh	IN-2.12.8	Village Bir Tehsil Amloh	30.57312 76.27297	2000	STP of 3.0 MLD is proposed under HUDCO
	Total				28273	

9.	Village Mehsampur Distt. Sangrur	IN-2.12.9	U/S of Vill. Dittupur RHS.	30°20'57"N 75°59'35"E	76	Seechewal Model STP (Work being Started)
10.	Village Dittupur Distt. Sangrur	IN-2.12.10	RHS on South-East	30°20'09.7"N 75°59'16.8"E	18	Seechewal Model STP (Work In-progress)
11.	Village Nandgarh Distt. Sangrur	IN-2.12.11	RHS U/S of Dittupur Road.	30°20'51"N 75°59'46"E	52	Seechewal Model STP (Work In-progress)
			RHS On Dittupur Road Culvert	30°20'44"N 75°59'49"E		No
12.	Village Gehlan Distt. Sangrur	IN-2.12.12	LHS Towards North Near Bhalwan Road	30°19'10"N 75°59'01.0"E	58	No
13.	Village Rasoolpur Channa Distt. Sangrur	IN-2.12.13	RHS Towards South-East	30°19'11"N 75°58'58"E	44	Seechewal Model STP (Work In-progress)
14.	Village Kheri Chandwan Distt. Sangrur	IN-2.12.14	RHS Towards South-East	30°18'27.8"N 75°58'27.2"E	52	Seechewal Model STP (Work being Started)
15.	Village Santokhpura Distt. Sangrur	IN-2.12.15	RHS Towards South-East	30°17'34.9"N 75°58'22.4"E	31	Seechewal Model STP (Work In-progress)
16.	Village Jalan Distt. Sangrur	IN-2.12.16	RHS Near Basti on Drain Bank	30°17'10"N 75°57'51"E	85	Seechewal Model STP (Work being Started)
17.	Village Jollian Distt. Sangrur	IN-2.12.17	Near Pond	30°19'27"N 76°2'58"E	74	Seechewal Model STP (Work being Started)
18.	Village Fatehgarh Bhadson Distt. Sangrur	IN-2.12.18	Near Bridge on Panwan Road.	30°18'55"N 76°2'1"E	96	Seechewal Model STP (Work In-progress)
Total					586	

19.	Village Panwan Distt. Sangrur	IN-2.12.19	Near Brigde on F.G. Bhadson Road.	30°18'55"N 76°1'53"E	101	Seechewal Model STP (Work being Started)
20.	Village Sakroudi Distt. Sangrur	IN-2.12.20	South Side of Village.	30°18'22"N 76°0'36"E	142	Seechewal Model STP (Work being Started)
21	Village Ghabdan Distt. Sangrur	IN-2.12.21	RHS Near Fish Farm.	30°16'12.8"N 75°57'19.7"E	233	No
22	Village Kalaudi Distt. Sangrur	IN-2.12.22	RHS on Gharachon Road.	30°13'55.0"N 75°56'33.0"E	93	No
23	Village Balwar Kalan Distt. Sangrur	IN-2.12.23	RHS on Gharachon Road.	30°13'27.0"N 75°55'56.3"E	56	No
24	Village Gharachon Distt. Sangrur	IN-2.12.24	Near Bridge on Sangrur-Grachon Road.	30°13'54"N 75°56'34"E	674	Seechewal Model STP (Work being Started)
25	Village Sajuma Distt. Sangrur	IN-2.12.25	Near Bridge on Ealwal Road.	30°11'17"N 75°55'18"E	60	No
26	Village Gaggarpur	IN-2.12.26	LHS On Sajuma Road.	30°11'18.7"N 75°55'18.7"E	188	No
27	Village Bishanpura Distt. Sangrur	IN-2.12.27	LHS on Near Bridge on Sangrur-Sunam Road.	30° 8' 35'' N 75° 50' 24'' E	126	No
28	Village Chowas Distt. Sangrur	IN-2.12.28	LHS On Ghassiwala Road.	30° 3' 377'' N 75° 43' 47'' E	319	No
29	Village Dhaliwalwas Distt. Sangrur	IN-2.12.29	LHS On Tolawal Road.	30°03'57.4"N 75°43'25.4"E	154	No
Total					2146	

30	Village Ghasiwala Distt. Sangrur	IN-2.12.30	RHS on North Side.	30°06'02.5"N 75°45'05.5"E	156	No
31	Village Satoj Distt. Sangrur	IN-2.12.31	RHS On South Side.	30°03'11.8"N 75°38'48.2"E	229	Seechewal Model STP (Work being Started)
32	Village Kotra Amru Distt. Sangrur	IN-2.12.32	RHS U/S Jakhepal Road Bridge.	30°04'17"N 75°43'53"E	110	No
33	Village Sheron Model Town-1 Distt. Sangrur	IN-2.12.33	LHS On South Side.	30°06'49.8"N 75°45'23.6"E	710	No
34	Village Tibbi Ravidaspura Distt. Sangrur	IN-2.12.34	LHS Near Sitassar Sunam.	30° 7' 52'' N 75° 47' 30'' E	96	No
35	Village Humbalwas Distt. Sangrur	IN-2.12.35	LHS On Ghassiwala Road.	30° 3' 35'' N 75° 44' 3'' E	310	No
36	VillageJakhepalwas	IN-2.12.36	LHS D/S of Humbal was disp. Pt.	30° 3' 44'' N 75° 43' 44'' E	120	No
37	Village Mehlan, Distt. Sangrur	IN-2.12.37	LHS Down Stream of Sangrur-Mehlan Bridge.	30°09'34"N 75°52'58"E	391	No
38	Chathe Nake Distt. Sangrur	IN-2.12.38	RHS D/S of Bridge	30°08'47"N 75°50'06"E	45	No
39	Akalgarh Distt. Sangrur	IN-2.12.39	RHS D/S of Bridge	30°08'47"N 75°50'06"E	45	No
40	Tolawal Distt. Sangrur	IN-2.12.40	RHS D/S Dharamgarh Road Bridge.	30°03'39"N 75°40'40"E	268	No
41	Dharamgarh Distt. Sangrur	IN-2.12.41	LHS Water Works.	30°03'12"N 75°40'22"E	118	Seechewal Model STP (Work being Started)
Total					2598	

42	Nagar Panchayat, Cheema Distt. Sangrur	IN-2.12.42	Jakhepal Road, Cheema	30.065643 75.722730	500	STP of 2.0 MLD is proposed under HUDCO
43	M.C., Sunam	IN-2.12.43	Sunam Budhlada Byepass	30.121086 75.789754	8000	STP of capacity 8 MLD installed
44	Village Farid ke Distt. Mansa	IN-2.12.44	Near Shamshan ghat	29.791361, 75.4483	15	No
45	Village Malkon Distt. Mansa	IN-2.12.45	kacha rasta ladduwas road (Haryana)	29.803666, 75.449450	7	No
46	Village Uddat Saidewala Distt. Mansa	IN-2.12.46	backside SC Dharmshalla	29.822309 75.479533	32	No
47	Akkanwali Distt. Mansa	IN-2.12.47	main pull rasta joian	29.867959 75.428836	50	No
48	Village Piplian Distt. Mansa	IN-2.12.48	Kacha rasta Mandhali	29.898368 75.453998	50	No
49	Village Ahmedpur Distt. Mansa	IN-2.12.49	Ahmedpur Road Bridge	29.941037 75.499767	50	No
50	Nagar Panchayat Budhlada Distt. Mansa	IN-2.12.50	Railway Line crossing over drain	29.941037 75.499767	5300	No
Total					14004	

51	Village Hasanpur Distt. Mansa	IN-2.12.51	near playground	29.962936 75.526926	7	No
52	Village Gurne Kalan Distt. Mansa	IN-2.12.52	Main pull on drain Rasta phaphre bhai ke	29.977479 75.529897	60	No
53	Village Borawal Distt. Mansa	IN-2.12.53	main pull rasta bhikhi	30.003417 75.545233	7	No
54	Village Borawal Distt. Mansa	IN-2.12.54	Near Shamshan ghat	30.001762 75.539893	14	No
55	Village Dhalewan Distt. Mansa	IN-2.12.55	near playground	30.023340, 75.580270	20	No
56	Village Khiwa Khurd Distt. Mansa	IN-2.12.56	near pond	30.128038, 75.570434	2	No
57	Village Hodla Khurd Distt. Mansa	IN-2.12.57	near petrol pump	30.046644, 75.614067	2	No
58	Village Mangewal, Distt. Mansa	IN-2.12.58	Near Habitation area	30.483192 76.200978	320	No
59	Village Sohndewal, Distt. Mansa	IN-2.12.59	Near Habitation area	29.630100 74.720043	334	No
60	Village Chaswal, Distt. Mansa	IN-2.12.60	Near Habitation area	30.494018 76.216606	433	No
61	Village Shamashpur, Distt. Mansa	IN-2.12.61	Near Habitation area	30.528035 76.254106	112	No
	Total				1311	

62	Village Khijjerpur, Distt. Mansa	IN-2.12.62	Near Habitation area	30.543475 76.263961	105	No
63	Village Jhambali Sahni, Distt. Mansa	IN-2.12.63	Near Habitation area	30.527305 76.254352	132	No
64	Village Ram Garh, Distt. Mansa	IN-2.12.64	Near Habitation area	30.508812 76.243226	512	No
65	Village Bhari Panechan, Distt. Mansa	IN-2.12.65	Near Habitation area	30.543618 76.263981	413	No
66	MC, Bhadson, Distt. Mansa	IN-2.12.66	Near bridge on Amloh-Bhadson Road	30.514960 76.246270	730	No
67	Domestic effluent of village Gurdaspura, Distt. Sangrur	IN -2.12.67	South side of village	30°14’37.0”N 75°57’04.1”E	82	No
12.1 Nabha Drain						
1	MC, Nabha	IN-2.12.1.1	Near Dulladi	30.3650 76.1380	7200	Not installed
12.2 Sangrur Drain						
1.	Bhindran (Th. B/pura Drain) (Distt. Sangrur)	IN-2.12.2.1	Pond Near Anaj Mandi	30°15'48"N 75°54'49"E	159	No
Total					9333	

2.	Khurana (Distt. Sangrur	IN-2.12.2.2	LHS Main NH-7 Near Bridge.	30°14'51"N 75°54'05"E	114	No
			LHS Fields	30°14'36"N 75°53'56"E		
3.	Khurani (Distt. Sangrur)	IN-2.12.2.3	LHS Balwar Kalan Road.	30°14'10"N 75°52'37"E	52	No
4.	Village Kammomajra, Distt. Sangrur	IN-2.12.2.4	RHS of South Side.	30°12'24.9"N 75°52'10.4"E	87	No
5.	Ramnagar Sibian (Distt. Sangrur)	IN-2.12.2.5	LHS Main Sunam-Sangrur Road.	30°13'07"N 75°50'41"E	88	No
6.	Tungan (Distt. Sangrur)	IN-2.12.2.6	RHS Near Culvert	30°10'35"N 75°50'53"E	169	No
7.	Kanoi (Distt. Sangrur)	IN-2.12.2.7	LHS Main Sunam-Sangrur Road.	30°12'02"N 75°50'48"E	103	No
8.	Kularan (Distt. Sangrur)	IN-2.12.2.8	LHS through fields towards East.	30°09'27"N 75°51'33"E	45	No
9.	Village Kheri, Distt. Sangrur	IN-2.12.2.9	LHS On Kheri-Kanoi Road.	30°11'31.9"N 75°51'49.4"E	215	No
Total					873	

12.2.1 Balian Drain						
1.	M.C. Sangrur	IN-2.12.2.1.1	In front of MPS, Sunam Road, Sangrur	30.225152 75.842543	7000	STP of 11 MLD capacity is proposed under HUDCO
			Near Akalsar Sahib Gurudwara along with Sant Nagar Gali no. 2 Sunam Road, Sangrur	30.232506 75.839868	200	STP of 4 MLD capacity is proposed under HUDCO
2.	Rupaheri (Distt. Sangrur)	IN-2.12.2.1.2	LHS of Balian Drain.	30°17'56"N 75°54'34"E	93	No
3.	Mangwal (Distt. Sangrur)	IN-2.12.2.1.3	LHS Near Govt. School towards East.	30°15'15"N 75°51'59"E	634	No
12.3. Bareta Drain						
1.	Rattakhera (Distt. Sangrur)	IN-2.12.3.1	D/S of Village.	29°57'58"N 75°41'30"E	141	No
2.	Ladal (Distt. Sangrur)	IN-2.12.3.2	Near Stadium	29°54'49"N 75°43'38"E	193	No
3.	Hariaou (Distt. Sangrur)	IN-2.12.3.3	Near Bus Stand	29°45'53"N 75°43'08"E	356	No
4.	Gidriani (Distt. Sangrur)	IN-2.12.3.4	Near School	29°58'33"N 75°45'45"E	162	No
5.	Gaga (Distt. Sangrur)	IN-2.12.3.5	LHS B-5.	29°56'25"N 75°47'48"E	228	No
6.	Fatehgarh (Distt. Sangrur)	IN-2.12.3.6	RHS Near School on Kanakwal Road	30°29'21"N 75°43'40"E	171	No
			RHS Hariau Road	30°58'44"N 75°43'26"E		
			RHS U/S Lehra Road Bridge.	30°58'53"N 75°43'57"E		
Total					9178	

7.	Ganduan (Distt. Sangrur)	IN-2.12.3.7	RHS Focal Point Road.	30°0'10"N 75°45'25"E	366	No
			RHS Near Bridge Khokar Road.	29°59'25"N 75°45'35"E		No
8.	Bhaini Ganduan (Distt. Sangrur)	IN-2.12.3.8	RHS Khokhar Road Pipe Bridge.	29°59'57"N 75°47'04"E	66	No
9.	Maidewas (Distt. Sangrur)	IN-2.12.3.9	RHS Lehra Main Road Bridge.	30°0'46"N 75°47'43"E	113	No
10.	Chajjla (Distt. Sangrur)	IN-2.12.3.10	RHS Gobindgarh Jejjian road bridge.	30°1'58"N 75°47'58"E	145	No
11.	Gobindgarh Jejjian (Distt. Sangrur)	IN-2.12.3.11	LHS Khokhar Road Pipe Bridge.	29°59'57"N 75°47'04"E	218	No
			LHS Chajjla Road.	30°01'55"N 75°47'50"E		
12.	Nangla (Distt. Sangrur)	IN-2.12.3.12	LHS of B-6 Link Drain.	29°59'42"N 75°49'58"E	236	No
13.	Sangatiwala (Distt. Sangrur)	IN-2.12.3.13	RHS Bridge on Chajjli Road.	30°0'59"N 75°51'34"E	428	No
14.	Chajjli (Distt. Sangrur)	IN-2.12.3.14	RHS Bridge Nangla Road.	30°1'18"N 75°48'01"E	935	No
			RHS Bridge Sangtiwala Road.	30°1'58"N 75°49'58"E		
			RHS Near Gugga Marri	30°1'15"N 75°49'59"E		
			RHS Bridge Model Town Road.	30°1'15"N 75°49'59"E		
15.	Vill. Chatha Nanhera, Distt. Sangrur	IN-2.12.3.15	RHS Bank South Side.	30°03'34.1"N 75°52'52.9"E	358	No
	Total				2865	

16.	Chahhar (Distt. Sangrur)	IN-2.12.3.16	RHS On Bhai Ki Pishor Road.	30°1'27"N 75°54'22"E	428	No
17.	Dhandoli Kalan (Distt. Sangrur)	IN-2.12.3.17	On Rogla Road.	30°2'28"N 75°55'46"E	176	No
18.	Janal (Distt. Sangrur)	IN-2.12.3.18	On Gujjran Road.	30°4'18"N 75°57'6"E	293	No
19.	Taranji Khera (Distt. Sangrur)	IN-2.12.3.19	Near Culvert on Distributory	30°6'24"N 75°54'14"E	149	No
20.	Mauran (Distt. Sangrur)	IN-2.12.3.20	Naar Nagari	30°8'4"N 75°55'33"E	336	No
21.	Toorbanjara (Distt. Sangrur)	IN-2.12.3.21	Near Panchayat Land	30°5'39"N 75°57'53"E	154	No
			Dirba Sangtiwala Road	30°5'18"N 75°57'48"E		
22.	Gujjran (Distt. Sangrur)	IN-2.12.3.22	Near Grid on Mauran Road	30°7'34"N 75°57'44"E	104	No
			Near Anaj Mandi	30°7'09"N 75°58'29"E		
23.	Changaliwala (Distt. Sangrur)	IN-2.12.3.23	RHS of L/Gaga Link Drain.	29°56'46"N 75°47'50"E	77	No
24.	Khokhar Kalan (Distt. Sangrur)	IN-2.12.3.24	Near Bus Stand	29°57'32"N 75°48'21"E	159	No
25.	Khokhar Khurd (Distt. Sangrur)	IN-2.12.3.25	RHS of L/Gaga Link Drain.	29°58'57"N 75°49'02"E	56	No
26.	Domestic effluent of Village Khadial, Distt. Sangrur	IN-2.12.3.26	RHS Bank South Side.	30°05'45.2"N 75°53'10.8"E	450	No
27.	Domestic effluent of Village Reond Khurd, Distt. Mansa	IN-2.12.3.27	Near Shamshan ghat	29.759900, 75.585001	15	No
28.	Domestic effluent of Village Reond Kalan, Distt. Mansa	IN-2.12.3.28	main pull rasta birewala dogra	Lt. 29.76123, Long 75.590784	5	No
	Total				2402	

29.	Domestic effluent of Village Bhakrial, Distt. Mansa	IN-2.12.3.29	Near main pull rasta Ramgarh Shahpuria	Lt. 29.800565. Long 75.621263	5	No
30.	Domestic effluent of Village Dharmpura, Distt. Mansa	IN-2.12.3.30	Bhawa bareta road	29.826229, 75.648320	12	No
31.	Domestic effluent of Village Jalwara, Distt. Mansa	IN-2.12.3.31	Drain pull on bareta road	29.856722 75.662118	5	No
32.	MC, Bareta	IN-2.12.3.32	Near jalwara Bridge	29051'37'' 75040' 23"	2000	STP of capacity 3 MLD based on WSP technology is installed
33.	Domestic effluent of vill. Ramgarh Jawandhey, Distt. Sangrur	IN -2.12.3.33	On Chajjli Path D/s of Bridge	30°03'56"N 75°52'39"E	195	No facility
12.3.1 Ladal Drain						
1.	Kishangarh	IN-2.12.3.1.1	Near Drain pull Daska road	29.910752 75.724687	70	No
	Total				2287	

12.3.2 Mander Drain						
1.	Village Mander, Distt. Mansa	IN-2.12.3.2.1	Main pull bareta road	29.824823 75.684634	50	No
2.	Village Juglan, Distt. Mansa	IN-2.12.3.2.2	Kacha rasta pond to drain along stadium	29.823109 75.699637	02	No
12.3.3 Toderpur Drain						
1.	Village Gamiwala, Distt. Mansa	IN-2.12.3.3.1	Drain pull main rasta Radha Swami Dera	29.806189 75.533512	04	No
2.	Village Gamiwala, Distt. Mansa	IN-2.12.3.3.2	near Drain pull	29.803932 75.530153	04	No
3.	Village Maghania, Distt. Mansa	IN-2.12.3.3.3	near pull rasta Saidewala	29.806853 75.577562	10	No
4.	Village Saidewala, Distt. Mansa	IN-2.12.3.3.4	pond to kacha rasta toderpur drain	29.630100, 74.720043	2	No
Total					72	

12.3.4 Hargobindpura Datewas Drain						
1	Village Manderna (Rampura mander), Distt. Mansa	IN-2.12.3.4.1	Near Bridge Village Satike	29.847898 75.556194	2	No
2	Village Satika, Distt. Mansa	IN-2.12.3.4.2	Near Bridge Village phulluwala Dod	29.862740 75.593327	8	No
3	Nagar Panchayat, Boha, Distt. Mansa	IN-2.12.3.4.3	Near Serkhal road	29.827 74.542	1200	No
12.4 Khiwa Sahajada Drain						
1.	Village Khiva Kalan, Distt. Mansa	IN-2.12.4.1	Near Anganwari	30.101256, 75.565631	15	No
			Near Pandit wali shamshanghat	30.108611 75.565555	10	No
12.5 Dodra Drain						
1.	Village Gurne Khurd, Distt. Mansa	IN-2.12.5.1	Kacha rasta upto drain from Balwinder singh Ex Sarpanch	29.965501 75.527674	12	No
2.	Village Chak bhai ke, Distt. Mansa	IN-2.12.5.2	Bachuuana road	30.585642 75.501149	10	No
3.	MC, Budhlada, Distt. Mansa	IN-2.12.5.3	Ahmadpur Bridge	29.941408 75.499763	5300	STP of 6.5 MLD capacity based on MBBR Technology is installed and in operation.
Total					6557	

12.6 Bahadur Singh Wala Drain						
1.	Jalalgarh (Distt. Sangrur)	IN-2.12.6.1	LHS	30°31'17"N 76°04'05"E	49	No
2	Chounda (Distt. Sangrur)	IN-2.12.6.2	LHS	30°30'54"N 76°03'15"E	45	No
3	Mohmadpura (Nawan Pind) (Distt. Sangrur)	IN-2.12.6.3	LHS	30°29'43"N 76°01'45"E	34	No
4	Jhall (Distt. Sangrur)	IN-2.12.6.4	RHS	30°28'40"N 76°00'31"E	134	No
5	Langrian (Distt. Sangrur)	IN-2.12.6.5	LHS	30°28'25"N 75°59'21"E	122	No
6	Niamatpura (Distt. Sangrur)	IN-2.12.6.6	RHS	30°27'23"N 75°58'51"E	93	No
7	Lohar Majra (Distt. Sangrur)	IN-2.12.6.7	LHS	30°25'32"N 75°56'43"E	34	No
8	Sherpur Sodian (Distt. Sangrur)	IN-2.12.6.8	LHS	30°23'26"N 75°55'49"E	55	No
9	Jakhlan (Distt. Sangrur)	IN-2.12.6.9	LHS	30°23'03"N 75°55'20"E	99	No
10	Harchandpura (Distt. Sangrur)	IN-2.12.6.10	LHS	30°22'03"N 75°54'07"E	132	No
	Total				797	

11	Village Mannwala, Distt. Sangrur	IN-2.12.6.11	LHS North Side of Village near Railway Line	30° 21’ 4.68’’ N 75° 52’ 21.22’’ E	56	No
12	Benra, Distt. Sangrur	IN-2.12.6.12	RHS	30°20’01”N 75°51’17”E	315	No
			RHS	30°19’51”N 75°51’09”E		
13	Ladda Nayak Basti Distt. Sangrur	IN-2.12.6.13	RHS Near Ladda Bus Stand	30°18’43”N 75°50’22”E	315	No
14	Mohmadpur Rassaldar, Distt. Sangrur	IN-2.12.6.14	RHS near Main Road.	30°17’46”N 75°50’03”E	33	No
15	Akoi Sahib, Distt. Sangrur	IN-2.12.6.15	RHS near Main Road.	30°16’52”N 75°50’03”E	116	No
16	Sarron, Distt. Sangrur	IN-2.12.6.16	RHS Near Culvert	30°18’49”N 75°53’36”E	280	No
			RHS Near Co-op Bank.	30°19’2”N 75°53’49”E		
17	Fatehgarh Channa, Distt. Sangrur	IN-2.12.6.17	RHS toward East in fields.	30°18’09”N 75°52’16”E	113	No
18	Thaleshan, Distt. Sangrur	IN-2.12.6.18	RHS of Drain at Nankiana Road	30°16’58”N 75°51’09”E	85	No
19	Hareri, Distt. Sangrur	IN-2.12.6.19	LHS of BS Wala.	30°16’16”N 75°48’39”E	604	No
20	Changal, Distt. Sangrur	IN-2.12.6.20	Near Badrukhan.	30°15’58”N 75°47’30”E	156	Seechewal Model STP (Work being Started)
Total					2073	

21	Badrukhan, Distt. Sangrur	IN-2.12.6.21	LHS of BS Wala.	30°15'26"N 75°47'14"E	73	No
			LHS of BS Wala.	30°15'26"N 75°47'13"E		
22	Bhamabaddi, Distt. Sangrur	IN-2.12.6.22	LHS of BS Wala.	30°14'10"N 75°45'19"E	79	Seechewal Model STP (Work being Started)
23	Ubhewal, Distt. Sangrur	IN-2.12.6.23	LHS of BS Wala.	30°13'57"N 75°44'36"E	489	No
24	Duggan, Distt. Sangrur	IN-2.12.6.24	RHS on Kila Road.	30°13'36"N 75°43'54"E	364	No
25	Kila Bharian, Distt. Sangrur	IN-2.12.6.25	LHS on Duggan Rd.	30°13'35"N 75°43'54"E	79	No
26	Sahoke, Distt. Sangrur	IN-2.12.6.26	LHS of Sahoke Drain.	30°10'41"N 75°35'36"E	140	No
			LHS of Sahoke Drain.	30°10'26"N 75°35'20"E		
27	Loha Khera, Distt. Sangrur	IN-2.12.6.27	LHS of Dhuri Drain.	30°12'42"N 75°37'07"E	211	No
28	Ratoke, Distt. Sangrur	IN-2.12.6.28	LHS of BS Wala.	30°10'46"N 75°56'54"E	79	No
29	Takipur, Distt. Sangrur	IN-2.12.6.29	LHS of BS Wala.	30°10'29"N 75°36'54"E	80	No
30	Togalwal, Distt. Sangrur	IN-2.12.6.30	LHS Near Village.	30°9'16"N 75°36'51"E	184	No
			LHS Near Village.	30°9'14"N 75°36'38"E		
			LHS Near Village.	30°9'15"N 75°36'29"E		
	Total				1778	

31	Shahpur, Distt. Sangrur	IN-2.12.6.31	LHS of BS Wala.	30°8'42"N 75°39'46"E0	45	No
32	Jharon, Distt. Sangrur	IN-2.12.6.32	LHS of Jainpur Road	30°7'17.23''N 75°37 56.34'' E	330	No
33	Village Dhura, Distt. Sangrur	IN-2.12.6.33	LHS near AP Solevex.	30°20'53"N 75°52'2"E	247	No
			LHS near AP Solevex	30°21'39"N 75°53'54"E		
34	Dohla, Distt. Sangrur	IN-2.12.6.34	RHS Near Harchandpura on Nabha Road	30°22'18.4"N 75°54'14.0"E	74	No
35	Issi, Distt. Sangrur	IN-2.12.6.35	LHS On Rajindrapuri Road	30°25'12.34"N 75°56'01.98"E	115	No
			LHS	30°24'59"N 75°55'56"E		
36	Kheri Jattan, Distt. Sangrur	IN-2.12.6.36	LHS Near School.	30°25'57.0"N 75°57'21.8"E	103	No
37	Dhadogal, Distt. Sangrur	IN-2.12.6.37	LHS On Jainpur Road.	30°26'15.63"N 75°57'48.23"E	203	No
38	Nagar Panchayat, Longowal, Distt. Sangrur	IN-2.12.6.38	Shahpur Road, Near Drain Bridge	30.188338 75.683476	1000	STP of 3.0 MLD is proposed under HUDCO
39	M.C., Dhuri, Distt. Sangrur	IN-2.12.6.39	Totapuri Mohalla	30.347929 75.867512	2000	2 no. STPs of 5 & 6 MLD are proposed under HUDCO
40	M.C., Bhikhi, Distt. Mansa	IN-2.12.6.40	At Dolwe Road, Bhikhi	30039’90’’ 75032’04’’	2500	STP of 3.0 MLD based on WSP technology is installed.
	Total				6617	

41	Diwane Kothe, Distt. Mansa	IN-2.12.6.41	Diwane Kothe	30.04’57” 75.35’04”	05	No
42	Dhaipai, Distt. Mansa	IN-2.12.6.4	Near Shamshan ghat	30.094444, 75.615555	15	No
43	Hiron Kalan, Distt. Mansa	IN-2.12.6.43	near pond	30.114044, 75.630581	10	No
44	Gurdaspura Basti (Sangrur)	IN -2.12.6.44	Dhuri Main Road U/s of Bridge Near Sun Rise	30°16’41.5”N 75°50’03.7”E	63	No facility
45	Sheron (Distt. Sangrur)	IN -2.12.6.45	LHS under HT Line	30°09’15”N 75°45’07”E	710	No facility
12.6.1 Bhagwanpura Link Drain						
1.	Vill. Dhandra, Distt. Sangrur	IN-2.12.6.1.1	On Meemsa-Bagrian Road	30°23'42.48'' N 75°55'57.89'' E	155	No
2.	Vill. Burj Sedha, Distt. Sangrur	IN-2.12.6.1.2	RHS on Bank.	30°24'06.8"N 75°58'34.6"E	864	No
3.	Vill.Meemsa, Distt. Sangrur	IN-2.12.6.1.3	RHS in Fields.	30°22'42.8"N 75°57'44.1"E	265	Seechewal Model STP (Work Being Started)
	Total				2087	

12.6.2 Dhuri Drain						
1.	Vill. Pedhni Kalan (Distt. Sangrur)	IN-2.12.6.2.1	RHS in Fields.	30°21'48.67"N 75°47'57.95"E	117	No
2.	Vill. Banganwali (Distt. Sangrur)	IN-2.12.6.2.2	On Rajindrapuri Road	30°25'43.76"N 75°54'15.20"E	81	No
3.	Vill. Babbanpur (Distt. Sangrur)	IN-2.12.6.2.3	RHS Bank on Dhuri Road.	30°25'19.9"N 75°51'59.2"E	41	No
4.	Vill. Kanjhli (Distt. Sangrur)	IN-2.12.6.2.4	RHS Bank South Side.	30°18'08.13"N 75°44'25.47"E	94	No
5.	Vill. Batuha (Distt. Sangrur)	IN-2.12.6.2.5	RHS Bank Natt Road.	30°18'32.2"N 75°43'20.5"E	75	No
6.	Vill. Jahangir (Distt. Sangrur)	IN-2.12.6.2.6	RHS on Bank.	30°23'10.8"N 75°49'14.3"E	150	No
7.	Tolawal (Distt. Sangrur)	IN-2.12.6.2.7	LHS near Main Rd. Bridge.	30°28'54"N 75°58'24"E	268	No
8.	Banbhura (Distt. Sangrur)	IN-2.12.6.2.8	RHS	30°28'03"N 75°57'28"E	281	No
9.	Jainpur (Distt. Sangrur)	IN-2.12.6.2.9	LHS	30°27'05"N 75°56'37"E	78	No
	Total				1185	

10.	Vill. Ruldu Singh Wala (Distt. Sangrur)	IN-2.12.6.2.10	RHS on Bardwal Road.	30°24’23.88”N 75°53’49.06”E	68	No
11.	Bardwal (Distt. Sangrur)	IN-2.12.6.2.11	LHS	30°24’04”N 75°53’22”E	244	No
			LHS	30°24’03”N 75°53’13”E		
			LHS	30°23’59”N 75°52’48”E		
12	Daulatpur (Distt. Sangrur)	IN-2.12.6.2.12	RHS	30°23’39”N 75°51’19”E	70	No
13	Kaheru (Distt. Sangrur)	IN-2.12.6.2.13	RHS	30°23’20”N 75°49’58”E	181	No
			RHS	30°23’19”N 75°49’57”E		
			RHS	30°23’19”N 75°49’50”E		
14	Punawal (Distt. Sangrur)	IN-2.12.6.2.14	LHS	30°19’58”N 75°47’26”E	233	No
			LHS	30°19’34”N 75°47’16”E		
15	Vill. Kanjhla (Distt. Sangrur)	IN-2.12.6.2.15	LHS Bank on Ladda-Kila Hakima Road	30° 18’37.61’’ N 75° 46’ 44.84’’ E	358	Seechewal Model STP (Work Being Started)
16	Vill. Natt (Distt. Sangrur)	IN-2.12.6.2.16	LHS Bank Batuha Road.	30°17’35.4”N 75°43’25.7”E	109	No
17	Bhaini Mehraj (Distt. Barnala)	IN-2.12.6.2.17	RHS	30°17’41”N 75°42’48”E	326	No
			RHS	30°16’40”N 75°41’01”E		
			RHS	30°16’39”N 75°41’01”E		
18	Badbar (Distt. Barnala)	IN-2.12.6.2.18	LHS	30°15’47”N 75°38’49”E	479	No
19	A part of sewage of M.C, Dhuri Distt. Sangrur	IN-2.12.6.2.19	Village Doulatpur Road.	30.395218 75.858836	2500	Work for installation of STP of capacity 5 MLD is allotted
	Total				4568	

20	Domestic effluent of Vill. Ladda (Distt. Sangrur)	IN-2.12.6.2.20	Ladda Kanjhla Road on Changal Junction	30°18’26.1”N 75°46’44.9”E	314	No facility
21	Harigarh (Distt. Barnala)	IN-2.12.6.2.21	Near Bus Stand	30°15’31”N 75°37’35”E	249	No facility
12.6.3 Sahoke Main Drain						
1.	Village Dhadrian Distt. Sangrur	IN-2.12.6.3.1	On LHS of Bank.	30° 10' 27'' N 75° 35' 20'' E	206	No
2.	Vill. Dullat Wala Distt. Sangrur	IN-2.12.6.3.2	On Mander Kalan Takipur Road	30°10'50.0"N 75°38'8.47"E	26	No
3.	Samao Distt. Mansa	IN-2.12.6.3.3	Near Gurdawara	30.081411 75.548214	18	No
4.	Gurthari Distt. Mansa	IN-2.12.6.3.4	near school	30.116850 75.539715	07	No
Total					820	

12.6.3.1 Jassarwal Drain						
1.	Vill. Dialgarh, Distt. Sangur	IN-2.12.6.3.1.1	On South-West Side of Village	30°08'55.9"N 75°34'46.5"E	114	No
2.	Vill. Mander Kalan, Distt. Sangur	IN-2.12.6.3.1.2	On LHS Bank.	30° 10'54.47'' N 75° 38' 8.47'' E	144	No
12.6.3.2 Buggar Link Drain						
1.	Vill. Buggar, Distt. Sangrur	IN-2.12.6.3.2.1	On LHS Bank.	30° 12'46.15'' N 75° 35' 50.21'' E	87	No
13	**Miranpur Choe**					
1.	Village Rathian, Distt. Patiala	IN-2.13.1	Near habitation area	30.185 76.315415	405	No
2.	Village Balamgarh, Distt. Patiala	IN-2.13.2	-do-	30.162667 76.2936.09	324	No
3.	Village Balla, Distt. Patiala	IN-2.13.3	-do-	30.164915 76.295513	227	No
4.	Village Bolri, Distt. Patiala	IN-2.13.4	-do-	30.174768 76.312579	105	No
5.	Village Ganour, Distt. Patiala	IN-2.13.5	-do-	30.155634 76.292372	154	No
	Total				1560	

6.	Village Khuda, Distt. Patiala	IN-2.13.6	-do-	30.153675 76.291219	487	No
7.	Village Katakheri, Distt. Patiala	IN-2.13.7	-do-	30.237292 76.488194	97	No
8.	Village Gangrola	IN-2.13.8	-do-	30.242082 76.4912	236	No
9.	Village Devi nagar Sivaye Singh wala, Distt. Patiala	IN-2.13.9	-do-	30.220709 76.482227	359	No
10.	Village Dolatpur Fakira, Distt. Patiala	IN-2.13.10	-do-	30.169743 76.458001	136	No
11.	Village Sassi Brahmna, Distt. Patiala (two outlets)	IN-2.13.11	-do-	30.6 76.34 30.11 76.20	186	No
12.	Village Haripura, Distt. Patiala (Two outlets)	IN-2.13.12	-do-	30.6 76.34 30.11 76.20	37	No
14	**Badi Tangri**					
1.	Village Mohalgarh, Distt. Patiala	IN-2.14.1	Near Habitation area	30.20422 76.635359	228	No
2.	Village Kharabgarh, Distt. Patiala	IN-2.14.2	-do-	30.103801 76.561817	292	No
	Total				2058	

14.1 Shekhupura Adalatiwala Drain						
1.	Village Isharheri, Distt. Patiala	IN-2.14.1.1	Near Habitation area	30.197553 76.596858	405	No
2.	Village Chuhat, Distt. Patiala	IN-2.14.1.2	-do-	30.18614 76.563624	244	No
3	Village Dudan Gujran, Distt.Patiala	IN-2.14.1.3	-do-	30.143929 76.541415	240	No
Total					889	
GRAND TOTAL					**313022 KLD**	

Annexure G – (A) Local Bodies which have installed STPs of full capacities

Sr. No	Name of Town	Capacity of STP (MLD)	Technology of STP
1.	Banur	4.0	MBBR
2.	Baretta	3.0	WSP
3.	Bhikhi	3.0	WSP
4.	Budhlada	6.5	MBBR
5.	Khanauri	3.0	SBR
6.	Lehragaga	4.0	SBR
7.	Moonak	3.0	SBR
8.	SAS Nagar	45.4	UASB
9.	Pattran	4.0	SBR
10.	Samana	10.0	SBR
11.	Sardulgarh	4.0	WSP
12.	Sunam	8.0	MBBR
13.	Zirakpur	17.0	SBR
14.	Mandi Gobindgarh	25.0	SBR

Annexure G – (B) Local Bodies which have installed partially completed STPs

Sr. No.	Name of the Town	Capacity of the STP already installed (MLD)	Capacity of the STP yet to be installed/ commissioned (MLD)	Status of STP yet to be installed/ commissioned
1.	MC, Dera Bassi	4	2	Construction will be completed by 31.03.2020.
2.	MC Lalru	1.5	1.5	The nearby residents have filed a suit against MC for change of site of 1.5 MLD capacity STP. Construction of 0.3 + 0.3 MLD STP will be completed by 31.12.2020 and 1 MLD STP by 31.10.2020.
3.	Rajpura	7	10	Commissioned for Stablization
4.	Patiala	46	15	Additional module of 15 MLD is likely to be installed by 31.12.2020.
		10.0	-	Sufficient capacity
		13	-	Sufficient capacity

Annexure G- (C)Status regarding sewage treatment in urban areas

S.N.	Name of the Town	Population in year 2018	Water consumption (MLD)	Wastewater generation (MLD)	Existing capacity of STP (MLD)	Proposed capacity of the STP (MLD)	Balance quantity yet to be treated (MLD)
1.	Banur	22052	2.98	2.53	4.0	0.0	0.0
2.	Baretta	18533	2.50	2.13	3.0	0.0	0.0
3.	Bhikhi	21937	2.96	2.52	3.0	0.0	0.0
4.	Budhlada	47953	6.47	5.50	6.5	0.0	0.0
5.	Khanauri	15882	2.14	1.82	3.0	0.0	0.0
6.	Lehragaga	25457	3.44	2.92	4.0	0.0	0.0
7.	Mandi Gobindgarh	87323	11.79	10.02	25.0	0.0	0.0
8.	Moonak	20431	2.76	2.34	3.0	0.0	0.0
9.	Mohali	212242	28.65	24.35	45.4	0.0	0.0
10.	Patiala	506012	82.35	70.00	46	Additional module of STP of 15 MLD yet to be installed	14.0
					10		
				6.0	13		
11.	Pattran	32255	4.35	3.70	4.0	0.0	0.0
12.	Rajpura	124821	16.85	14.32	7.0	10.0	7.32
13.	Samana	60591	8.18	6.95	10.0	0.0	0.0
14.	Sardulgarh	23417	3.16	2.69	4.0	0.0	0.0
15.	Sunam	72963	9.85	7.00	8.0	0.0	0.0
16.	Zirakpur	120867	16.32	13.87	17.0	0.0	0.0
17.	Bassi Pathana	22090	2.98	2.53	-	3.0	2.53

18.	Boha	14206	1.92	1.63	-	2.0	1.63
19.	Lalru	41330	5.58	4.74	1.5	1.5, 1.0, 0.3 & 0.3	3.24
20.	Dera Bassi	50277	6.79	5.77	4.0	2.0 & 2.0	1.77
21.	Sirhind	65706	8.87	7.54	-	5.0, 4.0 & 2.0	7.54
22.	Amloh	19837	2.7	2.28	-	3.0	2.28
23.	Cheema	13087	1.8	1.50	-	2.0	1.5
24.	Dhuri	62614	8.6	7.19	-	5.0 & 6.0	7.19
25.	Sangrur	98671	13.6	11.32	-	11.0 & 4.0	11.32
26.	Nabha	68031	9.4	7.81	-	12.0	7.81
27.	Longowal	28418	3.9	3.26	-	3.0	3.26
28.	Sanaur	24390	3.36	2.80	-	4.0	2.80
29.	Bhadson	8063	1.11	0.93	-	3.0	0.93
30.	Ghanour	7500	1.0	0.8	-	2.0	0.8
	TOTAL		**276.36**	**238.76**	**221.4**	**103.10**	**75.92**

Annexure H - List of Industries located in Dera Bassi area

Sr. No.	Name and Address of industry	Type of industry	Water consump-tion (KLD)	Effluent discharge (KLD)		ETP component	Mode of Disposal of treated wastewater authorized by the Board.
				Trade (KLD)	Domestic Effluent		
1.	T.C. Terrytex Limited, Village Sarsini, PO Lalru, Dera Bassi	Dyeing	2200	1800	50	Physico chemical followed by aerobic biological treatment and tertiary treatment	Onto land for plantation
2.	Bhandari Export Industries Ltd., Village Sarsini, Dera Bassi	Dyeing	200	160	10	Physico chemical followed by aerobic biological treatment and tertiary treatment	Onto land for plantation
3.	Rana Polycot Ltd. (Dyeing Unit), Village Alamgir, Dera Bassi	Dyeing	600	500	3	Physico chemical followed by aerobic biological treatment and tertiary treatment	Onto land for plantation
4.	Nahar Spinning Mills Ltd.(M & D Unit), Village Lehli, PO Dappar, Lalru, Dera Bassi	Dyeing	1850	1700	50	Physico chemical followed by aerobic biological treatment.	Onto land for plantation
5.	Nahar Industrial Enterprises Ltd. (Process House-I), Village Jalalpur, PO Dappar, Dera Bassi	Dyeing	2800	2300	200	Aerobic biological treatment followed by tertiary treatment.	Onto land for plantation
6.	Nahar Industrial Enterprises Ltd. (Process House-2),	Dyeing	3500	2750	200	Aerobic biological treatment.	Onto land for plantation

	Village Jalalpur, PO Dappar, Dera Bassi						
7.	Oswal Denims, Village Dappar, Lalru, Dera Bassi	Dyeing	1100	710	150	Physico chemical followed by aerobic biological treatment and tertiary treatment.	Onto land for plantation
8.	Rainbow Denim Ltd., Village Chaundheri, Dera Bassi (98140-88924)	Dyeing	590	455	55	Physico chemical followed by aerobic biological treatment and tertiary treatment.	Onto land for plantation
9.	Mirha Exports (P) Ltd., Village Jaula Khurd, Dera Bassi (84276-77844)	Meat Plant	1910	1620	23.5	An-aerobic followed by aerobic biological treatment and tertiary treatment.	Onto land for plantation
10.	SHL Agro foods INC, Village Jaula Khurd, Dera Bassi	Meat Plant	100	75	13.68	Aerobic biological treatment and tertiary treatment.	Onto land for plantation
11.	Cad Chem Laboratories Ltd Village Jaula Kalan, Dera Bassi	Pharmaceutical	36	11	2.6	The industry is generating two type of effluent stream i.e. High TDS and Low TDS. The industry has installed MEE for the treatment of High TDS and installed ETP based on physio-chemical treatment for the low TDS.	Onto land for plantation
12.	Parabolic Drugs Ltd., Village Chachrouli, Dera Bassi	Pharmaceutical	15	12	1.5	MEE for high TDS stream and aerobic biological treatment system for low TDS stream.	Lying closed.
13.	Punjab Chemical & Crop Protection Ltd	Pharmaceutical	118	27	10	MEE installed.	ZLD

	(Pharma Division), (Old name Alpha Drugs Ltd.), Village Samalheri, Dera Bassi						
14.	Nectar Lifesciences Ltd. Unit-2 (Old Name Surya Medicare Ltd.), Village Saidpura, Dera Bassi	Pharmaceutical	220	200	15	MEE for high TDS stream and aerobic biological treatment system for low TDS stream.	Onto land for plantation
15.	Allychem Laboratories (P) Ltd, E-68-69, focal point, Dera Bassi	Pharmaceutical	38	12	3	MEE installed.	The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 passed in OA no. 30 & 33 of 2013.
16.	Essix Biosciences Ltd., B-4 & 5, Focal Point, Dera Bassi	Pharmaceutical	10	7.2	2	Single stage evaporator for high TDS stream and aerobic biological for low TDS stream.	Onto land for plantation
17.	Vardhman Chemtech Ltd., Focal Point, Dera Bassi.	Pharmaceutical	50	39.5	4.5	MEE installed.	Lying Closed.
18.	Anuja Healthcare Ltd. (Old name Anuja Impex (P) Ltd.), C-26 & C-31, Focal Point, Dera Bassi	Pharmaceutical	176.5	9.5	1.764	MEE installed.	The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 passed in OA no. 30 & 33 of 2013.

19.	Nectar Lifesciences Ltd. Unit-1 (Old Name Surya Medicare Ltd), Village Saidpur, Dera Bassi	Pharmaceutical	175	29	6	ETP common with Nectar Life Sciences Unit-2.	Please see the status of Nectar Life Scineces Unit-2 at S.No. 14.
20.	ARK Healthcare, D-12, Focal Point, Dera Bassi	Pharmaceutical	2.4	1.07	0.5	Low TDS treated through ETP based on physico chemical followed by biological treatment and high TDS teated through Single effect evaporator	The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 passed in OA no. 30 & 33 of 2013.
21.	Panacea Biotech Ltd., Village Samalheri, Near Lalru, Dera Bassi	Pharmaceutical	100	83	13	The industry has installed ETP based on biological treatment.	Onto land for plantation
22.	Punjab Chemicals & Crop Protection Ltd (Agro Division)., Village Bhankharpur, Dera Bassi	Pesticide	193	21	10	MEE installed.	ZLD
23.	Sarwal Pharmaceuticals, F-14, Focal Point, Dera Bassi	Pharmaceutical Formulation	3.4	0.2	1.2	Pan type evaporator	The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 passed in OA no. 30 & 33 of 2013.
24.	Austin Pharmaceuticals, E-40, Focal Point, Dera Bassi	Pharmaceutical Formulation	7	0.1	0.8	Pan type evaporator	The case of this industry has been fixed for next hearing on 9.1.19 before the

							Hon'ble NGT.
25.	Ticoma Pharmacia, E-47, focal Point Dera Bassi	Pharmaceutical Formulation	1.2	0.06	0.4	Pan type evaporator	ZLD
26.	Steel Strips Wheels Ltd., Village Smalheri, Dera Bassi	Engineering Goods	500	293	75	Physico-chemical treatment.	Onto land for plantation
27.	Prerna Strips, Village Bhankharpur, Dera Bassi	Engineering Goods	1.2	0.5	0.3	Joined CETP	Lying Closed Temporarily
28.	A.R. Fastners, E-71, Indl. Focal Point, Dera Bassi	Engineering Goods	2	0.35	0.5	Joined CETP	-
29.	Kiran Industries (Vipan Kumar), F-19, Focal Point, Dera Bassi	Electroplating	0.45	0.15	0.3	Joined CETP	-
30.	Kamal Hi-tech Engineers (P) Ltd, B-10-11, Focal Point, Dera Bassi	Electroplating	10	7.5	2	Joined CETP	-
31.	Morff International, E-27, Focal Point, Dera Bassi	Electroplating	1	0.1	0.4	Joined CETP	The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 passed in OA no. 30 & 33 of 2013.
32.	Kaura Inds.Corp., D-2, Focal Point, Dera Bassi	Electroplating	0.525	0.4	0.1	Joined CETP	-

33.	Yashwani Enterprises, F-28, Focal Point, Dera Bassi	Electroplating	0.5	0.24	0.1	Joined CETP	-
34.	Piyanshu chemicals (P) Ltd., D-22A & D-23, Focal Point, Dera Bassi	Resin manufacturing	5	0.3	0.5	No ETP installed as the quantity of generation of effluent is quite less. Therefore, the industry has installed electric heater.	ZLD
35.	Varindra Organica (P) Ltd., D-24, Focal Point, Dera Bassi	Organic Chemical industry	12	8	2.4	Physico-chemical treatment.	Treated wastewater is used in cooling water as make up water.
36.	Power Chem Plast Ltd.(Formerly Power Drugs Ltd), C-25, Focal Point, Dera Bassi	Organic Chemical industry	1	0	1	Reuse in Cooling Tower	The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 The next date of hearing in the case is 9.1.19.
37.	Vishal Papertech (India) Ltd., Village Mubarikpur, Dera Bassi	Pulp & Paper	1250	1224	8	Primary treatment followed by secondary aerobic biological treatment.	Onto land for plantation
38.	Nachiketa Papers Ltd., Village Mubarikpur, Dera Bassi	Pulp & Paper	196	6	5	Settling tank and sedi cell.	Reused
39.	Molson Coors india (P)	Brewery	800	700	72	The industry has installed	Onto land for

	Ltd. (Old name Mount Shivalik Breweries), Village Bhankharpur, Dera Bassi					ETP based on physico chemical followed by biological treatment.	plantation
40.	Chandigarh Distillers & Bottlers Ltd., Banur	Distillery	2500	2310	120	MEE followed by drier for spent wash. Aerobic Biological treatment system for other streams.	ZLD
41.	Rama Industries Ltd., Village Chaundheri, Lalru, Dera Bassi	Gelatine	4810	1615	10	Physico chemical followed by aerobic biological treatment and tertiary treatment.	Onto land for plantation

Annexure I - List of Industries located in Patiala area

S. No.	Name and Address of industry	Type of industry	Water consumption (KLD)	Effluent discharge (KLD)		ETP component	Mode of Disposal of treated wastewater
				Trade (KLD)	Domestic (KLD)		
1	Vishal Coater Pvt. Ltd., Vill. Khusropur, Patiala	Pulp & Paper	627	510	6	Aerobic biological treatment.	Onto land for plantation
2	Vishal Paper Industries Pvt. Ltd., Vill. Khusropur, Patiala	Pulp & Paper	1075	510	9	Aerobic biological treatment.	Onto land for plantation
3	SSG Paper Mills, Vill. Khusropur, Maine Road, Patiala	Pulp & Paper	235	90	10	Aerobic biological treatment.	Onto land for plantation
4	Shree Swami Card Board Mills, Bhanri Road, Vill. Main, Distt. Patiala	Paper Board	21	0	0.5	Recirulation system provided.	Reused in the process
5	Mittal Card Board Mills, Vill. Main, Tehsil and Distt. Patiala	Paper Board	18	0	0.5	Recirulation system provided.	Reused in the process
6	DSG Paper Mill, Vill. Bhanri Road, Maine Road, Patiala	Pulp & Paper	1076	1000	18	Aerobic biological treatment	Onto land for plantation
7	Patiala Distillers & Mfrs. Pvt. Ltd., Vill. Main, Patiala	Distillery	4000	3000	5	Anaerobic treatment followed by aerobic biological treatment	Onto land for plantation

Annexure J - Status of HCFs operating in catchment areas of Ghaggar

Sr. No	Name of the town	No. of HCFs covered	No. of bedded HCFs	No. of non-bedded HCFs	No. of HCFs not made agreement with CBWTF
1	SAS Nagar	170	119	51	33
2	Patiala	499	319	180	39
3	Sangrur	151	125	26	57
4	Mansa	147	92	55	7
5	Fatehgarh Sahib	138	100	38	0

Annexure K - List of schemes for utilization of treated wastewater

STP no.	Name of Town where STPs operational	Capacity of STP (MLD)	STP Technology	Area Irrigated (Hectares)	Remarks
1	Banur	4	MBBR	65	Irrigation Project Commissioned
2	Baretta	3	WSP	130	Irrigation Project Commissioned
3	Bhikhi	3	WSP	145	Irrigation Project Commissioned
4	Moonak	3	SBR	88	Irrigation Project Commissioned
5	Pattran	4	SBR	120	Irrigation Project Commissioned
6	Sardulgarh	4	WSP	108	Irrigation Project Commissioned
7	Lehragaga	4	SBR	138	Irrigation Project Commissioned
8	Sunam	8	MBBR	165	Irrigation Project Commissioned

Annexure L - Timelines for setting up of treatment facilities by Local Bodies

(1) PWSSB			
(i) Name of the Project: Providing Sewerage & Construction of 10 MLD STP at Rajpura			
Brief Scope of Work		**1 No. STP of 10 MLD**	
Sr.No.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPR	Prepared	Approved
2	Financial Closure	Funds tied up under HUDCO loan.	
3	Tendering of the work including allotment	Started	Completed
4	Commencement of work	Started	28.2.2019
5	Quarterly milestones during the construction stage	-	-
6	Completion and commissioning	1.3.2019	30.6.2019
(ii) Name of the Project: Providing Sewerage & Construction of 2 MLD STP at Boha			
Brief Scope of Work		**1 No. STP of 2 MLD**	
1	Preparation of DPR	Prepared	Approved
2	Financial Closure	Funds tied up under HUDCO loan	
3	Tendering of the work including allotment	Tender allotted	
4	Commencement of work	Started	31.03.2020
5	Quarterly Milestones during the construction stage	-	-
6	Completion and Commissioning	01.04.2020	31.07.2020
(iii) Name of the Project: Providing Sewerage & Construction of 2 MLD STP at Cheema			
Brief Scope of the Project		**1 No STP of 2 MLD**	
Sr. No.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPR	Prepared	Approved.
2	Financial Closure	Funds being tied up under HUDCO loan	
3	Tendering of the work including allotment	Started	31.07.2019
4	Commencement of work	01.08.2019	31.07.2020

5	Quarterly Milestones during the construction stage	25%	25%
6	Completion and Commissioning	01.08.2020	31.10.2020
(iv)	**Name of the Project: Providing Sewerage & Construction of 3 MLD STP at Bhadson**		
	Brief Scope of the Project	**1 No STP of 3 MLD**	
1	Preparation of DPR	1.7.2019	31.3.2019
2	Financial Closure	T	
3	Tendering of the work including allotment	T+ 3 months	T+6 months
4	Commencement of work	T+ 6 months	T+ 18 months
5	Quarterly Milestones during the construction stage	25%	T+18 months.
6	Completion and Commissioning	T+18 months	T+21 months.
(v)	**Name of the Project: Providing Sewerage & Construction of 12 MLD STP at Nabha**		
	Brief Scope of the Project	**1 No STP of 12 MLD**	
1	Preparation of DPR	Prepared	Already approved
2	Financial Closure	Funds being tied up under HUDCO Loan	
3	Tendering of the work including allotment	Land being finalized and tendering will be started after possession of land - T	T+ 6 months
4	Commencement of work	T + 6 months	T + 18 months
5	Quarterly Milestones during the construction stage	25%	25%
6	Completion and Commissioning	T + 18 months	T + 21 months
(vi)	**Name of the Project: Providing Sewerage & Construction of 5 MLD & 6 MLD STP at Dhuri**		
	Brief Scope of the Project	**Scope: 1 No. STP of 5 MLD**	
Sr. No.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPR	Prepared	Approved.

2	Financial Closure	Funds tied up under HUDCO loan	
3	Tendering of the work including allotment	Tender allotted	
4	Commencement of work	Started	31.03.2020
5	Quarterly Milestones during the construction stage	-	-
6	Completion and Commissioning	01.04.2020	31.07.2020
	Brief Scope of the Project	**Scope: 1 No. STP of 6 MLD**	
Sr. No.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPR	Prepared	Approved.
2	Financial Closure	Funds tied up under HUDCO loan	
3	Tendering of the work including allotment	Tender allotted but land is being finalized	
4	Commencement of work	Work will be started after possession of land - T	T + 12 months
5	Quarterly Milestones during the construction stage	-	-
6	Completion and Commissioning	T + 12 months	T + 18 months
(vii) Name of the Project: Providing Sewerage & Construction of 4 MLD and 11 MLD STP at Sangrur			
Brief Scope of the Project		**Scope: 1 No. STP of 04 MLD**	
1	Preparation of DPR	Prepared	Approved.
2	Financial Closure	Funds tied up under HUDCO loan	
3	Tendering of the work including allotment	Tender allotted	
4	Commencement of work	Started	31.03.2020
5	Quarterly Milestones during the construction stage	-	-
6	Completion and Commissioning	01.04.2020	31.07.2020
Brief Scope of the Project		**Scope: 1 No. STP of 11 MLD**	
1	Preparation of DPR	Prepared	Approved.
2	Financial Closure	Funds tied up under HUDCO loan	

3	Tendering of the work including allotment	Tender allotted but land is being finalized	
4	Commencement of work	Work will be started after possession of land - T	T + 12 months
5	Quarterly Milestones during the construction stage	-	-
6	Completion and Commissioning	T + 12 months	T + 18 months
(viii)	**Name of the Project:- Providing Sewerage & Construction of 3 MLD STP at Bassi Pathana**		
	Brief Scope of the Project	**Scope:- 1 No. STP 3 MLD**	
Sr.No.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPR	Prepared	Approved.
2	Financial Closure	Funds tied up under HUDCO loan	
3	Tendering of the work including allotment	Tender allotted	
4	Commencement of work	Started	31.03.2020
5	Quarterly Milestones during the construction stage	-	-
6	Completion and Commissioning	01.04.2020	31.07.2020
(ix)	**Name of the Project: Providing Sewerage & Construction of 3 MLD STP at Longowal**		
	Brief Scope of the Project	**1 No STP of 3 MLD**	
1	Preparation of DPR	Prepared	Approved.
2	Financial Closure	Funds being tied up under HUDCO loan	
3	Tendering of the work including allotment	Started	31.07.2019
4	Commencement of work	01.08.2019	31.07.2020
5	Quarterly Milestones during the construction stage	25%	25%
6	Completion and Commissioning	01.08.2020	31.10.2020
(x)	**Name of the Project: Providing Sewerage & Construction of 3 MLD STP at Amloh**		
	Brief Scope of the Project	**1 No STP of 3 MLD**	
Sr. No.	**Stage**	**Start Date**	**Completion Date**

1	Preparation of DPT	Prepared	Already approved
2	Financial Closure	Funds being tied up under HUDCO Loan	
3	Tendering of the work including allotment	Land being finalized and tendering will be started after possession of land - T	T + 6 months
4	Commencement of work	T + 6 months	T + 18 months
5	Quarterly Milestones during the construction stage	25%	25%
6	Completion and Commissioning	T + 18 months	T + 21 months
(xi) Name of the Project:-Providing Sewerage & Construction of two number STPs of 2 MLD each at Issapur & Mirpur, Mubarakpur at Derabassi			
Brief Scope of the Project		**2 No STPs of 2 MLD capacity each**	
Sr. No.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPR	Prepared	Approved.
2	Financial Closure	Funds being tied up under HUDCO loan	
3	Tendering of the work including allotment	Started	31.07.2019
4	Commencement of work	01.08.2019	31.07.2020
5	Quarterly Milestones during the construction stage	25%	25%
6	Completion and Commissioning	01.08.2020	31.10.2020
(xii) Name of the Project:-Providing Sewerage & Construction of 1 MLD STP at Dappar Lalru			
	Brief Scope of the Project	**1 No STP of 1 MLD**	
Sr. No.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPR	Prepared	Approved.
2	Financial Closure	Funds being tied up under HUDCO loan	
3	Tendering of the work including allotment	Started	31.07.2019
4	Commencement of work	01.08.2019	31.07.2020
5	Quarterly Milestones during the construction stage	25%	25%
6	Completion and Commissioning	01.08.2020	31.10.2020

(xiii) Name of the Project: Construdtion of 1.5 MLD STP at Lalru Mandi			
	Brief Scope of the Project	**1 No STP of 1.5 MLD**	
1	Preparation of DPR	Prepared	Approved
2	Financial Closure	Funds being tied up with GMADA	
3	Tendering of the work including allotment	The residents of Village Lalru have filed a suit in the Court of Law at Dera Bassi for change of site to another location.	
4	Commencement of work		
5	Quarterly Milestones during the construction stage		
6	Completion and Commissioning		

(xiv) Name of the Project:- Providing Sewerage & Construction of 4 MLD STP at Sanour			
Brief Scope of the Project		**1 No STP of 4 MLD**	
Sr. No.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPR	Land for STP yet not available and DPR will be prepared after identification of land.	
2	Financial Closure	T	
3	Tendering of the work including allotment	T+ 3 months	T+6 months
4	Commencement of work	T+ 6 months	T+ 18 months
5	Quarterly Milestones during the construction stage	25%	T+18 months.
6	Completion and Commissioning	T+18 months	T+21 months.

(xv) Name of the Project: Providing Sewerage & Construction of 2 MLD STP at Ghanaur

Brief Scope of the Project		**1 No STP of 2 MLD**	
Sr. No.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPT	Prepared	Already approved
2	Financial Closure	Funds being tied up under HUDCO Loan	
3	Tendering of the work including allotment	Started	31.07.2019
4	Commencement of work	01.08.2019	31.07.2020
5	Quarterly Milestones during the construction stage	25%	25%

6	Completion and Commissioning	01.08.2020	31.10.2020

(xvi) Name of the Project: Providing Sewerage & Construction of 2 MLD, 4 MLD and 5 MLD STPs at Sirhind			
Brief Scope of Work		**3 No. STPs 2 MLD, 4 MLD and 5 MLD for Sirhind**	
Sr.No.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPR	Prepared	Approved
2	Financial Closure	Funds tied up under HUDCO loan.	
3	Tendering of the work including allotment	Tender allotted	
4	Commencement of work	Started	31/03/2020
5	Quarterly milestones during the construction stage	--	--
6	Completion and commissioning	01/04/2020	31/07/2020
(xvii) Name of the Project: Providing Sewerage & Construction of 2 number STPs of 0.3 MLD capacity each at Gholu Majra and Chaundheri & Samalheri			
Brief Scope of Work		**2 No. STPof 0.3 MLDeach for Gholumajra and Chaunderi & Samalheri**	
Sr.No.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPR	Prepared	Approved
2	Financial Closure	Funds tied up under HUDCO loan.	
3	Tendering of the work including allotment	01/07/2019	30/09/2019
4	Commencement of work	01/10/2019	30/09/2020
5	Quarterly milestones during the construction stage	25%	25%
6	Completion and commissioning	01/10/2020	31/12/2020
(xviii) Name of the Project: Upgradation of Existing WSP based STPs to achieve latest CPCB norms at Bareta, Bhikhi and Sardulgarh.			
Brief Scope of Work		**Upgrdations of 3 STPs**	
Sr.No.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPR	1.2.2019	30.4.2019

2	Financial Closure	T	
3	Tendering of the work including allotment	T + 2 months	T + 5 months
4	Commencement of work	T + 5 months	T + 11 months
5	Quarterly milestones during the construction stage	-	-
6	Completion and commissioning	T + 11 months	T + 13 months
(2) Municipal Corporation, Patiala			
Name of the Project : Upgradation of STP Shermajra from 46 MLD to 61 MLD			
Brief Scope of Work		**Upgradation of STP shermajra from 46 MLD to 61 MLD**	
Sr.No.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPR	Already approved	Completed
2	Financial Closure	17 crores	Completed
3	Tendering of the work including allotment	Tendering process is completed and allotment is under process	Completed yet to allot.
4	Commencement of work	-	Likely to be commenced on 31.1.2019
5	Quarterly milestones during the construction stage	-	
6	Completion and commissioning	Two years from the date of allotment	Two years from the date of allotment.

Annexure M - Timelines for setting up of treatment facilities by MES, Patiala

Name of the Project: Military Engineering Services, Patiala – STP of 6 MLD capacity

Brief Scope of Work		**STP based on MBBR Technology of capacity 6 MLD.**	
Sr.No.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPR	August, 2016	January, 2017
2	Financial Closure	Govt. sanctioned Final Report for provision of 6 MLD STP on 27th March, 2017	August, 2020
3	Tendering of the work including allotment	Technical sanction issued for tendering by CECZ (Chief Engg. Chd Zone) on 18th October, 2018	February, 2019
4	Commencement of work	15th March, 2019	August, 2020
5	Quarterly milestones during the construction stage	1st Quarter = 15% 2d Quarter = 20% 3rd Quarter = 30% 4th Quarter = 20% 5th Quarter = 20% In remaining time = 5%	
6	Completion and commissioning	August, 2020	August, 2020

Annexure N - (A) Times lines for installation of online continuous effluent monitoring system

(1) PWSSB for the STPs already in operation in the towns nanely Banur, Baretta, Bhikhi, Budhlada, Khanuari, Lehragaga, Moonak, Pattran, Rajpura, Samana, Sardulgarh, Sunam, Zirakpur and Mandi Gobindgarh.			
Name of the Project		**All Existing STPs where maintenance is with PWSSB**	
Sr.No.	**Stage**	**Start Date**	**Completion Date**
1	Financial Closure	7.1.2019	31.3.2019
2	Tendering of the work including allotment	1.4.2019	30.6.2019
3	Commencement of the work	1.7.2019	30.9.2019
4	Completion and commissioning	1.10.2019	30.11.2019
(2) GMADA			
	Name of the Project	**STP of 45 MLD capacity at Sector 83, SAS Nagar.**	
1	Financial Closure	10.1.2019	31.3.2019
2	Tendering of the work including allotment	5.4.2019	10.5.2019
3	Commencement of the work	15.5.2019	30.6.2019
4	Completion and commissioning	30.6.2019	30.6.2019
	Name of the Project	**STP of 4 MLD capacity at Dera Bassi.**	
1	Financial Closure	10.1.2019	31.3.2019
2	Tendering of the work including allotment	5.4.2019	10.5.2019
3	Commencement of the work	15.5.2019	30.6.2019
4	Completion and commissioning	30.6.2019	30.6.2019
Name of the Project		**STP of 1.5 MLD capacity at Lalru**	
Sr.No.	**Stage**	**Start Date**	**Completion Date**
1	Financial Closure	10.1.2019	31.3.2019
2	Tendering of the work including allotment	5.4.2019	10.5.2019

3	Commencement of the work	15.5.2019	30.6.2019
4	Completion and commissioning	30.6.2019	30.6.2019
(3) PSIEC			
	Name of the Project	**STP of 2 MLD capcity atFocal Point, Dera Bassi**	
1	Financial Closure	15.2.2019	31.3.2019
2	Tendering of the work including allotment	1.4.2019	20.4.2019
3	Commencement of the work	21.4.2019	20.5.2019
4	Completion and commissioning	21.5.2019	30.5.2019
	Name of the Project	**STP of 3 MLD at Focal Point, Mandi Gobindgarh**	
1	Financial Closure	15.2.2019	31.3.2019
2	Tendering of the work including allotment	1.4.2019	30.4.2019
3	Commencement of the work	1.5.2019	31.5.2019
4	Completion and commissioning	1.6.2019	15.6.2019

Note : For STP to be installed for Focal Point, Nabha, the installation of online continuous effluent monitoring system is a part of the main project and the same will be installed alongwith installation of STP.

(4) Municipal Corporpation, Patiala			
Name of the Project		**STP Shermajra and STP Ablowal**	
Brief Scope of the Project		**Online Cotinuous Monitoring System**	
Sr.No.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPR	11.1.2019	18.1.2019
2	Financial Closure	About 50 lakh	-
3	Tendering of the work including allotment	Within one month	Within four months
4	Commencement of the work	Within four months	Within four months
5	Completion and commissioning	11.4.19	11.5.19

(5) Patiala Development Authority			
	Name of the Project	**STP of 13 MLD capacity at Urban Estate, Patiala**	
	Brief Scope of the Project	**Online Continuous Monitoring System**	
1	Financial Closure	1.1.2019	31.1.2019
2	Tendering of the work including allotment	1.2.2019	15.2.2019
3	Commencement of the work	20.2.2019	15.3.2019
4	Completion and commissioning	16.3.2019	31.3.2019

Annexure N- (B) Times lines for installation of CCTV cameras in already operational STPs

(1) PWSSB for the STPs already in operation in the towns nanely Banur, Baretta, Bhikhi, Budhlada, Khanuari, Lehragaga, Moonka, Pattran, Rajpura, Samana, Sardulgarh, Sunam, Zirakpur and Mandi Gobindgarh.			
Name of the Project		**All Existing STPs where maintenance is with PWSSB**	
Sr.No.	**Stage**	**Start Date**	**Completion Date**
1	Financial Closure	5.1.2019	15.2.2019
2	Tendering of the work including allotment	15.2.2019	31.3.2019
3	Commencement of the work	1.4.2019	15.4.2019
4	Completion and commissioning	15.4.2019	30.4.2019
(2) **GMADA**			
	Name of the Project	**STP of 45 MLD capacity at Sector 83, SAS Nagar.**	
1	Financial Closure	10.1.2019	31.3.2019
2	Tendering of the work including allotment	5.4.2019	10.5.2019
3	Commencement of the work	15.5.2019	30.6.2019
4	Completion and commissioning	30.6.2019	30.6.2019
	Name of the Project	**STP of 4 MLD capacity at Dera Bassi.**	
1	Financial Closure	10.1.2019	31.3.2019
2	Tendering of the work including allotment	5.4.2019	10.5.2019
3	Commencement of the work	15.5.2019	30.6.2019
4	Completion and commissioning	30.6.2019	30.6.2019
Name of the Project		**STP of 1.5 MLD capacity at Lalru**	
1	Financial Closure	10.1.2019	31.3.2019
2	Tendering of the work including allotment	5.4.2019	10.5.2019
3	Commencement of the work	15.5.2019	30.6.2019
4	Completion and commissioning	30.6.2019	30.6.2019

(3) PSIEC			
	Name of the Project	**STP of 2 MLD capacity at Focal Point, Dera Bassi**	
1	Financial Closure	15.2.2019	15.3.2019
2	Tendering of the work including allotment	16.3.2019	31.3.2019
3	Commencement of the work	1.4.2019	20.4.2019
4	Completion and commissioning	21.4.2019	30.4.2019
	Name of the Project	**STP at Focal Poinat, Mandi Gobindgarh**	
1	Financial Closure	1.3.2019	15.3.2019
2	Tendering of the work including allotment	16.3.2019	15.4.2019
3	Commencement of the work	16.4.2019	15.5.2019
4	Completion and commissioning	16.5.2019	31.5.2019
	Name of the Project	**STP at Focal Point, Nabha**	
1	Financial Closure	1.4.2019	15.4.2019
2	Tendering of the work including allotment	16.4.2019	15.5.2019
3	Commencement of the work	16.5.2019	31.5.2019
4	Completion and commissioning	1.6.2019	15.6.2019

(4) **Municipal Corporpation, Patiala**			
Name of the Project		STP (Shermajra and Ablowal)	
Sr.No.	Stage	Start Date	Completion Date
1	Financial Closure	20-25 thousands	10-15 days
2	Tendering of the work including allotment	CCTV cameras and monitor already have been installed and the new wiring work will be completed within 10-15 days.	
3	Commencement of the work		
4	Completion and commissioning		

(5) Patiala Development Authority			
Name of the Project		**STP of 13 MLD capacity at Urban Estate, Patiala**	
Brief Scope of the Project		CCTV camera	
Sr.No.	**Stage**	Start Date	Completion Date
1	Financial Closure	1.1.2019	31.1.2019
2	Tendering of the work including allotment	1.2.2019	15.2.2019
3	Commencement of the work	20.2.2019	15.3.2019
4	Completion and commissioning	16.3.2019	31.3.2019

Annexure O - Timelines for setting up of treatment facilities in Rural areas

The phase wise timelines are given as under:

Phase – I			
Brief Scope of Work		**Treatment facilities for villages having discharge more than or equal to 300 KLD**	
Sr.No.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPR	1.3.2019	31.5.2019
2	Financial Closure	1.6.2019	31.7.2019
3	Tendering of the work including allotment	1.8.2019	30.9.2019
4	Commencement of work	1.10.2019	31.12.2019
5	Quarterly milestones during the construction stage	-	-
6	Completion and commissioning	1.1.2020	31.1.2020
Phase – 2			
	Brief Scope of Work	**Treatment facilities for villages having discharge between 100 KLD to 300 KLD**	
1	Preparation of DPR	1.1.2020	31.3.2020
2	Financial Closure	1.4.2020	30.6.2020
3	Tendering of the work including allotment	1.7.2020	31.8.2020
4	Commencement of work	1.9.2020	31.12.2020
5	Quarterly milestones during the construction stage	-	-
6	Completion and commissioning	1.1.2021	31.1.2021

Phase – 3			
Brief Scope of Work		**Treatment facilities for villages having discharge less than 100 KLD**	
Sr.No.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPR	1.2.2021	30.4.2021
2	Financial Closure	1.5.2021	30.6.2021
3	Tendering of the work including allotment	1.7.2021	31.8.2021
4	Commencement of work	1.9.2021	31.12.2021
5	Quarterly milestones during the construction stage	-	-
6	Completion and commissioning	1.1.2022	31.1.2022

Annexure P - Timelines for providing irrigation schemes to utilize the treated sewage

Name of Project		Utilization of Treated Water from Sewerage Treatment Plants(STP's) situated in Ghaggar Catchment	
Brief Scope of Project		The project involves laying network of underground pipelines from Sewerage Treatment Plants for conveyance of treated water for irrigation in agricultural fields.	
S.No.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPR	Under Progress	30.6.2019
2	Financial Closure	Projects already proposed to GoI and State for funding (49.87 cr required)	T
3	Tendering of Work including allotment	T+1 month	T+4 months
4	Commencement of Work	T+5 months*	T+11 months*
5	Quarterly Milestone during construction Stage	NA	NA
6	Completion and Commissioning	T+11 to T+18 months	T+14 to T+20 months

*Delay in commencement of work after funding and tendering process is mainly because as irrigation pipeline has to be laid in agricultural fields, due to which irrigation projects can be installed during harvest season. It shall depend upon month of availability of funds for projects, i.e. why period of 1 month upto 6 month has been identified in commencement of work

Fund Requirement for Individual Irrigation Projects from STP's

S No.	Name of Town	Capacity of STP (MLD)	Irrigation system Cost (Rs. In Lakh)
	STPs Operational		
1	Khanauri	3	110
2	Mandi Gobindgarh	25	673
3	Patiala	46	Under Feasibility Study
	Total (A)	**74**	**783**
	STP's under Construction		
4	Bassi Pathana	3	115
5	Boha	2	65
6	Lalru (GMADA)	3	85
7	Dera Bassi (GMADA)	3.5	108
8	Sirhind	5	225
		4	109
		2	80
9	Rajpura	10	390
	Total (B)	**32.5**	**1177**
	STP's Proposed to be Constructed		
10	Amloh	3	115
11	Cheema	2	70
12	Dera Bassi	2	75
13	Dhuri	6	225
		5	175
14	Ghanaur	2	74
15	Sangrur	11	385
		4	150
16	Nabha	10	325
17	Lalru	1.5	60
18	Longowal	3	105
19	Lalru Dappar	1	25
20	Lalru Gholumajra	0.6	20
21	Dera Bassi	2	70
	Total (C)	**53.1**	**1874**
GRAND TOTAL (A+B+C)		**159.6**	**3834**

Irrigation Projects from STP Mohali (46 MLD), Zirakpur (17 MLD), Patiala (10MLD), Budhlada (6.5 MLD) are not feasible because of non-availability of Irrigation command as STP is located in urbanized area

Annexure Q – Installation of STPs by PSIEC

Name of the Project		**Operation and Maintenance STP, IFP, Mandi Gobindgarh**	
Sr.No.	**Stage**	**Start Date**	**Completion Date**
1	Preparation of DPR	NA	NA
2	Financial Closure	NA	NA
3	Tendering of the work including allotment	NA	NA
4	Commencement of the work	In progress	31.3.2019
5	Quarterly Milestones during the construction stage	-	-
6	Completion and commissioning	1.4.2019	30.5.2019
	Name of the Project	**Operation and Maintenance of STP, IFP, Nabha (work already in progress)**	
1	Preparation of DPR	NA	NA
2	Financial Closure	NA	NA
3	Tendering of the work including allotment	NA	NA
4	Commencement of the work	In progress	30.9.2019
5	Quarterly Milestones during the construction stage	-	-
6	Completion and commissioning	1.10.2019	30.11.2019

Annexure R – Timelines for Online Continuous Monitoring System for Industries

Sr No.	Activity	Date of Start	Date of completion
1	Procurment Process	01.02.2019	28.02.2019
2	Finalization of Supply orders	01.03.2019	31.03.2019
3	Installation of online continuous monitoring system	01.04.2019	31.05.2019
4.	Caliberation of online continuous monitoring system	01.06.2019	30.06.2019
5.	Connecting the online continuous monitoring system with the server of PPCB	01.07.2019	31.07.2019

Annexure S - Monitoring of Progress of projects for setting up of new/up graded facilities

Name of the Project		**Progress achieved at the end of the month**		
Brief Scope of the Project				
S. no.	**Stage**	**Start Date**	**Completion Date**	**Current Status**
1	Preparation of DPR			
2	Financial Closure			
3	Tendering of the Work including allotment			
4	Commencement of Work			
5	Quarterly Milestones during the construction / development Stage			
6	Completion and Commissioning			

Annexure T -Performa for operational record of the STP

Location of STP	Capacity of STP (MLD)	Reading of Water meter at 8 am	Quantity of waste water treated (in KLD)	Sludge wasted (kg/day)	Qty. of Chlorine used/ DAY (Kg/day)	Details of chemical used for dozing purpose and the component at which the same was imparted.	Name of the component remained out of order during the day and reasons thereof.	Qty of treated w/w reused for irrigation of agricultural land / irrigation of green area / construction purpose (KLD)	Qty of treated w/w discharged into drain leading to river Ghaggar (KLD)

Annexure U – Performafor keeping reocord of analaysis result of STP

Date of Sampling	Point of sampling	Values of the parameters in mg/l except pH				
		pH	TSS (mg/l)	BOD (mg/l)	T.Coli (MPN/100 ml)	F.Coli (MPN/100 ml)

Annexure V - Proforma regarding inspection of industries by PPCB

S.No.	Name & location of the industry	Date of visit	Observations noticed during visit	Analysis results of trade effluent samples	Whether meeting with the effluent standards or not	Remarks, if any

Annexure W - Proforma for monitoring of water quality of River Ghaggar

Sr. no.	Sampling points at river Ghaggar	Date of Sampling	DO (mg/l)	pH	BOD (mg/l)	T.Coliform (MPN/100 ml)	D.B.U. classification

Annexure X - Proforma for submission of report regarding Health Check Camps

Sr. No.	Location of the camp	Date on which camp was organized	Name of the Doctor(s) & name of their organization	No. of people examined	No. of people found effected with water borne disease

Annexure Y - Proforma for submission of report regarding awareness programme

Sr. No.	City / Town / Location where the awareness pgoramme is organized	Name of the Officer(s) who hold this programme	Date	No. of participants	Brief detail about awareness detail

Annexure-XX

(Action Plan For Rejuvenation of River Ghaggar Submitted by Haryana)

HARYANA STATE POLLUTION CONTROL BOARD
C-11, SECTOR-6, PANCHKULA
Ph. 0172-2577870-73
E-mail:hspcbho@gmail.com

No. HSPCB/WC-255 Vol-III/5639 **Dated:-31.1.2019**

To

The Chairman
Central Pollution Control Board
Parivesh Bhawan, East Arjun Nagar
Delhi-110032

Sub: Submission of Action Plans for polluted river stretches in the matter of O.A No. 673 of 2018 titled as More river stretches are critically polluted now: CPCB

Sir,

Kindly refer to the subject noted above.

In compliance of the orders dated 19.12.2018 of Hon'ble National Green Tribunal in matter of O.A No. 673 of 2018 titled as More river stretches are critically polluted now: CPCB, the state of Haryana has prepared the action plans for polluted river stretches of Haryana i.e River Ghaggar and River Yamuna. The Plans have been approved by the River Rejuvenation Committee (RRC). The copy of action plans are attached for kind perusal in compliance of the orders please.

DA/As above

Env. Engineer (HQ)
For Chairman

Endst. No. HSPCB/WC-255 Vol-III/5640 **Dated:31.1.2019**

A copy of the above is forwarded to the Registrar, Hon'ble National Green Tribunal, Faridkot House, Copernicus Marg, New Delhi.

DA/ As Above

Env. Engineer (HQ)
For Chairman

ACTION PLAN FOR

RIVER GHAGGAR

31.01.2019

(OA No. 673 of 2018-"More river stretches are critically polluted now:CPCB")

Government of Haryana

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1. INTRODUCTION

1.1 Order of the Hon'ble NGT dated 20.09.2018 in the matter of O. A No. 673 of 2018 - "More river stretches are critically polluted now: CPCB"

In the matter of OA No. 673 of 2018-"More river stretches are critically polluted now: CPCB", the Hon'ble NGT has passed order dated 20.09.2018 for constitution of River Rejuvenation Committee (RRC) and Special Environment Surveillance Task Force (SESTF). It has been mandated to prepare Action Plan for River Stretches and make them pollution free. In compliance of the orders of the Hon'ble NGT, the State Goverment has constituted RRC. In the order dated 20.09.2018, the Hon'ble NGT has directed to constitute Special enviironment Surveillance Task Force on the pattern of the order dated 07.08.2018 in matter of OA No. 138 of 2016- Stench Grips Mansa's Sacred Ghaggar River (Suo-Moto case). The Hon'ble NGT has further directed vide order dated 19.12.2018 that the Action Plan to be prepared by 31.1.2019 and submitted to the CPCB.

1.2 The matter of OA No. 138 of 2016- Stench Grips Mansa's Sacred Ghaggar River (Suo-Moto case)

OA No. 138 of 2016- Stench Grips Mansa's Sacred Ghaggar River (Suo-Moto case) is pending before the Hon'ble NGT regarding pollution problem in river Ghaggar. This case was taken up suo-moto by the Hon'ble National Human Right Commission, New Delhi in 2014 and was transferred to NGT in 2016. In its order dated 07.08.2018, the Hon'ble NGT has observed that the authorities especially the Pollution Control Boards have failed to perform their duty inspite of having adequate powers. In the disappointing scenario the Executing Committee has been formed by the Hon'ble NGT comprising of:-

1. Justice Pritam Pal, Former Judge, Punjab and Haryana High Court, Chairman.
2. Dr. Vimal K Hatwal, Joint Director, MOEF, Chandigarh, Member.
3. Sh. J. Chandra Babu, Scientist-D, CPCB, Delhi, Member.

Incompliance of the order dated 07.08.2018 the State Government vide its order dated 29.08.2018 **(Annexure-1)** constitited State Level Special Task Force and District Level Special Task Force comprising of the following:-

State Level STF

1. Chief Secretary
2. Administrative Secretary, Environment Department
3. Administrative Secretary, Town and Country Planning Department
4. Administrative Secretary, Urban Local Bodies Department

District Level STF

1. Deputy Commissioner of the concerned District
2. Superintendent of Police of the concerned District
3. Regional Officer, HSPCB of the concerned District
4. Representative of the District Judge of the concerned District

The STF is to prepare action plan and the restore the water quality in the river upto prescribed level. The District Level Task Force has to submit monthly report to State Level STF and the State Level STF has to submit quarterly report to CPCB for onward submission to Executing Committee. The Executing Committee is to monitor the progress on fortnightly basis. The Special Task Force has ordered to identify the persons responsible for violations of law and file criminal cases against them.

The State of Haryana took a series of steps to religiously implement the directions of Hon'ble NGT. Accordingly a series of meetings were held at the level of Chief Secretary of Government of Haryana and other senior officials with the administrative Secretaries and senior officials of various stakeholder Departments including Irrigation, Public Health, Urban Local Bodies, Environment, State Pollution Control Board and Town and Country Planning. Accordingly, the following plan has been finalized at State level, including short and long term actions, with specific time frames, as identified by the agencies concerned.

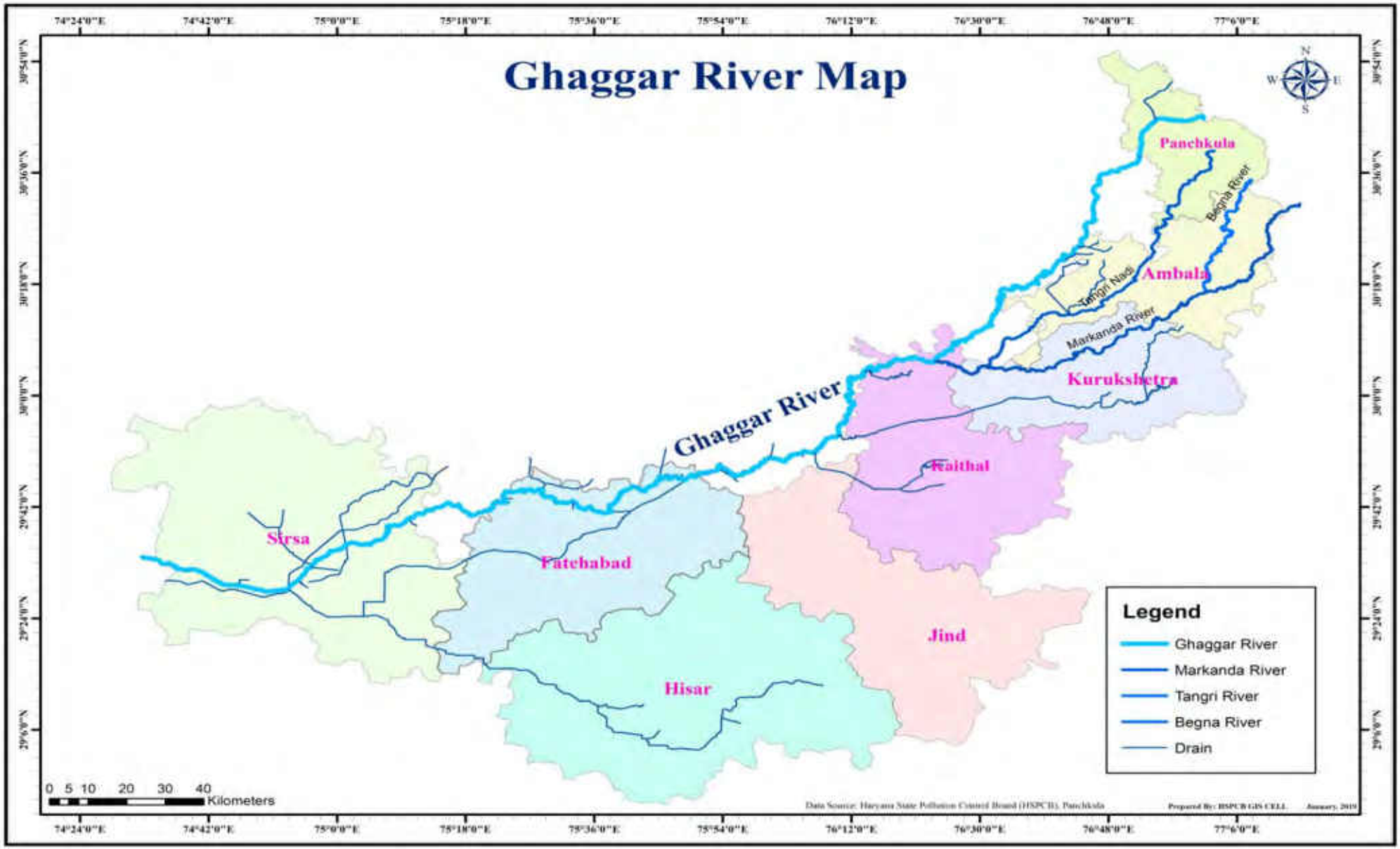
1.3 Objective of the Action Plan

The objective/goal of the action plan is that the quality of river water should meet with the required value as given under:-

Quality parameter	Standard to be achived
BOD	3.0 mg/l.
Dissolved Oxygen (DO)	More than 5.0 mg/l.
Faecal Coliform	Less than 500 MPN/100ml.

2.0 The River Ghaggar

The River Ghaggar originates in Sirmour District of Himachal Pradesh and travels a length of 320 KM through the State of Haryana, Punjab & Rajasthan. It enters the territory of Haryana in Panchkula District near Kalka. It passes through the district Panchkula to Mohali in Punjab. Then again it enters in Ambala and then re-enters into district Patiala in Punjab. It again enters in Haryana in Kaithal district and then crosses to Sangrur district. It again enters in Fatehabad district and crosses to Mansa district and re-enter in Haryana in Sirsa district and finally enter in Hanumangarh district of Rajasthan.


Ghaggar River Map
Panchkula
Ambala
Kurukshetra
Kaithal
Jind
Hisar
Fatehabad
Sirsa
Ghaggar River
Markanda River
Tangri Nadi
Begna River
Legend
Ghaggar River
Markanda River
Tangri River
Begna River
Drain
0 5 10 20 30 40
Kilometers

2. 1 Main Sources of Pollution in River Ghaggar

The River Ghaggar as well as the major drains outfalling into the river is being monitored regularly by the State Pollution Control Boards (SPCB) at different locations. The Biochemical Oxygen Demand (BOD) level does not conform to the prescribed norms at many points and the river shows fluctuations in dissolved oxygen (DO) levels from 'Nil' to 'above saturation' levels, thereby indicating the presence of organic pollution load and prevalence of eutrophic conditions. The quality of river starts degrading after the injection of treated effluent from STP at Sector-28, Panchkula and is in the range of 10-20 mg/l till the Sukhna Choe joins river Ghaggar. Thereafter, the River Water quality remains badly polluted through out the length of the river when it criss-cross the boundary of State of Haryana and Punjab. The river is highly polluted after the discharge from the Sagar para Drain (Sarswati Drain) and the BOD value is in the range of approx. 60-100 mg/l. The water quality of stretches of River Ghaggar are shown in table enclosed at **Annexure-2**. The Board has also issued directions and started conducting micro-biological test to analyse the limit of Faecal Coliform and shall be part of all analysis reports subsequent to February, 2019. Similarly, the value of Dissolved Oxygen (DO) shall also be analysed.

2.2 Major drains of River Ghaggar in Haryana

There are 11 major drains, i.e. Sukhna Nallah, Jatton Wala Nallah, STP Panchkula, MDC Drain, Sukhna Choe, Ambala Drain, Ghail drain, Markanda River, Sagarpara (Saraswati) Drain, Kaithal Drain and Ratia Drain falling out in River Ghaggar in the State of Haryana. The water quality of all the drains is regularly being monitored by HSPCB and the water quality status is shown in the table enclosed at **Annexure-3.** All the Drains carry effluent with BOD value exceeding the desired limits. The most polluting drain of the Haryana is Sagra Para Drain (Saraswati Drain) and it carries effuent having BOD more than 100 mg/l.

2.3. Measurement of Flow Rate in the Drains joining River Ghaggar

The details of flow of water in the eleven drains outfalling in river Ghaggar and the quality of water, as measured by Irrigation Department and HSPCB are given as below.

Statement of flow of drains outfalling directly/indirectly into river Ghaggar

Sr. No.	Drains meeting with river Ghaggar	Flow (MLD) as on July, 2018	Flow (MLD) as on Aug, 2018	Flow (MLD) as on Sept., 2018	Flow (MLD) as on Oct., 2018	Flow (MLD) as on Nov., 2018	Flow (MLD) as on Dec., 2018	Flow (MLD) as on Jan., 2019
1	Sukhana Nallah	5	3.9	6.3	4.7	-	3.67	3.3
2	Jattan walla Nallah	17.1	19.6	29.4	21	-	19.6	20.09
3	Discahrge of STP, Sec-28, Panchkula at Vill- Kakrali, Punjab.	8	9	9.8	8.57	-	7.35	7.96
4	MDC Drain of Panchkula entering	24	20	22	20.8	-	19.6	18.6

Sr. No.	Drains meeting with river Ghaggar	Flow (MLD) as on July, 2018	Flow (MLD) as on Aug, 2018	Flow (MLD) as on Sept., 2018	Flow (MLD) as on Oct., 2018	Flow (MLD) as on Nov., 2018	Flow (MLD) as on Dec., 2018	Flow (MLD) as on Jan., 2019
	to Sukhna Nallah							
5	Sukhna choe at Vill-Bhankarpur, Punjab	49	45	47.5	46.5	-	39.2	41.6
6	Ambala Drain	-	-	-	24.46	-	-	-
7	Ghail drain at Rampur, Ambala	24.5	19.6	24.5	23	-	18.13	18.6
8	Markanda River at Vill. Dhandhota	-	-	-	-	-	-	26.30
9	Sagar Para Drain at Vill. Sagra	-	-	-	-	-	-	24.4
10	Kaithal drain at Vill. Khanauri	-	156	535	86	115.62	103.75	84
11	Discharge of M.C. Ratia (Fatehabad)	-	-	-	-	-	-	4.6

3. Estimation of sewage in towns in catchment of river Ghaggar.

There is a gap in treatment capacity of 20.3 MLD in Ambala, 0.9 MLD in Jakhal Mandi and 18.8 in Thanesar and 2.9 MLD in Sirsa Town as in Year 2019. But the STPs in these towns are already under construction or proposal stage. There is no gap in treatment capacity of sewage in rest of the towns. There is also a gap as per proposed polulation upto year 2040 in Ambala, Narwana, Kalka Towns but this shall be covered up by installation of STPs in coming years. The estimation for generation of sewage for population upto year 2040 and the gap in treatment capacity is given in the table.

Sr. No.	Name of Town	Present Population 2019	Projected Population for the year 2040	Treatment Capacity (in MLD)				Capacity required in 2019	Gap in 2019	Capacity required in 2040	Gap in 2040
				Existing	Under Construction	In planning stage	Total				
1.	Naraingarh	27499	34649	**3**	**0**	**1**	**4**	**3**	**0**	3.7	-
2.	Ambala	549050	691803	**39**	**29**	**0**	**68**	**59.3**	**20.3**	74.7	6.7
3.	Ratia	41610	52429	**6.5**	**5**	**0**	**11.5**	**4.5**	**0**	5.7	-
4.	Tohana	71536	90135	**10**	**0**	**0**	**10**	**7.7**	**0**	9.7	-
5.	Jhakal Mandi	8723	10991	**0**	**3**	**0**	**3**	**0.9**	**0.9**	1.2	-
6.	Fatehabad	100160	126202	**25**	**0**	**0**	**25**	**10.8**	**0**	13.6	-
7.	Hisar	343867	433272	**70**	**12**	**0**	**82**	**37.1**	**0**	46.8	-
8.	Narnaund	19311	24332	**4**	**0**	**0**	**4**	**2.1**	**0**	2.6	-
9.	Narwana	69541	87622	**9.25**	**0**	**0**	**9.25**	**7.5**	**0**	9.5	0.25
10.	Uchana	18833	23730	**3.5**	**0**	**0**	**3.5**	**2**	**0**	2.6	-
11.	Jind	187703	236506	**30**	**14**	**0**	**44**	**20.3**	**0**	25.5	-
12.	Safidon	38895	49008	**9**	**0**	**0**	**9**	**4.2**	**0**	5.3	-
13.	Cheeka	46913	59110	**10**	**0**	**0**	**10**	**5.1**	**0**	6.4	-
14.	Kaithal	174532	219910	**37.5**	**0**	**0**	**37.5**	**18.8**	**0**	23.8	-
15.	Kalayat	20899	26333	**5**	**0**	**0**	**5**	**2.3**	**0**	2.8	-
16.	Pundri	22729	28639	**3.5**	**0**	**0**	**3.5**	**2.5**	**0**	3.1	-
17.	Shahbad	51315	64657	**11.5**	**0**	**0**	**11.5**	**5.5**	**0**	7	-
18.	Pehowa	46793	58959	**8**	**0**	**0**	**8**	**5.1**	**0**	6.4	-
19.	Thanesar	173770	218950	**0**	**25**	**0**	**25**	**18.8**	**18.8**	23.6	-
20.	Kalka	36408	45874	**4.75**	**0**	**0**	**4.75**	**3.9**	**0**	5	0.25
21.	Pinjore	32105	40452	**5**	**0**	**0**	**5**	**3.5**	**0**	4.4	-

Sr. No.	Name of Town	Present Population 2019	Projected Population for the year 2040	Treatment Capacity (in MLD)				Capacity required in 2019	Gap in 2019	Capacity required in 2040	Gap in 2040
				Existing	Under Construction	In planning stage	Total				
22.	Mandi Dabwali	59218	74615	**16.5**	**0**	**0**	**16.5**	**6.4**	**0**	8.1	-
23.	Kalanwali	24746	31180	**9.5**	**0**	**0**	**9.5**	**2.7**	**0**	3.4	-
24.	Sirsa	258310	325471	**25**	**20**	**7.5**	**52.5**	**27.9**	**2.9**	35.2	-
25.	Rania	35553	44797	**6**	**0**	**0**	**6**	**3.8**	**0**	4.8	-
26.	Ellenabad	51827	65302	**7.5**	**0**	**0**	**7.5**	**5.6**	**0**	7.1	-
27.	Panchkula	236718	298265	**72**	**3.25**	**2.25**	**77.5**	**25.6**	**0**	32.2	-

4.1 Industrial effluent Management

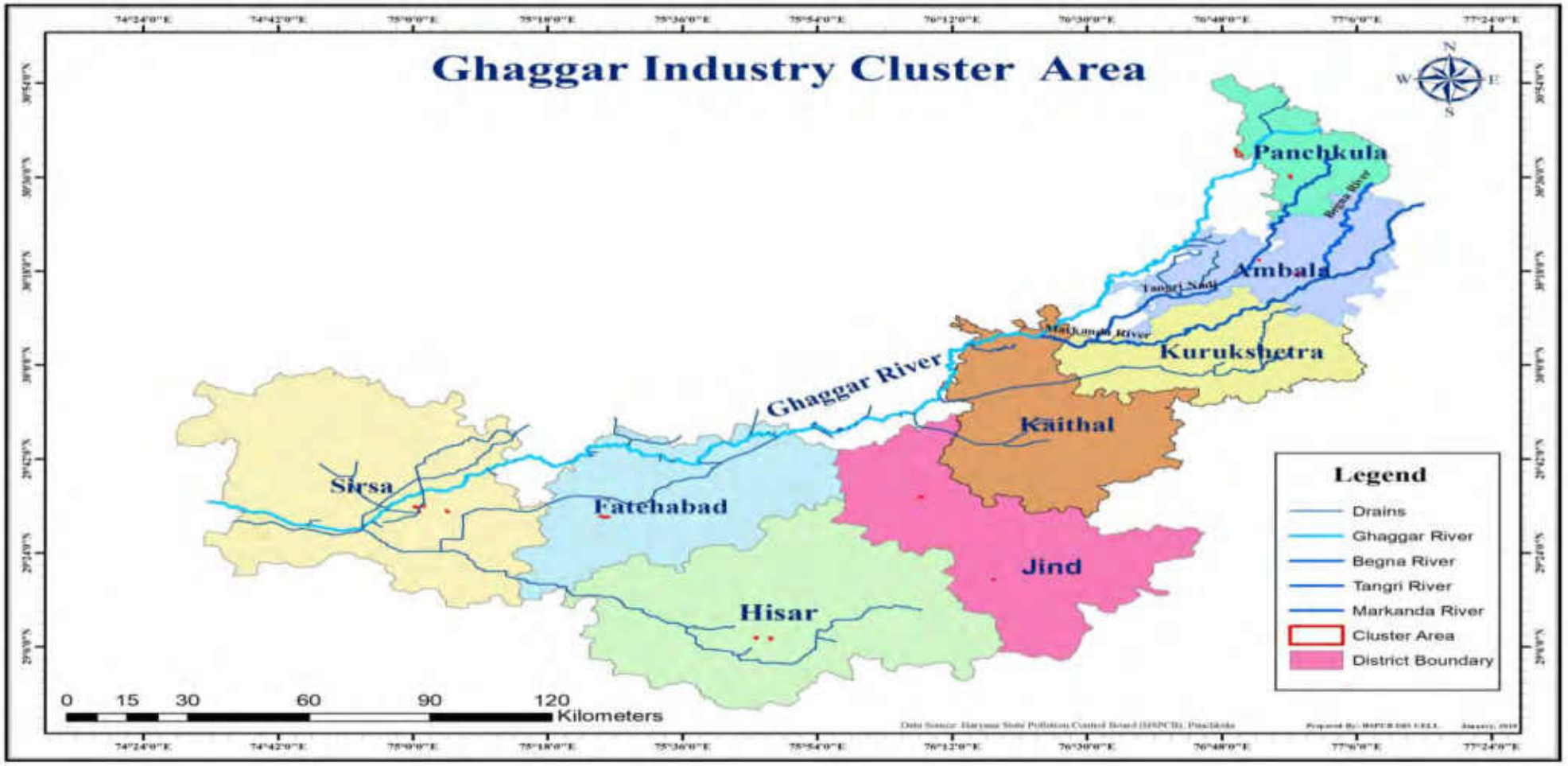
The industrial pollution is controlled by the HSPCB through consent Management system. The Industries applies for obtaining consent in prescribed form. They submit detail of effluent to be generated and the capacity of Effluent Treatment Plant (ETP). The industries are either installed in Industrial Area or outside the industrial area. Most of Industrial areas are having CETP for the treatment of effluent generated from the industries (Trade + Domestic). There are 197 industries in catachment of river Ghaggar having industrial discharge. The sector wise and region wise detail of industries is given in the table as under. The indstries consumed **5968 KLD** water and generate waste water of **4126 KLD.** The industries have installed their ETP and treating the same before discharge. The detail of water consumption and waste water genaration has been given at **Annexure-4**.

4.2 Region/Sector wise number of industries.

Sr. No.	Industry Sector	Name of Regions Panchkula		
		Panchkula	Jind	Hisar
1	Food and Food Processing	2	There is no industry having discharged directly /indirectly into river Ghaggar.	
2	Dairy Firm (Milk Product)	3		
3	Service Station	28		
4	Electoplating	34		
5	Electroplating (E-Waste)	1		
6	Pharmaceutical Formulation for R & D Centre	3		
7	Fermentation industry yeast, beer	5		
8	Printing Press	2		
9	Bakery and confectionary	2		
10	Pharmaceutical Formulation of injectable	5		
11	Phosphating & Powder coating	7		
12	Paper Mills	1		
13	Lead/Copper ingot (Unit covered under schedule IV of HWTM Rules)	1		
14	Hotel Industry	13		
15	Tanneries (Semi finish to finshed leather)	1		
16	Building and Construction Project	1		
17	Hospitals	88		
Total		**197**		

4.3 Geo Mapping of Industries

Haryana State Pollution Control Board has established Geo Informatic Cell in Head Office. This Cell has located the Geo Co-ordinated of all the industries given consent by the Board and mapped the same on state map. The major clusters has been mapped and given in the map herewith.



5.1 Regular monitoring of industries by STF and action against violators

The State Government has already constituted Special Task Force (STF) at District level, with Deputy Commissioner of the concerned District and Superintendent of Police and nominee of District Judge and Regional Officer of HSPCB as Members of the task force. This STF has been mandated to identify persons responsible for violation of law and norms relating to pollution in rivers and to conduct surprise inspections of polluting sources. The detail of industries inpected has been given in the **Annexure-5.**

5.2 Closure action against illegal industries

The HSPCB has been regularly identifying illegal industries operating without consent of the board. The closure orders are issued against such illegal industries and electric connection are disconnected. The action taken in this regard has been compiled and attached as **Annexure-6.** This is ongoing activity and more such industries shall be closed as and when identified by the HSPCB.

6. Dredging & de-silting of drains in the cities.

As per the directions of Hon'ble NGT, Urban Local Bodies Department and Irrigation Department are regularly conducting the exercise of de-silting and repairs of drains under their jurisdiction and the details on its compliance are being reviewed in its meetings and at State Level by the Chief Secretary.

The detailed plan of Desilting of Drains carried out in 2018 and to be carried out in 2019 prepared by Irrigation Department and ULBD in respect of Drains outfalling in Ghaggar or such drains which ultimately fall in river Ghaggar are enclosed as **Annexure-7** and **Annexure-8.**

7. Interception of sewage in un-sewered area of unapproved colonies

There are many unapproved areas in most of the towns where sewage has not been tapped. For the task of tapping and treatment of the same before its outfall into the drain/ river, the ULBD was directed to provide a time bound plan and it has prepared the following plan with specific time frames for specific towns of Haryana.

Town wise action plan for interception/tapping of sewage of unapproved colonies

Sr.No	Name of Locations/Points	Quantum of Sewage	Target date to tap the points
Name of Town: Pehowa			
1.	On both sides of puliya on Ambala Kaithal Road	128 Ltr/Hrs	30.06.2019
2.	Near Pooja Colony, Back side of girl school	98 Ltr/Hrs	30.06.2019
3.	Dera Fateh Singh Road(Both Sides)	70Ltr/Hrs	30.06.2019
4.	Near Govt. School, Gandhi Nagar	97 Ltr/Hrs	30.06.2019
5.	Near Mehant Dairy	105 Ltr/Hrs	30.06.2019
Name of Town: Ambala			
6.	Model Town drain	0.61 MLD	30.04.2020
7.	Baldev Nagar Barwala Road	0.32 MLD	30.04.2020
8.	Devi Nagar NH-1	1.22 MLD	30.06.2020
9.	Moti Nagar	1.63 MLD	30.04.2020
10.	Ramdass Nagar	0.61 MLD	31.12.2019

Sr.No	Name of Locations/Points	Quantum of Sewage	Target date to tap the points
11.	Narsirpur/Durga Nagar	2.04 MLD	31.12.2019
12.	Naya Gaon	0.08 MLD	30.04.2020
13.	Saddopur	0.04 MLD	30.07.2019
14.	Baldev Nagar Barwala Road under AMRUT	0.06 MLD	31.12.2019
15.	Khuda Khurd	12 MLD	12.05.2019
16.	12 Cross Road	12 MLD	12.05.2019
Name of Town: Barwala			
17.	Pinjowa wala Johad	06 MLD	31.07.2019
18.	Near Peer Baba Dham	20000 Ltr per day	31.07.2019
19.	Saini Talab near ward no 4,5&6	2 Lacs ltr per day	31.07.2019
20.	Ravidass nagar ward no 19	25000 ltr per day	31.07.2019
21.	Pond ward no 19	3 Lac ltr per day	31.07.2019
Name of Town: Cheeka			
22.	Cheeka to Drain	0.2 MLD	30.06.2019
23.	Ghula to Drain near Nandgarh	0.4 MLD	30.06.2019
Name of Town: Kaithal			
24.	Manas Road Kaithal Drain	2.45 MLD	30.06.2019
25.	Cheeka Road Kaithal Drain	1 MLD	30.06.2019
Name of Town: Panchkula			
26.	Drain of Manakpur Thakur Das	4.0 MLD	30.06.2019
27.	Drain of Kamla Nagar	4.0 MLD	30.06.2019
28.	Drain of Bangala Basti (Kalka)	0.25 MLD	30.06.2019
29.	Drain in Sec 28	11 MLD	30.06.2019
30.	Drain of Tipra	0.5 MLD	31.08.2019
31.	Drain of Billa	0.75 MLD	31.08.2019
32.	Drain of Kot	0.75 MLD	31.08.2019
33.	Drain of Khatauli	0.75 MLD	31.08.2019
34.	Drain of Sukhdarshanpur	0.75 MLD	31.08.2019
35.	Drain of Saketri	1.5 MLD	31.08.2019
36.	Drain of Nagal (Ward 20)	0.5 MLD	31.08.2019
37.	Drain of Toka	0.5 MLD	31.08.2019
38.	Drain of Billa		31.08.2019

8. Plan for laying of sewerage in approved colonies along river Ghaggar

The sewerage network is being laid in the towns to carry the sewage to STPs for treatment. The status and the monthly action plan alongwith target date is given in the table below:-

Plan of PHED and ULBD for laying of sewerage for the year 2018-19.

Sr. No.	Name of town	Deptt.	%age sewered area	% age unsewered area		Length (in Mtr.) to be laid in (2018-2019)			Remarks
				Approved	Un-approved	Jan., 19	Feb., 19	March, 19	
1	Ambala City	PHED	80	20	-	9157	2500	2000	Total 23972 mtrs. Sewer line will be laid upto 30.09.2019.
2	Ambala Sadar	PHED	67	33	-	-	-	-	Total 158912 mtrs. Sewer line will be laid upto 30.11.2019.
3	Naraingarh	PHED	92	8	-				Total 4570 mtrs. Sewer line will be laid upto 31.12.2019.
4	Kalka	PHED	95	5	-	-	-	-	The balance 5% area is not feasible due to topography of the town.
5	Pinjore	PHED	75	20	5				The 15% area under recently approved 4 No. colonies is balance (tentative length 18500 mtr.) for which estimate is under preparation.
6	Barwala	PHED	85	15	-	-	-	-	Estimate under preparation. Total 3200 mtrs. Sewer line will be laid upto 30.09.2019.
7	Hansi	PHED	92		8				Sewer already laid in approved areas.
8	Narnaund	PHED	90	10	-	250	250	100	Total 600 mtrs. Sewer line will be laid upto 31.03.2019
9	Uklana	PHED	90	10	-	200	200	100	Total 600 mtrs. Sewer line will be laid upto 31.03.2019

Sr. No.	Name of town	Deptt.	%age sewered area	% age unsewered area		Length (in Mtr.) to be laid in (2018-2019)			Remarks
				Approved	Un-approved	Jan., 19	Feb., 19	March, 19	
10	Jind	PHED	88	10	2	500	1330	1500	Total 9860 mtrs. Sewer line will be laid upto 30.08.2019
11	Safidon	PHED	80	20	0	500	1380	1000	Total 4611 mtrs. Sewer line will be laid upto 31.07.2019.
12	Uchana	PHED	94	1	5	-	-	-	DNIT under preparation. Total 2000 mtrs. Sewer line will be laid upto 30.09.2019.
13	Cheeka	PHED	82	10	8	1000	800	800	Total 3700 mtrs. Sewer line will be laid upto 31.05.2019.
14	Kaithal	PHED	85	5	10				Total 42430 mtrs. Sewer line will be laid upto 25.10.2019
		ULBD	85	15		6800	4000	4000	
15	Kalayat	PHED	95	-	5	-	-	-	Sewer already laid in approved areas.
16	Pundri	PHED	75	5	20	500	500	250	Total 1700 mtrs. Sewer line will be laid upto 31.05.2019.
17	Pehowa	PHED	95	-	5	-	-	-	Sewer already laid in approved areas.
18	Shahbad	PHED	76	10	14	500	1000	500	Total 6000 mtrs. Sewer line will be laid upto 30.09.2019.
19	Kurukshetra	PHED	83	6	11	700	700	884	Total 6884 mtrs. Sewer line will be laid upto 31.10.2019.
20	Ellenabad	PHED	85	5	10	-	200	500	Total 2375 mtrs. Sewer line will be laid upto 31.05.2019.
21	Fatehabad	PHED	80	10	10	-	-	300	Total 1200 mtrs. Sewer line will be laid upto 31.05.2019.
22	Kalanwali	PHED	85	5	10	-	-	-	Recently 1 No. colony approved for which estimate under preparation for balance 2500 mtr. Work to be completed by March, 2020.

Sr. No.	Name of town	Deptt.	%age sewered area	% age unsewered area		Length (in Mtr.) to be laid in (2018-2019)			Remarks
				Approved	Un-approved	Jan., 19	Feb., 19	March, 19	
23	Mandi Dabwali	PHED	90	5	5	-	-	-	Recently 5 No. colony approved for which estimate under preparation for balance 15000 mtr. Work to be completed by Aug, 2020.
24	Rania	PHED	85	8	7	-	-	-	Total 2050 mtrs. Sewer line will be laid upto 31.12.2019.
25	Ratia	PHED	80	10	10	500	800	1150	Total 16850 mtrs. Sewer line will be laid upto 31.03.2020
26	Sirsa	PHED	90	-	10	-	-	-	Total 10400 mtrs. Sewer line will be laid upto 30.04.2020.
27	Tohana	PHED	90	5	5	200	300	450	Total 2050 mtrs. Sewer line will be laid upto 31.05.2020.
28	Jakhal	PHED	10	90	-	-	-	-	Estimate under prepatation as this town has been recently converted from village to town.
29	Hisar	ULBD	85	15	0	1500	500	500	Total 66860mtrs. Sewer line will ne laid upto 16.03.2020

Plan of PHED and ULBD for laying of sewerage for the year 2019-20.

Sr. No.	Name of town	Deptt.	%age sewered area	% age unsewered area		Length (in Mtr.) to be laid in (2019-2020)												Remarks
				Approved	Un-approved	Apr, 19	May, 19	June, 19	July, 19	Aug, 19	Sept, 19	Oct, 19	Nov, 19	Dec, 19	Jan, 20	Feb, 20	Mar, 20	
1	Ambala City	PHED	90	10	-	2200	2000	2500	1500	1500	1215	0	0	0	0	0	0	Total 23972 mtrs. Sewer line will be laid upto 30.09.2019.
2	Ambala Sadar	PHED	67	33	-	12500	12000	12000	12000	10000	10000	7000	4469	0	0	0	0	The balance sewer in approved area will be laid by Urban Local Bodies Department under AMRUT.
3	Naraingarh	PHED	92	8	-				700	700	700	700	800	970				Total 4570 mtrs. Sewer line will be laid upto 31.12.2019.
4	Kalka	PHED	95	5	-	-	-	-										The balance 5% area is not feasible due to topography of the town.

Sr. No.	Name of town	Deptt.	%age sewered area	% age unsewered area		Length (in Mtr.) to be laid in (2019-2020)												Remarks
				Approved	Un-approved	Apr, 19	May, 19	June, 19	July, 19	Aug, 19	Sept, 19	Oct, 19	Nov, 19	Dec, 19	Jan, 20	Feb, 20	Mar, 20	
5	Pinjore	PHED	75	20	5				700	800	1000	1500	1700	1800	3000	4000	4000	The 15% area under recently approved 4 No. colonies is balance (tentative length 18500 mtr.) for which estimate is under preparation.
6	Barwala	PHED	85	15	-	-	400	550	650	750	850							Estimate under preparation. Total 3200 mtrs. Sewer line will be laid upto 30.09.2019.
7	Narnaund	PHED	90	10	-													Total 600 mtrs. Sewer line will be laid upto 31.03.2019
8	Uklana	PHED	90	10	-													Total 600 mtrs. Sewer line will be laid upto 31.03.2019
9	Jind	PHED	88	10	2	1670	1500	1350	1000	1010								Total 9860 mtrs. Sewer line will be laid upto 30.08.2019
10	Safidon	PHED	80	20	0	500	500	500	231									Total 4611 mtrs. Sewer line will be laid upto

Sr. No.	Name of town	Deptt.	%age sewered area	% age unsewered area		Length (in Mtr.) to be laid in (2019-2020)												Remarks
				Approved	Un-approved	Apr, 19	May, 19	June, 19	July, 19	Aug, 19	Sept, 19	Oct, 19	Nov, 19	Dec, 19	Jan, 20	Feb, 20	Mar, 20	
																		31.07.2019.
11	Uchana	PHED	94	1	5	-	350	400	400	500	350	-	-	-				DNIT under preparation. Total 2000 mtrs. Sewer line will be laid upto 30.09.2019.
12	Cheeka	PHED	82	10	8	600	500											Total 3700 mtrs. Sewer line will be laid upto 31.05.2019.
13	Kaithal	PHED	85	5	10													Total 42430 mtrs. Sewer line will be laid upto 25.10.2019
		ULBD	85	15		4000	4000	3500	3500	4200	4200	4230	0	0	0	0	0	
14	Pundri	PHED	75	5	20	250	200											Total 1700 mtrs. Sewer line will be laid upto 31.05.2019.
15	Shahbad	PHED	76	10	14	1000	500	1000	500	500	500							Total 6000 mtrs. Sewer line will be laid upto 30.09.2019.
16	Kuruksh etra	PHED	83	6	11	1000	1000	500	500	700	500	400						Total 6884 mtrs. Sewer line will be laid upto 31.10.2019.

Sr. No.	Name of town	Deptt.	%age sewered area	% age unsewered area		Length (in Mtr.) to be laid in (2019-2020)												Remarks
				Approved	Un-approved	Apr, 19	May, 19	June, 19	July, 19	Aug, 19	Sept, 19	Oct, 19	Nov, 19	Dec, 19	Jan, 20	Feb, 20	Mar, 20	
17	Ellenabad	PHED	85	5	10	800	875	-	-	-	-	-	-	-	-	-	-	Total 2375 mtrs. Sewer line will be laid upto 31.05.2019.
18	Fatehabad	PHED	80	10	10	300	600	-	-	-	-	-	-	-	-	-	-	Total 1200 mtrs. Sewer line will be laid upto 31.05.2019.
19	Kalanwali	PHED	85	5	10	-	-	-	-	300	300	300	300	300	300	300	400	Recently 1 No. colony approved for which estimate under preparation for balance 2500 mtr. Work to be completed by March, 2020.
20	Mandi Dabwali	PHED	90	5	5	-	-	-	-	900	900	1200	1200	1200	1200	1200	1200	Recently 5 No. colony approved for which estimate under preparation for balance 15000 mtr. Work to be completed by Aug, 2020.
21	Rania	PHED	85	8	7	-	-	-	300	250	200	300	500	500	-	-	-	Total 2050 mtrs. Sewer line will be laid upto 31.12.2019.

Sr. No.	Name of town	Deptt.	%age sewered area	% age unsewered area		Length (in Mtr.) to be laid in (2019-2020)												Remarks
				Approved	Un-approved	Apr, 19	May, 19	June, 19	July, 19	Aug, 19	Sept, 19	Oct, 19	Nov, 19	Dec, 19	Jan, 20	Feb, 20	Mar, 20	
22	Ratia	PHED	80	10	10	1600	1600	1600	1000	1000	1000	1600	1600	1600	600	600	600	Total 16850 mtrs. Sewer line will be laid upto 31.03.2020
23	Sirsa	PHED	90	-	10	500	1000	1000	1000	1000	1000	1000	1000	1000	1000	200	200	Total 10400 mtrs. Sewer line will be laid upto 30.04.2020.
24	Tohana	PHED	90	5	5	400	700	-	-	-	-	-	-	-	-	-	-	Total 2050 mtrs. Sewer line will be laid upto 31.05.2020.
25	Hisar	ULBD	85	15	0	5000	5000	5000	4000	4000	4000	5000	5000	5000	5000	5000	3360	Total 66860mtrs. Sewer line will ne laid upto 16.03.2020

Plan of PHED and ULBD for laying of sewerage for the year 2020-21.

Sr. No.	Name of town	Deptt.	%age sewered area	% age unsewered area		Length (in Mtr.) to be laid in (2020-2021)									Remarks
				Approved	Un-approved	Apr, 20	May, 20	June, 20	July, 20	Aug, 20	Sept., 20	Oct. 20	Nov. 20	Dec. 20	
1	Ambala City	PHED	90	10	-										The balance sewer in approved area will be laid by Urban Local Bodies Department under AMRUT.
2	Ambala Sadar	PHED	67	33	-										The balance sewer in approved area will be laid by Urban Local Bodies Department under AMRUT.
3	Kalka	PHED	95	5	-	-	-	-							The balance 5% area is not feasible due to topography of the town.
4	Pinjore	PHED	75	20	5										The 15% area under recently approved 4 No. colonies is balance (tentative length 18500 mtr.) for which estimate is under preparation.
5	Safidon	PHED	80	20	0										Total 4611 mtrs. Sewer line will be laid upto 31.07.2019.
6	Kaithal	PHED	85	5	10										The balance sewer in approved area will be laid by Urban Local Bodies Department under AMRUT.

Sr. No.	Name of town	Deptt.	%age sewered area	% age unsewered area		Length (in Mtr.) to be laid in (2020-2021)									Remarks
				Approved	Un-approved	Apr, 20	May, 20	June, 20	July, 20	Aug, 20	Sept., 20	Oct. 20	Nov. 20	Dec. 20	
7	Mandi Dabwali	PHED	90	5	5	1200	1200	1200	1200	1200					Recently 5 No. colony approved for which estimate under preparation for balance 15000 mtr. Work to be completed by Aug, 2020.
8	Sirsa	PHED	90	-	10	500									Total 10400 mtrs. Sewer line will be laid upto 30.04.2020.

10. Action Plan for STPs

10.1 Action plan for existing STPs

Action plan for Existing STPs

Sr. No.	Name of the district	Name of the town/ city	Deptt.	Existing STP and Capacity (MLD)
1	Ambala	Naya Gaon, Unit-I, Ambala City	PHED	3.25
2	Ambala	Naya gaon, Unit-II, Ambala City	PHED	3.25
3	Ambala	Baldev Nagar, Unit-I, Ambala City	PHED	5
4	Ambala	Baldev Nagar, Unit-II, Ambala City	PHED	3.25
5	Ambala	Moti Nagar, Unit-I, Ambala City	PHED	5
6	Ambala	Moti Nagar, Unit-II, Ambala City	PHED	5
7	Ambala	Modal Town, Ambala City	PHED	6
8	Ambala	Nasirpur, Ambala City	PHED	3.25
9	Ambala	Sadopur	PHED	0.25
10	Ambala	Devi Nagar, Ambala City	PHED	3.25
11	Ambala	Naraingarh	PHED	3
12	Kurukshetra	Modal Town, Pehowa	PHED	8
13	Kurukshetra	Ladwa Road, Shahbad	PHED	11.5
14	Kurukshetra	Indri Road, Ladwa	PHED	7
15	Panchkula	Kalka	PHED	4.5
16	Panchkula	Kalka	PHED	0.25
17	Panchkula	Nalagarh Road, Pinjore	PHED	5
18	Jind	Jind	PHED	15
19	Jind	Narwana	PHED	3.5
20	Jind	Narwana	PHED	3.75
21	Jind	Narwana	PHED	2.6
22	Jind	Uchana	PHED	2
23	Jind	Uchana	PHED	1.5
24	Jind	Jind	PHED	5
25	Jind	Safidon	PHED	9
26	Jind	Julana	PHED	4
27	Kaithal	Cheeka	PHED	10
28	Kaithal	Jind Road, Kaithal	PHED	10

Sr. No.	Name of the district	Name of the town/ city	Deptt.	Existing STP and Capacity (MLD)
29	Kaithal	Manas Road, Kaithal	PHED	10
30	Kaithal	Manas Road, Kaithal	PHED	10
31	Kaithal	Kalayat	PHED	5
32	Kaithal	Pundri	PHED	3.5
33	Hisar	Dhani Kushal, Bhiwani Road, Hansi	PHED	5
34	Hisar	Lalpura- Jind Road, Hansi	PHED	7.5
35	Hisar	Dhani Gram, Barwala	PHED	6
36	Hisar	Azad Nagar, Rajgarh Road Hisar	PHED	15
37	Hisar	Rishi Nagar, Hisar	PHED	40
38	Hisar	Hisar	PHED	4
39	Hisar	Uklana	PHED	6.5
40	Sirsa	Chautala Road, Dabwali	PHED	16.5
41	Sirsa	Shamsabad patti, Kalania Road, Sirsa	PHED	15
42	Sirsa	Vill. Nattar 1, Sirsa	PHED	5
43	Sirsa	Vill. Nattar 2, Sirsa	PHED	5
44	Sirsa	Daddu Road, Kalanwali	PHED	9.5
45	Sirsa	Ellenabad	PHED	7.5
46	Sirsa	Rania	PHED	6
47	Fatehabad	Vill. Bhodia Khera, Bhattu Road, Fatehabad	PHED	10
48	Fatehabad	Vill.Amani, Tohana, Distt. Fatehabad	PHED	10
49	Fatehabad	Ratia	PHED	6.5
	HSVP			342.6
1	Ambala	Sec-7, Urban Estate, Ambala City	HSVP	2
2	Panchkula	Sec-20, Panchkula	HSVP	18
3	Panchkula	Sec-20, Panchkula	HSVP	39
4	Panchkula	Sec-28, Panchkula	HSVP	15
5	Jind	Jind	HSVP	10
6	Kaithal	Kaithal	HSVP	7.5
7	Hisar	Dabara Tosham Road, Hisar	HSVP	15
8	Fatehbad	Village Majra	HSVP	10

10.2 Action plan for under construction STPs (2018-19)

The action plan for the under construction STPs along river Ghaggar is given in the table:-

Action plan for STPs under construction (In cumulative Percentage) for the year 2018-2019

Sr. No.	Name of District	Name of town/city	Deptt.	Capacity (MLD)	Date of completion of construction	% physical progress to be achieved			Remarks
						Jan., 19	Feb., 19	Mar 19	
1	Panchkula	Toka	ULBD	0.5	26.12.2019	15	10	12	Completed by 26.12.2019
2	Panchkula	Nangal	ULBD	0.5	26.12.2019	10	8	10	Completed by 26.12.2019
3	Panchkula	Khatoli	ULBD	0.75	26.12.2019	-	3	12	Completed by 26.12.2019
4	Panchkula	Kot	ULBD	0.75	26.12.2019	50	7	7	Completed by 26.12.2019
5	Panchkula	Billa	ULBD	0.75	26.12.2019		-	-	Site under Court Case.
6	Panchkula	Sukhdarshanpur	ULBD	0.75	26.12.2019	20	8	9	Completed by 26.12.2019
7	Panchkula	Kangowalan	ULBD	1	26.12.2019	-	5	12	Completed by 26.12.2019
8	Panchkula	Suketri	ULBD	1.5	26.12.2019		-	-	Land not available
10	Ambala	Barara	PHED	4	31.10.2019	55	60	65	completed upto 31.10.2019
11	Ambala	Ambala	HSVP	5	31.03.2020	2	5	8	Completed by 31.03.2020
12	Ambala	12 Cross Road	ULBD	12	04.02.2020	-	5	7	Completed by 04.02.2020
13	Ambala	Khuda Khurd	ULBD	12	04.02.2020	-	5	7	Completed by 04.02.2020
14	Kurukshetra	Kurukshetra	HSVP	15	31.12.2019	50	55	57	Completed by 31.12.2019
15	Kurukshetra	Thanesar	PHED	25	31.05.2019	80	85	90	completed upto 31.05.2019

Sr. No.	Name of District	Name of town/city	Deptt.	Capacity (MLD)	Date of completion of construction	% physical progress to be achieved			Remarks
						Jan., 19	Feb., 19	Mar 19	
16	Jind	Jind	PHED	7	30.11.2019	50	55	60	completed upto 30.11.2019
17	Fatehabad	Fatehabad	PHED	5	31.10.2018	-	-	-	-
18	Hisar	Narnaund	PHED	4	31.05.2018	-	-	-	-
19	Hisar	Hansi	PHED	6.5	31.05.2019	80	85	90	completed upto 31.05.2019
20	Hisar	Village, Dabra	ULBD	8	05.02.2020	-	3	7	completed upto 05.02.2020

10.2.1 Action plan for under construction STPs (2019-20)

The action plan for the under construction STPs along river Ghaggar is given in the table:-

Action plan for STPs under construction (In cumulative Percentage for the year 2019-2020

Sr. No.	Name of District	Name of town/city	Deptt.	Capacity (MLD)	Date of completion of construction	% physical progress to be achieved												Remarks
						Apr, 19	May, 19	June, 19	July, 19	Aug, 19	Sept, 19	Oct, 19	Nov, 19	Dec, 19	Jan, 20	Feb, 20	Mar, 20	
1	Panchkula	Toka	ULBD	0.5	26.12.2019	12	10	9	10	7	7	5	4	1				Completed by 26.12.2019
2	Panchkula	Nangal	ULBD	0.5	26.12.2019	10	10	10	10	9	9	7	5	2				Completed by 26.12.2019
3	Panchkula	Khatoli	ULBD	0.75	26.12.2019	12	12	15	10	8	8	8	8	6				Completed by 26.12.2019
4	Panchkula	Kot	ULBD	0.75	26.9.2019	7	5	6	7	7	3							Completed by 26.9.2019
5	Panchkula	Billa	ULBD	0.75	26.12.2019													Site under Court Case.
6	Panchkula	Sukhdarshanpur	ULBD	0.75	26.12.2019	9	9	9	8	8	8	7	4					Completed by 26.12.2019
7	Panchkula	Kangowalan	ULBD	1	26.12.2019	12	15	14	12	10	8	7	4	3				Completed by 26.12.2019

Sr. No.	Name of District	Name of town/city	Deptt.	Capacity (MLD)	Date of completion of construction	% physical progress to be achieved												Remarks
						Apr, 19	May, 19	June, 19	July, 19	Aug, 19	Sept, 19	Oct, 19	Nov, 19	Dec, 19	Jan, 20	Feb, 20	Mar, 20	
8	Panchkula	Suketri	ULBD	1.5	26.12.2019													Land not available
9	Ambala	Barara	PHED	4	31.10.2019	70	75	80	85	90	95	100						completed upto 31.10.2019
10	Ambala	Ambala	HSVP	5	31.03.2020	12	15	20	25	30	35	40	45	50	70	90	100	Completed by 31.03.2020
11	Ambala	12 Cross Road	ULBD	12	04.02.2020	10	12	12	10	9	8	10	7	6	4			Completed by 04.02.2020
12	Ambala	Khuda Khurd	ULBD	12	04.02.2020	10	12	12	10	9	8	10	7	6	4			Completed by 04.02.2020
13	Kurukshetra	Kurukshetra	HSVP	15	31.12.2019	60	65	68	70	72	75	77	80	85				Completed by 31.12.2019
14	Kurukshetra	Thanesar	PHED	25	31.05.2019	95	100											completed upto 31.05.2019

Sr. No.	Name of District	Name of town/city	Deptt.	Capacity (MLD)	Date of completion of construction	% physical progress to be achieved												Remarks
						Apr, 19	May, 19	June, 19	July, 19	Aug, 19	Sept, 19	Oct, 19	Nov, 19	Dec, 19	Jan, 20	Feb, 20	Mar, 20	
15	Jind	Jind	PHED	7	30.11.2019	65	70	75	80	85	90	95	100					completed upto 30.11.2019
16	Hisar	Hansi	PHED	6.5	31.05.2019	95	100											completed upto 31.05.2019
17	Hisar	Village, Dabra	ULBD	8	05.02.2020	10	12	12	12	10	10	8	7	5	4			completed upto 05.02.2020

10.3 Action plan for proposed STPs

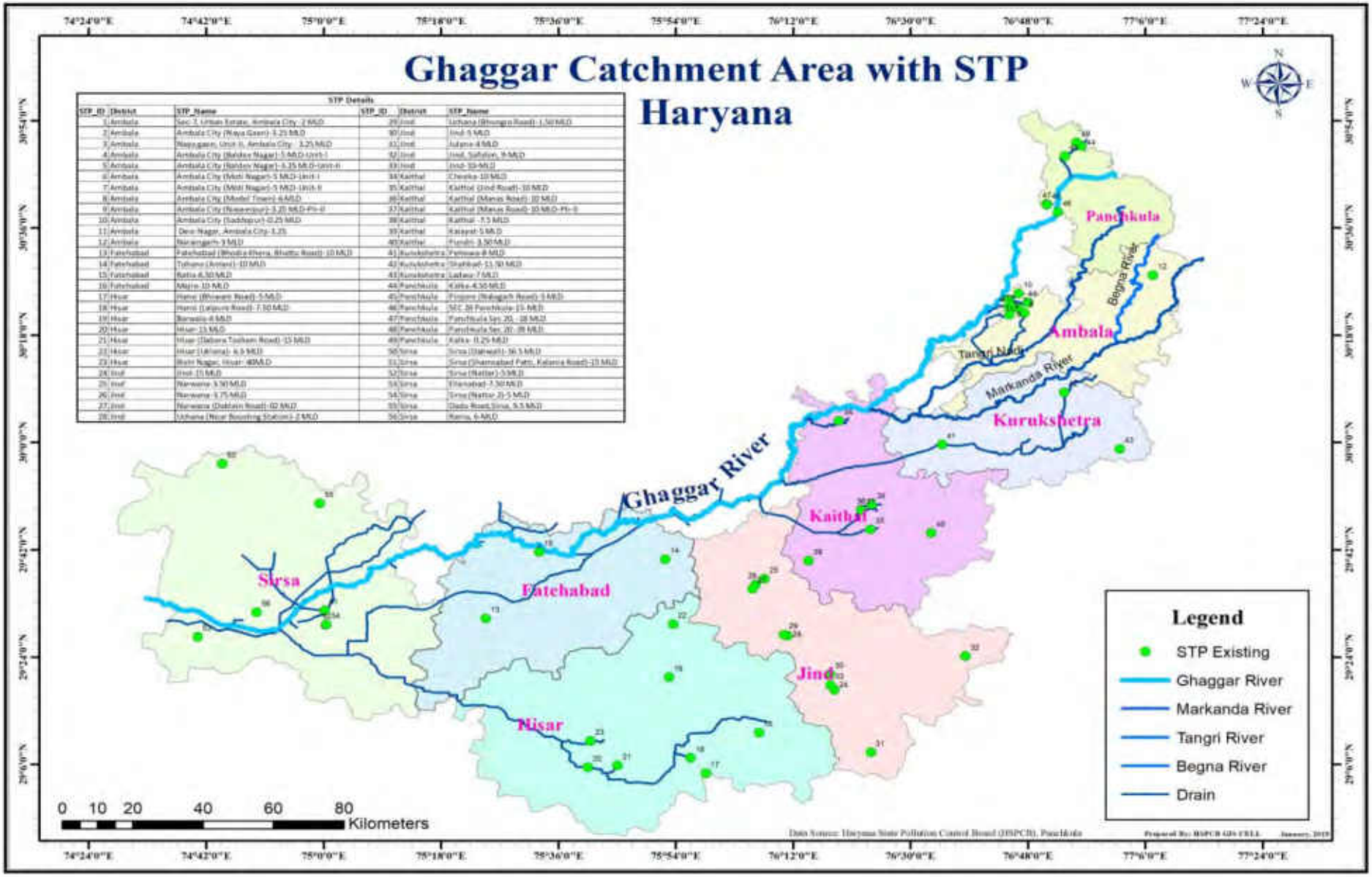
Sr. No.	Name of the district	Name of the town/city	Deptt.	Capacity (MLD)	Date of Start of construction and completion
HSVP					
1	Ambala	Sector-32, Ambala City	HSVP	5	31.12.2021
2	Ambala	Naraingarh	HSVP	1	30.09.2022
3	Panchkula	Pinjore	HSVP	8	30.4.2023
4	Jind	Jind	HSVP	5	30.06.2023
5	Hisar	Hansi	HSVP	5	30.06.2025
6	Hisar	Hisar	HSVP	10	31.3.2024
7	Hisar	Hisar	HSVP	5	30.06.2024
8	Sirsa	Sirsa	HSVP	7.5	30.06.2023
ULBD					
1	Ambala	village Babyal	ULB	10	
2	Ambala	Sector-32, 33, 34 Ambala	ULB	5	

10.4 Monitoring of STPs / Compliance status

The STPs are being montiored on quarterly basis and the samples from STPs are collected. The results of the analysis report for effluent samples of the STPs have been compiled and placed as **Annexure-9.**

10.5 STP sludge

Presently the sludge generated in the STPs is used as manure.The HSPCB has issued directions for collection of sludge samples from STPs and the officers of the Board have started collecting the sludge samples from STPs. This exercise shall be completed for all STPs by 31.1.2019.



STP_ID	District	STP_Name
1	Ambala	Sec-7, Urban Estate, Ambala City- 2 MLD
2	Ambala	Ambala City (Naya Gaon)- 3.25 MLD
3	Ambala	Nayagaon, Unit- II, Ambala City - 3.25 MLD
4	Ambala	Ambala City (Bahlolpur Nagar)- 5 MLD-Unit-I
5	Ambala	Ambala City (Ranbir Nagar)- 3.25 MLD-Unit-II
6	Ambala	Ambala City (Moti Nagar)-5 MLD-Unit-I
7	Ambala	Ambala City (Moti Nagar)-5 MLD-Unit-II
8	Ambala	Ambala City (Model Town)-6 MLD
9	Ambala	Ambala City (Nawanpur)-3.25 MLD-Ph-II
10	Ambala	Ambala City (Saddapur)-0.25 MLD
11	Ambala	Devi Nagar, Ambala City- 3.25
12	Ambala	Naraingarh- 3 MLD
13	Fatehabad	Fatehabad (Bhodia Khera, Bhattu Road)- 10 MLD
14	Fatehabad	Tohana (Amlani)- 10 MLD
15	Fatehabad	Ratia-6.30 MLD
16	Fatehabad	Mayre-10 MLD
17	Hisar	Hansi (Bhiwani Road)- 5 MLD
18	Hisar	Hansi (Jaipuni Road)- 7.50 MLD
19	Hisar	Barwala-6 MLD
20	Hisar	Hisar- 15 MLD
21	Hisar	Hisar (Dabra Tosham Road)- 15 MLD
22	Hisar	Hisar (Uklana)- 6.5 MLD
23	Hisar	Bishi Nagar, Hisar- 40MLD
24	Jind	Jind- 15 MLD
25	Jind	Narwana- 3.50 MLD
26	Jind	Narwana- 3.75 MLD
27	Jind	Narwana (Dabtain Road)- 02 MLD
28	Jind	Uchana (Near Boosting Station)- 2 MLD
29	Jind	Uchana (Bhungra Road)- 1.50 MLD
30	Jind	Jind- 5 MLD
31	Jind	Julana- 4 MLD
32	Jind	Jind, Safidon, 9 MLD
33	Jind	Jind- 10 MLD
34	Kaithal	Cheeka- 10 MLD
35	Kaithal	Kaithal (Jind Road)- 10 MLD
36	Kaithal	Kaithal (Manas Road)- 02 MLD
37	Kaithal	Kaithal (Manas Road)- 10 MLD-Ph-II
38	Kaithal	Kaithal - 7.5 MLD
39	Kaithal	Kalayat- 5 MLD
40	Kaithal	Pundri- 3.50 MLD
41	Kurukshetra	Pehowa-8 MLD
42	Kurukshetra	Shahbad- 11.50 MLD
43	Kurukshetra	Ladwa- 7 MLD
44	Panchkula	Kalka-4.50 MLD
45	Panchkula	Pinjore (Nalagarh Road)- 5 MLD
46	Panchkula	SEC-20 Panchkula- 15 MLD
47	Panchkula	Panchkula Sec-20, -18 MLD
48	Panchkula	Panchkula Sec-20, -09 MLD
49	Panchkula	Kalka- 0.25 MLD
50	Sirsa	Sirsa (Dabwali)- 16.5 MLD
51	Sirsa	Sirsa (Shamsabad Patti, Kalanca Road)- 15 MLD
52	Sirsa	Sirsa (Rattia)- 5 MLD
53	Sirsa	Ellenabad- 7.50 MLD
54	Sirsa	Sirsa (Nathar-2)- 5 MLD
55	Sirsa	Dabda Road,Sirsa, 9.5 MLD
56	Sirsa	Rania, 6 MLD

11. Action Plan for CETPs

The action plan for each CETP is given in the table.

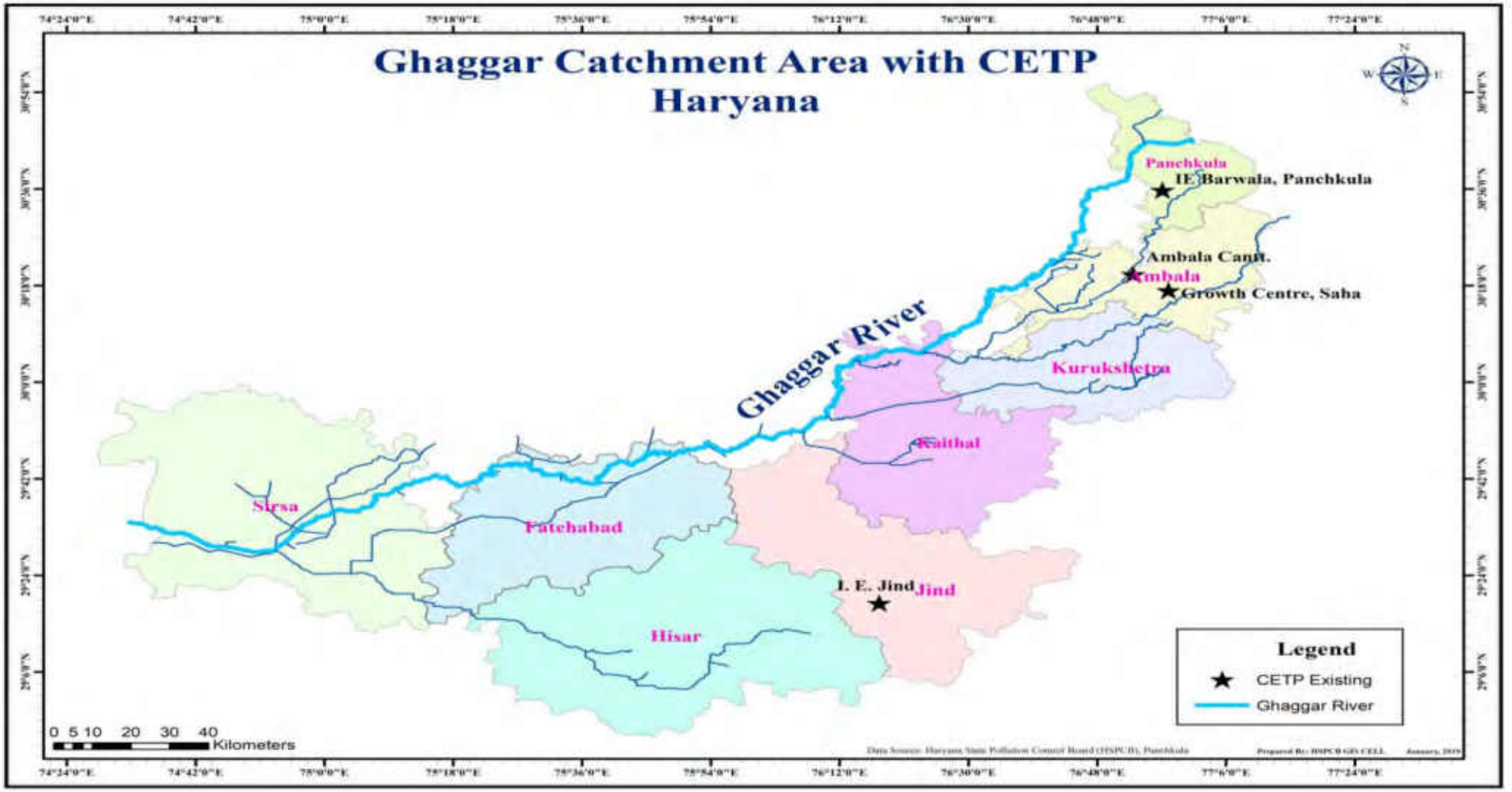
Status of recycling in existing CETPs					
Sr.No.	**Name of the district**	**Name of the town/city**	**Deptt.**	**Capacity (MLD)**	**Range of BOD (mg/l) achieved in 2018**
1	Panchkula	IE Barwala, Panchkula	HSIIDC	0.5	10 - 14
2	Ambala	Ambala Cantt.	HSIIDC	0.5	11 - 18
3	Ambala	Growth Centre, Saha	HSIIDC	5	9 - 24
4	Jind	I. E. Jind	HSIIDC	0.1	12 - 26

Under Proposal of CETPs

Sr. No.	**Name of the district**	**Name of the town/city**	**Deptt.**	**Capacity (MLD)**	**Date of start of construction**
1	Jind	IE Narwana	HSIIDC	1.5	30.06.2020
2	Sirsa	IDDC, Sirsa	HSIIDC	1.5	30.06.2020

12. Monitoring of CETPs

Sr. No.	Name and Address the CETP	Observed final effluent quality										Compliance Status
		Report No. & date	BOD	COD	PH	TSS	Hexa. Chrome	Total Chrome	Nickle	Iron	Zinc	
		Limits	**30**	**250**	**6.5-9.0**	**100**	**0.2**	**2**	**3**	**3**	**5**	
1	**IE Barwala, Panchkula**	4098 dt. 07.02.2018	14	50	7.66	15	-	-	-	-	-	Complying
		4562, 02.05.2018	12.5	34	7.88	14	-	-	-	-	-	Complying
		4956, 09.08.2018	10	38.8	7.77	14	-	-	-	-	-	Complying
		5287, 08.11.2018	11	44.4	6.63	25	-	-	-	-	-	Complying
2	**Ambala Cantt.**	4084 dt. 30.01.2018	18	67.6	7.68	30	-	-	-	-	-	Complying
		4590, 11.05.2018	18	62.4	7.52	24	-	-	-	-	-	Complying
		4967 dt. 09.08.2018	11	38.8	7.5	12	-	-	-	-	-	Complying
3	**IDC Saha, Ambala**	4083 dt. 30.01.2018	11	38.4	8.12	37	-	-	-	-	-	Complying
		4651, 14.05.2018	24	143.2	7.68	4	-	-	-	-	-	Complying
		4970 dt. 09.08.2018	9	34	8.14	12	-	-	-	-	-	Complying
		5292, 12.11.2018	14	58.4	6.9	11	-	-	-	-	-	Complying
4	**I. E. Jind**	3961 Dt. 01.01.2018	17.5	82.4	8.23	16	-	-	-	-	-	Complying
		4542 dt. 30.04.2018	26	105.6	7.55	N.D	-	-	-	-	-	Complying
		121, 14.08.2018	12	48	8	20	-	-	-	-	-	Complying


Ghaggar Catchment Area with CETP
Haryana
Panchkula
IE Barwala, Panchkula
Ambala Cantt.
Ambala
Growth Centre, Saha
Ghaggar River
Kurukshetra
Kaithal
Sirsa
Fatehabad
I. E. Jind
Jind
Hisar
Legend
CETP Existing
Ghaggar River
0 5 10 20 30 40
Kilometers

13. Online Monitoring Devices by the STPs in Ghaggar Catchment

The State of Haryana has already decided for installtion of Real Time Online Monitoring Devices on the STPs. The plan for installation of Online Monitoring Devices at STPs in given as under.

Sr. No.	Name of the district	Name of the town/ city	Deptt.	Capacity (MLD)	Target Date for installation of OMD
1	Ambala	Naya Gaon, Unit-I, Ambala City	PHED	3.25	Installed
2	Ambala	Naya gaon, Unit-II, Ambala City	PHED	3.25	31.03.2019
3	Ambala	Baldev Nagar, Unit-I, Ambala City	PHED	5	Installed
4	Ambala	Baldev Nagar, Unit-II, Ambala City	PHED	3.25	31.03.2019
5	Ambala	Moti Nagar, Unit-I, Ambala City	PHED	5	31.03.2019
6	Ambala	Moti Nagar, Unit-II, Ambala City	PHED	5	31.03.2019
7	Ambala	Modal Town, Ambala City	PHED	6	Installed
8	Ambala	Nasirpur, Ambala City	PHED	3.25	31.03.2019
9	Ambala	Sadopur	PHED	0.25	31.03.2019
10	Ambala	Devi Nagar, Ambala City	PHED	3.25	31.03.2019
11	Ambala	Naraingarh	PHED	3	31.03.2019
12	Kurukshetra	Modal Town, Pehowa	PHED	8	31.03.2019
13	Kurukshetra	Ladwa Road, Shahbad	PHED	11.5	31.03.2019
14	Kurukshetra	Indri Road, Ladwa	PHED	7	31.03.2019
15	Panchkula	Kalka	PHED	4.5	31.03.2019
16	Panchkula	Kalka	PHED	0.25	31.03.2019
17	Panchkula	Nalagarh Road, Pinjore	PHED	5	31.03.2019
18	Jind	Jind	PHED	15	31.03.2019
19	Jind	Narwana	PHED	3.5	31.03.2019
20	Jind	Narwana	PHED	3.75	31.03.2019
21	Jind	Narwana	PHED	2.6	31.03.2019
22	Jind	Uchana	PHED	2	31.03.2019
23	Jind	Uchana	PHED	1.5	31.03.2019
24	Jind	Jind	PHED	5	31.03.2019
25	Jind	Safidon	PHED	9	31.03.2019
26	Jind	Julana	PHED	4	31.03.2019
27	Kaithal	Cheeka	PHED	10	31.03.2019
28	Kaithal	Jind Road, Kaithal	PHED	10	Installed
29	Kaithal	Manas Road, Kaithal	PHED	10	Installed

Sr. No.	Name of the district	Name of the town/ city	Deptt.	Capacity (MLD)	Target Date for installation of OMD
30	Kaithal	Manas Road, Kaithal	PHED	10	Installed
31	Kaithal	Kalayat	PHED	5	Installed
32	Kaithal	Pundri	PHED	3.5	31.03.2019
33	Hisar	Dhani Kushal, Bhiwani Road, Hansi	PHED	5	31.03.2019
34	Hisar	Lalpura- Jind Road, Hansi	PHED	7.5	31.03.2019
35	Hisar	Dhani Gram, Barwala	PHED	6	31.03.2019
36	Hisar	Azad Nagar, Rajgarh Road Hisar	PHED	15	31.03.2019
37	Hisar	Rishi Nagar, Hisar	PHED	40	Installed
38	Hisar	Hisar	PHED	4	31.03.2019
39	Hisar	Uklana	PHED	6.5	Installed
40	Sirsa	Chautala Road, Dabwali	PHED	16.5	31.03.2019
41	Sirsa	Shamsabad patti, Kalania Road, Sirsa	PHED	15	31.03.2019
42	Sirsa	Vill. Nattar 1, Sirsa	PHED	5	31.03.2019
43	Sirsa	Vill. Nattar 2, Sirsa	PHED	5	31.03.2019
44	Sirsa	Daddu Road, Kalanwali	PHED	9.5	31.03.2019
45	Sirsa	Ellenabad	PHED	7.5	31.03.2019
46	Fatehabad	Vill. Bhodia Khera, Bhattu Road, Fatehabad	PHED	10	31.03.2019
47	Fatehabad	Vill.Amani, Tohana, Distt. Fatehabad	PHED	10	31.03.2019
48	Fatehabad	Ratia	PHED	6.5	31.03.2019
	HSVP				
1	Ambala	Sec-7, Urban Estate, Ambala City	HSVP	2	31.03.2019
2	Panchkula	Sec-20, Panchkula	HSVP	18	Installed
3	Panchkula	Sec-20, Panchkula	HSVP	39	Installed
4	Panchkula	Sec-28, Panchkula	HSVP	15	Installed
5	Jind	Jind	HSVP	10	Installed
6	Kaithal	Kaithal	HSVP	7.5	Installed
7	Hisar	Dabara Tosham Road, Hisar	HSVP	15	31.03.2019
8	Fatehbad	Village Majra	HSVP	10	Installed

Sr. No.	Name of the district	Name of the town/ city	Deptt.	Capacity (MLD)	Target Date for installation of OMD
Status of Online Monitoring Devices by CETPs					
Sr.No.	**Name of the district**	**Name of the town/city**	**Deptt.**	**Capacity (MLD)**	**Online data**
1	Panchkula	IE Barwala, Panchkula	HSIIDC	0.5	31.03.2019
2	Ambala	Ambala Cantt.	HSIIDC	0.5	31.03.2019
3	Ambala	Saha	HSIIDC	5	installed
4	Jind	I. E. Jind	HSIIDC	0.1	31.03.2019

13.1 Online Monitoring Devices by the industries in Ghaggar Catchment:-

The HSPCB has been persuading the industries having discharge directly or indirectly into rivers. The HSPCB has also got developed its own central software for receiving the data from Online Monitoring Devices installed by the industries. 4 out of 5 large and medium Industires have already installed continous Online Effluent monitoring devices. In the intial face only large and medium water polluting units have been directed to install the real time Online Monitoring Devices. The action Plan regarding installation of Online Monitoring Devices has been given in **Annexure-10.**

14. Plan for Integrated Solid Waste Management (ISWM) of 7 Clusters (Falling in Ghaggar Catchment Area)

The State of Haryana has devided entire state into clusters of towns. The solid waste from towns shall be treated and disposed into a common Municipal Solid Waste Treatment Facility for a cluster. Teh detail of ISWM projects for towns along river Ghaggar are being implemented by Urban Local Bodies Department and the facilities shall be developed. The action plan for each year has been given in the suceefing tables.

14.1 ISWM Plan for Year 2019

Proposed Monthly Milestone for Development of Waste Processing Site Under ISWM Cluster Project

Sr.	Cluster	Waste Generated (in TDP/Technology)	Current status	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
1	Panchkula **ULBs:** Panchkula Naraingarh	186 Waste to Compost+ RDF	Conditional LOI Issued, project awarding under process. EC awarded for the MSW site at Jhuriwala.	Physical verification of the Credentials for project	Issue of Final LOI	Signing of Agreement	Condition precedent: Handover of relevant documents & sites		Condition precedent: Financial Closure & Procurement of equipments/ vehicles etc.		Condition precedent: Start of Collection and Transportation activities along with Source Segregation activities.		Start of Project Construction activities. Boundary Wall, foundation, Sanitary Landfill, Leachate Treatment Plant, Compost Pad, Waste to Compost Plant Building, RDF Plant	
2	Fatehabad - Bhuna **ULBs:** Fatehabad Bhuna Ratia Tohana Uklana Mandi	120 Waste to compost + RDF	Technical Evaluation if bid received under process. EC approval under process. ToR approved.	Technical Evaluation	Financial Evaluation	Issue of LOI	Signing of CA		Condition precedent: Handover of relevant documents & sites		Condition precedent: Financial Closure & Procurement of equipments/ vehicles etc.		Condition precedent: Start of Collection and Transportation activities along with Source Segregation activities.	

Sr.	Cluster	Waste Generated (in TDP/Technology)	Current status	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
3	Ambala - Karnal **ULBs:** Ambala Thanesar Shahabad Pehowa Cheeka Karnal Gharaunda Indri Nilokheri Nissing Pundri Tarori	1275 Waste to Energy	Tender documents have been prepared and will be floated in February 2019. EC approval under process. ToR application submitted. EDS reply on ToR to be submitted for approval.	Bid Process Management (Issue of tender)	Pre-Bid Meeting	Final Bid Submission	Technical Evaluation	Financial Evaluation	Issue of LOI	Signing of CA		Condition precedent: Handover of relevant documents & sites		Condition precedent: Financial Closure & Procurement of equipments/ vehicles etc.
4	Hisar **ULBs:** Hisar Barwala Hansi Narnaul Siwani	262 Waste to Compost + RDF	Tender documents have been prepared and will be floated in February 2019. EC approval under	Bid Process Management (Issue of tender)	Pre-Bid Meeting	Final Bid Submission	Technical Evaluation	Financial Evaluation	Issue of LOI	Signing of CA		Condition precedent: Handover of relevant documents & sites		Condition precedent: Financial Closure & Procurement of equipments/ vehicles etc.

Sr.	Cluster	Waste Generated (in TDP/Technology)	Current status	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
			process. ToR approved.											
5	Dabwali - Sirsa **ULBs:** Sirsa Dabwali Ellenabad Kalanwali Rania	177 Waste to Compost+ RDF	Tender documents have been prepared and will be floated in June 2019. ToR application to be submitted for approval.	(Finalization and approval of Tender Documents)				Bid Process Management (Issue of tender)	Pre-Bid Meeting	Final Bid Submission	Technical Evaluation	Financial Evaluation	Issue of LOI	Signing of CA
6	Jind **ULBs:** Jind Kaithal Kalayat Narwana Rajound Uchana Assandh	270 Waste to Compost+ RDF	Tender documents have been prepared and will be floated in June 2019. ToR application to be submitted for approval.	(Finalization and approval of Tender Documents)				Bid Process Management (Issue of tender)	Pre-Bid Meeting	Final Bid Submission	Technical Evaluation	Financial Evaluation	Issue of LOI	Signing of CA

14.2 ISWM Plan for Year 2020

Proposed Monthly Milestone for Development of Waste Processing Site Under ISWM Cluster Project

Sr.	Cluster	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
1	Panchkula **ULBs:** Panchkula Naraingarh	10% completion of civil works	20% completion of civil works	30% completion ofcivil works	40% completion of Civil Works	50% completion of Civil Works	70% completion of Civil Works	90% completion of Civil Works and completion of SLF	100% of completion of Civil Works and start of Installation of plant equipments	100% completion of installation of plant equipments		Commissiong of the Waste to Compsot/RDF Plant	
2	Fatehabad - Bhuna **ULBs:** Fatehabad Bhuna Ratia Tohana Uklana Mandi	Start of Project Construction activities. Boundary Wall, foundation, Sanitary Landfill, Leachate Treatment Plant, Compost Pad, Waste to Compost Plant Building, RDF Plant etc. (**with subject to environment clearance**)		10% completion of civil works	20% completion of civil works	30% completion ofcivil works	40% completion of Civil Works	50% completion of Civil Works	70% completion of Civil Works	90% completion of Civil Works and completion of SLF	100% of completion of Civil Works and start of Installation of plant equipments	100% completion of installation of plant equipments	
3	Ambala - Karnal **ULBs:** Ambala Thanesar Shahabad Pehowa Cheeka	Condition precedent: Start of Collection and Transportation activities along with Source Segregation activities.			Start of Project Construction activities. Boundary Wall, foundation, Sanitary Landfill, Leachate Treatment Plant, Compost Pad, Waste to Compost Plant Building, RDF Plant etc. (**With**		5% ompletion oof cicil works	10% ompletion oof cicil works	20% ompletion oof cicil works	30% omplet ion oof cicil works	40% completion of civil works	50% omple tion oof cicil works	60% completion of civil works

Sr.	Cluster	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
	Karnal Gharaunda Indri Nilokheri Nissing Pundri Tarori				**subject to Environment Clearance)**								
4	Hisar **ULBs:** Hisar Barwala Hansi Narnaul Siwani	Condition precedent: Start of Collection and Transportation activities along with Source Segregation activities.			Start of Project Construction activities. Boundary Wall, foundation, Sanitary Landfill, Leachate Treatment Plant, Compost Pad, Waste to Compost Plant Building, RDF Plant etc. (**with subject to environment clearance**)		10% completion of civil works	20% completion of civil works	30% completion ofcivil works	40% completion of Civil Works	50% completion of Civil Works	70% completion of Civil Works	90% completion of Civil Works and completion of SLF
5	Dabwali - Sirsa **ULBs:** Sirsa Dabwali Ellenabad Kalanwali Rania	Condition precedent: Handover of relevant documents & sites			Condition precedent: Financial Closure & Procurement of equipments/ vehicles etc.		Condition precedent: Start of Collection and Transportation activities along with Source Segregation activities.		Start of Project Construction activities. Boundary Wall, foundation, Sanitary Landfill, Leachate Treatment Plant, Compost Pad, Waste to Compost Plant Building, RDF Plant etc. (**with subject to environment clearance**)		10% completion of civil works	20% completion of civil works	30% completion ofcivil works
6	Jind	Condition precedent: Handover of			Condition precedent: Financial Closure &		Condition precedent: Start of Collection and		Start of Project Construction		10% completio	20% compl	30% completi

Sr.	Cluster	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
	ULBs: Jind Kaithal Kalayat Narwana Rajound Uchana Assandh	relevant documents & sites			Procurement of equipments/ vehicles etc.		Transportation activities along with Source Segregation activities.		activities. Boundary Wall, foundation, Sanitary Landfill, Leachate Treatment Plant, Compost Pad, Waste to Compost Plant Building, RDF Plant etc. (**with subject to environment clearance**)		n of civil works	etion of civil works	on ofcivil works

14.3 ISWM Plan for Year 2021

Proposed Monthly Milestone for Development of Waste Processing Site Under ISWM Cluster Project

Sr.	Cluster	Jan	Feb	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
1	Fatehabad - Bhuna **ULBs:** Fatehabad Bhuna Ratia Tohana Uklana Mandi	Commissiong of the Waste to Compsot/RDF Plant												
2	Ambala - Karnal **ULBs:** Ambala Thanesar Shahabad Pehowa Cheeka Karnal Gharaunda Indri Nilokheri Nissing Pundri Tarori	70% completion of civil works	80% completion of civil works and completion of SLF	90% completion ofcivil works	95% completion of civil works	100% completion of civil works and completion of installation of pre-processing unit , Start of Power plant installation	Commissioning of Pre-processing plant		60% completion of Power Plant	70% completion of Power Plant	80% completion of Power Plant	90% completion of Power Plant	100% completion of Power Plant by 20th Month	Trial Run and Commissiong of Power Plant

Sr.	Cluster	Jan	Feb	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
3	Hisar **ULBs:** Hisar Barwala Hansi Narnaul Siwani	100% of completion of Civil Works and start of Installation of plant equipments	100% completion of installation of plant equipments		Commissiong of the Waste to Compsot/RDF Plant		Commissiong of the Waste to Compsot/RDF Plant							
4	Dabwali - Sirsa **ULBs:** Sirsa Dabwali Ellenabad Kalanwali Rania	40% completion of Civil Works	50% completion of Civil Works	70% completion of Civil Works	90% completion of Civil Works and completion of SLF	100% of completion of Civil Works and start of Installation of plant equipments	100% completion of installation of plant equipments		Commissiong of the Waste to Compsot/RDF Plant		Commissiong of the Waste to Compsot/RDF Plant			
5	Jind **ULBs:** Jind Kaithal Kalayat Narwana Rajound Uchana Assandh	40% completion of Civil Works	50% completion of Civil Works	70% completion of Civil Works	90% completion of Civil Works and completion of SLF	100% of completion of Civil Works and start of Installation of plant equipments	100% completion of installation of plant equipments		Commissiong of the Waste to Compsot/RDF Plant		Commissiong of the Waste to Compsot/RDF Plant			

15. Plan for e-waste management by HSPCB/ULBD.

Present Scenario

Rapid growth of technology, upgradation of technical innovations, and a high rate of obsolescence in the electronics industry have led to one of the fastest growing waste streams in the world which consist of end of life electrical and electronic equipment product such as : Refrigerator, Washing machines, Computers and Printers, Televisions, Mobiles, Ipods etc. many of which contain toxic materials.

The main sources of electronic waste in India are the government, public and private (Industrial) sectors approx. 70%. The contribution of individual house hold is 15% and rest being contributed by manufacturers.

There are **24 no. of authorized dismantlers/recyclers of E-waste** with treatment capacity of 6773 MT/month in the State. Presently these E-waste dismantlers/recyclers are treating 495 MT/month of E-waste and have sufficient capacity to treat the E-waste manifolds than the E-waste received presently for treatment. The details of the authorised E-waste dismantlers and recylers alongwith their compliance status is attached at **Annexure-11**.

Action points to be implemented

Sr. No.	Action points	Concerned Stakeholders	Present status	Action to be taken	Target time
1.	Inspection of E-waste recycler/ dismantlers	HSPCB	The inspection of E-waste units are carried out by Regional officers at the time of grant of authorization and as mandatory inspections	Holistic inspection of E-waste recycler/ dismantlers vis-a-vis E-Waste Rules will be conducted.	31.03.2019
2.	Inventorization of bulk consumers of e waste	HSPCB	RO have been asked to inventorise the Bulk waste of electrical/ electronic items	Inventory of Bulk waste of electrical/ electronic items to be created	31.03.2019
3.	Study regarding E-waste generation in the State.	HSPCB	No such study carried out	A study will be given to any expert of the field to access the actual quantity of E-waste generated from the State.	31.03.2019

16. Plan for plastic waste management by HSPCB/ULBD.

Draft Policy and Plan for plastic waste management has been prepared by the ULBD and accordingly plastic waste shall be collected from un-organized sectors and from house hold/commercial sectors. The challans are issued to the violators.

Action plan has been prepared by ULB Department for Plastic Waste Management and target dates have been given for each towns are given as under:-

Sr.No	Name of MC	Mechanism of Plastic Waste Management	Target Date
1	MC Hisar	180 Nos of Racpicker has been registered in area of Municipal Corporation, Hisar for segregation of Plastic. Segregated Plastic is being sold to the factory in District Fatehabad by Ragpicker.	30.09.2019
2	MC Tohana		31.05.2019
3	MC Jakhal Mandi		31.05.2019
4	Pehowa	Will Start on 30.03.2019	30.09.2019
5	Cheeka	31.03.2019	31.03.2019
6	Dabwali	30.06.2019	30.06.2019
7	Kaithal		31.03.2019

17. Plan for Bio-Medical Waste Management.

There are 3412 number of Health Care Facilities (HCFs) in the State including 2410 number Bedded HCFs and 1061 number Non Bedded HCFs. In all Bedded HCFs of State total numbers of Beds are 48357. Total Bio Medical Waste (BMW) generated by all HCFs is 11662.91 Kg/day (i.e. 213.12 gram per bed per day). For the collection and disposal of this BMW, there are 11 no. of authorized Common Bio Medical Waste Treatment Facilities (CBWTDF). All the HCFs must have to do agreement with these CBWTDFs for disposal of their Bio Medical Waste. Total Incineration Capacity of these CBWTFs is 1650 Kg/hr. All the CBWTDFs have provided online continuous monitoring system on their incinerator for monitoring of their emission standards. All the CBWTF have already upgraded their incinerator to meet revised emissions standards as per MOEF Notification 2016. All the CBWTFs have provided GPS on transportation vehicle used for collection of BMW from HCFs to track the movement of vehicles from HCF to CBWYTDF facility.

A State Level Advisory Committee has been constituted by Govt. of Haryana regarding Bio Medical Waste Management Rules, 2016 vide order dated 25.4.2018. 1st Meeting of State level Advisory Committee was held on 16.8.2018 under the Chairmanship of ACS, Health Department, Haryana to review the compliance of conditions of BMW rules, 2016.

All the CBWTFs are inspected on quarterly basis by the concerned Regional Officer. Health care facilities are also inspected by Regional officers at the time of grant of authorization and as mandatory inspections. The status of inspections is enclosed as **Annexure-12**.

Proposed Action Points

Sr. No.	Action Point	Concerned Stakeholders	Present Status	Action to be taken	Time Target
1.	Implementation of the Barcode system	CBWTDFs and HCFs	The CBWTDFs are doing agreement with service providers for Bar coding.	Establish a Bar-Code System for bags or containers containing bio-medical waste to be sent out of the premises by HCFs and CBWTDFs	27.3.2019
2.	Gap analysis study of of CBWTDFs	HSPCB, CBWTDFs	Sanction has been accorded to PGIMER, Chandigarh for study.	Gap analysis study with respect to coverage area of BMW generation and projection over a period of next ten years	31.08.2019
3.	Quarterly inspection of CBWTF	HSPCB, CBWTDFs	Quarterly inspection of CBWTF has already conducted by concerned Regional Officer. 01 no. CBWTF was found non-complying. The status of	Show cause notice issued to M/s Maruti Bio Medical Waste Plant, Vill. Hetampura,	31.01.2019

			these CBWTFs is attached as **Annexure-12**.	Bhiwani for non-compliance on 28.12.2018. Unit removed deficiencies and submitted reply of SCN which will be verified shortly.	
4	up- gradation of incinerators as per BMW Rules, 2016.	HSPCB	All the CBWTFs have already upgraded their incinerators	The inspection regarding verification of up- gradation of incinerators at the site of CBWTDFs will be carried out.	31.03.2019
5.	All the HCFs like Veterinary Hospitals as per definition of BMW Rules, 2016 will be covered under the ambient of the Rules	HSPCB, HCFs	Regional officers are doing inspections and also asked to Animal Husbandary department to provide the list of veterinary hospitals. One No. Of Veterinary hospital i.e. Veterinary Poly Clinic, Near S.P residence, Hansi Road, Bhiwani inspected on 23.10.2018 and found non complying BMW rules 2016.	A SCN has already been issued to the said unit.	31.03.2019
6.	GPS on transporting vehicles of CBWTFs	HSPCB, CBWTFs	GPS already installed by CBWTF on transporting vehicles	To be connected with HSPCB server	31.03.2019

18. Hazardous Waste Management in Haryana

The inventory of hazardous waste generating industries and hazardous waste generated has been prepared out by the Haryana State Pollution Control Board in the State. Currently, there are around 3941 industries generating hazardous waste of the order of approximately 58829.43 42 Tonnes per annum. All these industries have been given authorization under HOWM Rules, 2016 for generation of 64896.63 tonnes total wastes per annum.

The inventory has also brought out detailed information on quantum of waste in terms of recyclable, reusable, landfillable and incinerable components.

As per the Hazardous Waste Rules, industries have to store hazardous waste properly, and in accordance with authorization issued by HSPCB. The Hazardous Waste either has to be disposed in captive or common Treatment, Storage and Disposal Facility (TSDF) available in the State, or incinerated in a captive incinerator of its own, or in the common TSDF having incineration facility, based on type of waste.

At present, there are 35 recyclers of non-ferrous metal wastes/used oil/ waste oil registered/authorized under the Hazardous Waste Management Rules. The capacity registered/authorized for re-refining/ recycling of used oil & waste oil is 127882.5 MTA; that for non-ferrous metal wastes other than lead is 229022 Tonnes per annum and for lead based waste is 207822 Tonnes per annum. Registrations/Authorization have been granted to 117 no. of recycling units based on their processing facilities for environmentally sound re-processing technologies.

Safe disposal of hazardous waste

A Common Hazardous Waste Treatment & Disposal Facility has been developed at Pali (Faridabad) by Haryana Environment Management Society with the assistance of State Govt. and HSPCB, which is being operated by M/s Gujarat Enviro Protection and Infrastructure (Haryana) Pvt. Ltd. Waste processing capacity of the facility is 25000 MTs/per annum including incineration having incinerator of capacity 12 to 14 tons per day with the estimated life of 30 years of the landfill site. The above common facility has been equipped with laboratory facilities to verify waste characteristics so as to decide upon treatment and disposal options including secured land filling or incineration. The facility has also developed the preprocessing arrangements for the incinerable wastes which is further sent for co-processing in the cement kilns. The facility has its own effluent treatment plant based on zero liquid discharge and also air pollution control measures installed on the incinerator with online monitoring devices.

The industries of the State are sending their Hazardous Waste other then recycling waste, to the facility under agreement with the operator of the facility, for disposal of the same in the secured land fill or for the incineration purpose.

The collection and transportation of the Hazardous Waste is done by the operator of the facility itself to bring the same to the facility for its treatment and safe disposal in

environmentally sound manner. The vehicle used for transportation of Hazardous Waste is equipped with GPS system for online tracking of the same.

Proposed Action Plan Hazardous Waste Management in the State

Sr. No.	Action Point	Concerned Stake Holders	Present status	Proposed action	Time target
1.	Awareness Programmes	HSPCB/ Operator of CTSDF/ HEMS/Industrial Associations	The awareness activities including workshops are being organized by the Board from time to time.	Quarterly meetings with all industrial associations at District level to sensitize the industries about the Rules including waste minimization technologies and disposal facility.	Ongoing activity to be started from 01.02.2019.
2.	Inspection of CTSDF	HSPCB	Quarterly inspections being done.	Regular inspection will be done to ensure the compliance of environmental safe guards and standards and alongwith CPCB guidelines followed by strict action in case of default.	Quarterly (as per inspection dated 10.12.2018 CTSDF found complying)
3.	Inspection of recycling facilities	HSPCB	Inspection carried out at the time of authorization or in case of any complaint.	Six monthly inspections to be done to ensure the compliance of environmental safe guards and standards and alongwith CPCB guidelines followed by strict action in case of default.	Six month
4.	Online tracking of Hazardous Waste	HSPCB/ Operator of CTSDF/ Recyclers of Hazardous Waste	• GPS system has been provided on transporting vehicles of operator of CTSDF but not connected with server of the Board. • GPS system not provided on transporting vehicles of recyclers/co-processors of Hazardous Waste.	Online tracking system is under development. Online tracking system is under proposal.	28.02.2019 30.06.2019
5.	Manifest system for movement of Hazardous Waste	HSPCB/ Operator of CTSDF/ Industries	Manifest system is not being followed holistically by the units.	Manifest system will be made compulsory by all units generating or transporting of Hazardous Waste.	31.03.2019
6.	Strengthening of Infrastructure and manpower.	HSPCB/ Government	• Proposal is pending with Government for approval of manpower. • Creation of testing facilities in the Laboratories is under proposal.	• Persuasion with the Government for sanction of the posts. • Creating testing facilities in the Laboratories of the Board for Hazardous Waste.	31.03.2019 31.08.2019

19. Agriculture Practices

19.1 Crop Diversification/Inter Cropping

Diversification in Agriculture refers to the shift from the regional dominance of one crop to regional production of a number of crop, to meet ever increasing demand of cereals, pulses, vegetables, fruits, oil seeds, fibers, and grasses. It aims to improve soil health and dynamic equilibrium of the agro- ecosystem. Crop diversification is intended to promote ethnological innovation with sustainable agriculture and enable farmers to choose crop alternatives for increasing productivity and income. The over exploitation of ground water in the original green revolution States has occurred due to three number of reasons:

a) A continuous cultivation of water guzzling crop in rice wheat cropping system.
b) Ground water withdrawal has outpaced its recharge that take place from annual precipitation.
c) The method of irrigation in the rice and wheat crop result in excess watering and wastage of water.
   In addition to above, micro irrigation system namely, Sprinkler and Drip irrigation couldn't find farmers' acceptance in the original green revolution States to the required extent.

The scope of Crop Diversification Program (CDP) is determined on the basis of total area under rice and sugarcane exceeding 50,000 hect. in a district. In our State, 10 number of districts (Paddy- Wheat Rotation System) have been indentified under CDP keeping in view the above said criteria. The program of crop diversification envisions the following long term goal:-

a) Reduction of the area water guzzling crops.

b) Induction of technological innovation for establishing alternate crops for sustainable agriculture.

c) Resource conservation, restoration of water table, reduction in soil fatigue and pollution levels besides sustaining enhanced farm income.

There are four number of activates covered under Crop Diversification Program (CDP) as followings:-

i) **Cluster demonstration of alternate crop:** Cluster Demonstration of Maize, Pluses, Pigeon Pea (Arhar), Urd, Cotton, Agro Forestry System as a sole crop and inter cropping with Agro forestry system displayed on farmers field by providing financial assistance.

ii) **Farm mechanization and value addition:** Different farm implements like maize planter, multi crop planter, spray pumps, raised bed planter, zero till seed cum fertilizer drip and lazer land leveler are distributed among the farmers on subsidized rates.

iii) **Site specific activities:** Underground Pipelines and Distribution of Dhaincha seed are promote for water saving as well as improving of soil health by providing financial assistance to the farmers.

iv) **Contingency for awareness, tanning, implementation and monitoring etc:** Awareness activities like Kisan Melas, Kisan Goshthies are conducted for disseminating information for the promotion of different activities along with monitoring and evaluation of the scheme.

The Crop Diversification Program (CDP) is a sub scheme of Rashtriya krishi Vikas Yojana (RKVY) and was started from 2013-14 with 100% assistance by Govt. of India. The funding pattern has been changed from 100% to 60:40 (Centre: State) w.e.f. 2015-16. The 10 districts (Ambala, Yamuna Nagar, Kurukshetra, Kaithal, Karnal, Panipat, Sonepat, Jind, Faridabad and Sirsa) are covered under CDP (RKVY) in the State. The State is also promoting crop diversification in the districts other than the CDP (RKVY) by implementing a state scheme viz "Scheme for Promotion of Crop Diversification in Haryana".

There is regular decline of 1.0 Meter water table per year in the Paddy growing areas because to produce 1 Kg of Rice about 3000 Litre of water is required. As we are cultivating Paddy in 13 lac hectare, so it is our prime objective to replace Paddy with some less water consuming crops such as Maize. We are regularly promoting Crop Diversification as an alternate crop of Rice since 2013-14 and able to cultivate Maize as an alternate crop of Rice is about 13000 hectare. Last year we have grown Maize in more than 18000 hectare by replacing Paddy. The Department is regularly planning to diversify a sizable area of Paddy by propagation of Maize. The productivity of Maize is very high and the left over portion in the form of straw may be utilized in preparation of silage as one of the nutritive stuff for the animals. If proper procurement system of Maize could be introduced, there is no doubt that we can replace paddy by maize upto 40% of the total paddy grown area, Following are the year wise/scheme wise expenditure incurred by the department is as under:-

Crop Diversification Programme

Sr. No.	Year	CDP(RKVY)		CDP(State Plan)	
		Budget Released	Expenditure	Budget Released	Expenditure
1	2013-2014	49.25	49.25	5.15	4.99
2	2014-2015	58.10	58.01	8.00	5.13
3	2015-2016	82.91	55.11	4.00	3.86
4	2016-2017	28.28	25.70	4.00	3.47
5	2017-2018	12.58	12.57	6.59	6.59

6	2018-2019	5.02	2.51(Tentative)	20.00	20.00

Note:-

The Department has also planned through a project "Climate Resilience Building in Rural Areas through Crop Residue Management-Sanction under NAFCC for Haryana State" for promotion of Maize Crop by distributing the recommended Maize variety seed of high productivity free of cost subject to a maximum cost of Rs. 5000/- per hectare)2 hectare maximum per farmer) as Crop Diversification in 10 districts (Ambala, Yamuna Nagar, Kurukshetra, Kaithal, Karnal, Panipat, Sonepat, Jind, Faridabad and Sirsa) for replacement of paddy which also leads to significant water conservation in view of the depleting ground water level. Following are the year wise/scheme wise expenditure incurred by the department is as under:-

Climate Resilience Building in Rural Areas through Crop Residue Management

Sr. No.	Year	Total Cost/Fund Released by NABARD	Expenditure
1.	2018-2019	7.56	5.99

19.2 Water Efficient Agriculture Practices

The major demand for river water is for Irrigation purposes and accordingly the State of Haryana has taken initiatives for water efficient farming practices which are given in succeeding paras and these are expected to reduce the pressure on river water.

(A) Pilot Project for installation of solar/grid powered micro irrigation infrastructure on sewage treatment plants for utilizing treated water for Irrigation.

With a view of augmenting water of assured supply to the every field, a new intervention has been proposed for the reuse of treated waste water from the existing Sewage Treatment Plants for the use of water in the best alternative which will help in enhancing the irrigation. Working on these lines this pilot project has been prepared on over exploited & critical blocks by selecting STPs of Ladwa, Shahabad and Pehowa towns for irrigation. The farmers of the are to be benefited from this water have already formed Water User Associations and also given an undertaking to the effect that their area, to be covered under this project, is not covered by any canal command and they are willing to adopt this technology. The common Micro Irrigation Infrastructure will be provided for each STP outlet for supplying pressurized water supply at farm gate by providing pumping unit (grid/solar powered), filtration, HDPE pipe network etc. the water will be provided under pressure of 2-

2.5 Kg/cm^2 So that farmers may utilize this for sprinkler and drip system. Farmers will be provided hydrant for every 4 acres or less if the holding of the farmers is less than four acres. In this manner the treated water, which was otherwise going unutilized in drain, will be put to proper use. It is also reported that sewage water from all these STPs is being properly monitored and tested by Public Health Engineering Department and parameters of this treated water meet with the standards for irrigation.

ADVANTAGES OF THE PROJECTS

1. New area will be brought under irrigation with optimum utilization of the available surplus water.
2. The project will encourage use of Micro Irrigation technologies.
3. Saving of power & diesel for farmers.
4. Increase in yield as nutrient rich water will be supplied.
5. The water, which was otherwise going waste, will be put to proper use.
6. No land acquisition will be involved.

Accordingly, a project has been prepared for using the treated water in Irrigation in district Kuruksheta. A common infrastructure has been provided with the following components in the command are of each outlet to be covered under Model Command Area of Jal Kranti Abhiyan:-

1. Water storage tank near outlet head.
2. Pumping Unit (Grid/Solar Powered).
3. Filtration units.
4. HDPE pipe network.
5. Hydrant/Outlet assembly.
6. Valves

Drip/Sprinkler irrigation sets will be provided 2 no./per 15 HP pump and individual farmers can also install the drip/sprinkler sets in their farm holdings by availing the benefits of subsidy from the State Horticulture/Agriculture Departments as per their existing schemes of promoting the Drip/Micro Sprinkler Systems.

The cost of common infrastructure has been worked out as Rs. 109000/- (Approx.) per hectare of CCA and the total estimated cost of the project is Rs. 3.65 Crore. Detail list of site wise schemes taken up is as under:-

Sr. No.	**Name of District**	**Name of Block**	**CCA in Hectare**	**Cost {CCA (hct.) X 1.09 lakh}**
1.	Kurukshetra	Pehowa	76	8676084
2.	Kurukshetra	Ladwa	63	7192017
3.	Kurukshetra	Shahabad	151	17238009
		Total	**290**	**33106110**

=33106110

Add 1% Contingency Chares = 165531

Add 15% Tender Premium = 3310611

=36582252

SALIENT FEATURES

- Total Cost of Project — Rs. 3.65 Crore
- CCA to be covered in Acre/Ha. — 715/290
- No. of Sprinkler sets — 01 No./ 15 HP pump
- Benefit Cost Ratio — 1.3:1
- Total number of schemes — 3
- Number of Districts/Villages covered — 1/5
- Name of villages: Pehowa- (Pehowa, Morthli, Bhatt Majra), Ladwa- (Baraichpur) & Shahabad-(Chhapra).

(B) Project of Recycle and Ruse of Treated Wastewater for Irrigation Purpose in Fatehabad, Hisar, Sirsa & Jind Districts of Haryana.

Project was prepared under the guidelines of the scheme for "Ïncentivization Scheme for Bridging Irrigation Gap (ISBIG) of Ministry of water Resources, River Development and Ganga Rejuvenation, govt. of India" under components infrastructure for conveyance and additional treatment of municipal and industrial wastewater for augmenting water for the farm use "Project Under newly created Irrigation Efficiency in phasing during the financial year 2018-19 to 2020-2021 for amounting in Rs. 235.94 Crore only.

This office planned to carry out the work of Recycle and Reuse of Treated Wastewater of Irrigation Purposes from the STPs of Fatehabad, Sirsa, Hisar and Jind districts having the capacity 29.50, 15.00, 22.50 & 20.00 MLD respectively amounting to Rs. 87.00 Crore in 1st phase as planned for the year 2018-19. The estimate for this project will be prepared on the basis of already approved item rates of CADA for re-use of wastewater which are the part of the estimate and remaining item rates will be prepared on the basis of HSR and market rates. Thereafter, e-tender will be called on EPC basis towards successful commissioning plus 1 year of assured performance demonstration after commissioning and comprehensive O & M of the schemes for 3 years thereafter. A new concept A.P.O.P treatment technology for Advanced Photo Oxidation processes at STPs be adopted an intervention for disinfection, removal of endocrine disruptors and other hazardous compounds. This intervention is essentially required because all the composition of the waste water has been addressed effectively and efficiently by the MBBR & SBR treatment technologies except toxic chemical and pathogens. A high concentration of pathogens such as viruses, becteria, helminthes eggs and fecal coliforms have the potential to cause diseases if present in a human host insufficient quantity.

District wise lit of STPs provided in the project

Sr. No.	Name of District	Name of STO	Capacity of STP (In MLD)	Treatment Technology
1.	Ambala	Barara	6.00	MBBR
2.	Ambala	Narayangarh	5.00	MBBR
3.	Bhiwani	Badra	10.00	MBBR
4.	Bhiwani	Kairu	10.00	MBBR
5.	Charkhi Dadri	Charkhi Dadri	5.00	MBBR

6.	Faridabad	Balhabgarh	18.00	MBBR
7.	Gurugram	Behrampur	50.00	MBBR
8.	Hisar	Hansi	12.50	MBBR
9.	Hisar	Hisar, Sector 3	10.00	MBBR
10.	Jhajjar	Jhajjar	5.50	MBBR
11.	Jhajjar	Salhwas	5.00	MBBR
12.	Jind	Jind	15.00	MBBR
13.	Jind	Narwana	5.00	MBBR
14.	Rewari	Rewari	6.50	MBBR
15.	Rewari	Rewari	8.00	MBBR with Dual Mode Filter
16.	Kaithal	Gulha	10.00	SBR
17.	Kaithal	Kaithal	10.00	SBR
18.	Fatehabad	Fatehabad	10.00	MBBR
19.	Fathehabad	Tohana	10.00	MBBR
20.	Fatehabad	Jakhal	3.00	SBR
21.	Fatehabad	Ratia	6.50	MBBR
22.	Karnal	Karnal	10.00	SBR
23.	Karnal	Karnal	8.00	MBBR
24.	Mahendergarh	Nangal Chaudhary	6.50	MBBR
25.	Mahendergarh	Narnaul	7.50	MBBR
26.	Mewat	Punhana	4.50	MBBR
27.	Mewat	Nuh	3.60	MBBR
28.	Panipat	Panipat	25.00	SBR
29.	Palwal	Hathin	4.50	MBBR
30.	Panchkula	Kalka	4.75	MBBR
31.	Panchkula	Pinjor	5.00	MBBR
32.	Rohtak	Rohtak	10.00	MBBR
33.	Sirsa	Sirsa	15.00	SBR
34.	Sonipat	Sector 23	10.00	MBBR
35.	Ghaggar Nagar	Radaur	3.50	MBBR
	Total		**338.85**	

(C) INSTALLATIN OF COMMUNITY BASED SOLAR/GRID POWERED MIRCO IRRIGATON INFRASTRUCTURE IN EXISTING CANAL COMMANDS

The Pilot Project has been prepared by CADA for Rs. 30.60 Crore with provision for installation of community based MI schemes in commands of the 14 different canal outlets spread over 13 different district of the State covering area 2231 Hectare. The concept of community based micro-irrigation has been introduced in the first instance on pilot basis on some of the canal outlets in the command of the ongoing CADWM Projects. Common Micro Irrigation infrastructure will be provided for each canal outlet command for supplying pressurised water supply at the farm fate of each farmer of the outlet chak instead of constructing lines filed channels. Community based water storage tank, pumping unit (Grid/solar powered), filtration unit, HDPE pipe network, hydrant/outlet assemblies, valves, etc. shall be will be constructed by the department. Drip/Sprinkler irrigation sets will be installed by the individual farmers in their farm holdings by availing the benefits of subsidy from the State Horticulture/Agriculture Departments as per their existing schemes of promoting the Drip/Sprinkler Systems.

Water User Associations (WUA have been framed for all the water courses. The WUAs have committed to provide land for construction of community pond for storing water from outlet and supplying further to individual farmers. Further the management of the water at outlet will be completely done by the shareholders. The WUAs will help in creating healthy and cordial atmosphere between the shareholders themselves. Moreover, this will also help in developing a sense of ownership amongst the shareholders and also facilitate implementation of warabandi. A better co-ordination will emerge between the end users and the CADA department for planning, execution and monitoring of the pilot project thereby initiating proper transfer of management to farmers.

The Solar Power Systems to be installed on the various schemes under the project are proposed to be connected with the utility power grid so that the energy generated by the solar modules, whenever not required for operation of the pumping system or is in excess of requirement, can be sent to the Utility Grid and when the solar power system in producing lesser power than needed for operation of the pumping system or is not producing any power at all, additional power for operation of the pumping system can be drawn from the Grid. The provision has also been made for interconnection of the solar power systems with the utility power grid through 11 KV independent feeder lines from the nearest Sub Stations for each scheme with provision of import/export (BI-directional) meter. The excess energy produced from the solar power systems and transferred to the utility power grid will be credited on the rate mutually agreed between the Department/WUA and DISCOM as per Government Policy against the power supplied from the utility grid.

The project will help in making an assessment of the workability of the proposed model in the State and evaluating its actual impact and benefits. The project will demonstrate to the farmers of the State the value of water and help in changing their mindset and motivating them to adopt the water efficient MI technology in canal commands on a large scale.

The main objectives of the project are to improve water use efficiency and increase crop productively. The water use efficiency will be achieved by adopting integrated approach in water management:-

- Supply management - By increasing the available supply by reduction in conveyance losses.
- Demand Management - By increasing the field application efficiency with the use of water efficient Sprinkler & Drip Irrigation technology.

Detail list of sites:-

Sr. No.	Name of District	Name of villages	Name of outlet	Outlet RD	CCA in acre	CCA in Hectare
1	Kurukshetra	Gumthala Garhu	Sandhola Minor	25220/L	147	59
2	Kaithal	Kakrala Anayat,	Paharpur Minor	44600/R	417	169

		Kakeor Majra				
3	Sirsa	Shahpuria	Gegorani Minor	45800/R	705	285
4	Hisar	Masudpur	Singhwa Disty	25300/L	392	159
5	Ambala	Mallour	Mallour Disty	5775-R	138	56
6	Jind	Behbalpur	Ramkali Minor	53620-L	98	40
				Total		

Date of completion of the Project is 31.12.2018.

20. Increasing the Water Storage Capacity

The construction of ponds/dams/reservoir along the rivers has been explored and the action taken so far in this regard has been given by the Irrigation Department with future course of action. This will helping maintaining. The same has been given in the table. The State Government as also link the village ponds with nearby existing channels for revival of ponds. The number of ponds for each circle have been given in the table:-

Sr. No.	Bhud Dam	Khetpurali Dam	Tributary of Tangri Nadi
1	Panta and Tallanwali Nadi (Tributary of Tangri Nadi)	Tributary of Tangri Nadi	Tributary of Tangri Nadi
2	6440.00 Acre-ft	3266.79 Acre-ft	2834.66 Acre-ft
3	209 acres	113 acres	108.5 acres
4	21 Nos.	7 Nos.	-
5	9525 acres CCA	10780 acre combined with Dudhgarh	8176 acres CCA
6	1. Bahadurpur 2. Gadwan 3. Alisherpur Majra 4. Ramgarh 5. Chholi 6. Katarwall 7. Jogiwara 8. Manakpur 9. Bari Lalhari 10. Chhoti Lalhari 11. Bankat 12. Chantpur 13. Manipur 14. Khanuwala 15. Tugalpur 16. Barauli Majra 17. Arjan Majra 18. Kot Basawar Singh 19. Kot Mushtarka 20. Ghisarpari	1. Bhud 2. Kambala 3. Lashkarwala 4. Kherwali 5. Parwala 6. Murad Nagar 7. Jaintipur 8. Shampur 9. Penjawala 10. Kazimpur 11. Manak Tabra 12. Batwal 13. Bhandaru 14. Dhanda 15. Sukhdarshanpur 16. Khatauli 17. Rahawar 18. Barwala (part) 19. Batawar 20. Bhagwanpur21. Nayagaon	1. Khetpurali 2. Dulupur 3. Ganeshpur 4. Ratewali 5. Dabkauli 6. Kanauli 7. Alipur
7	Haryana	Haryana	Haryana
8	Required	Required	Required
9	Rs. 107.75 Crore	Rs. 43.90 Cr.	Rs. 47.00 Cr.

Sr. No.	Bhud Dam	Khetpurali Dam	Tributary of Tangri Nadi
10	0.86:1	1.97:1	0.86:1
11	Feasibility report submitted by WAPCOS and is under examination in field	Feasibility report submitted by WAPCOS on 05.09.2018 and is under examination in field	Feasibility report submitted by WAPCOS and is under examination in field

Progress report of ponds sanctioned by Department & Panchyat Department under HRDFA													
Sr. No.	**Name of the circle**	**Name of District**	**Np. Of Village Ponds**	**Tender called / allotted**	**Work in progress**	**Completed**	**Yet to Start**	**Not feasible**	**Tender to be called**	**Not Required**	**Amount Sanctioned**	**Amount Released by HRDFA**	**Amount released by Irrigation Department**
1	YWS Circle Jind	Jind	6	6	0	0	6	0	0	0	3005378	3005378	0
2	BWS Circle Hisar	Hisar	9	9	3	4	2	0	0	0	18783000	11759000	9230932
3	BWS Circle Kaithal	Kaithal	7	7	2	4	0	1	0	0	19903976	12695882	7266594
4	BWS Circle Sirsa	Sirsa	45	35	0	23	2	14	0	6	43104000	43373000	17842637

21. Greenery Development Plan

The action plan for greenery development in towns along river Ghaggar.

HSVP

Plantation carried out/to be carried out by HSVP in its area						
Sr. No.	**Name of U/E**	**Plantation done**			**Plantation to be done**	
		Year 2015-16	**Year 2016-17**	**Year 2017-18**	**Year 2018-19**	**Year 2019-20**
1	Hisar	6000	3500	4770	7500	6000
2	Adampur	100	100	150	100	0
3	Agroha	0	0	0	200	0
4	Hansi	300	1550	200	1500	1000
5	Jind	5022	2840	4925	1700	1700
6	Narwana	50	0	0	100	100
7	Safidon	0	0	500	2000	2000
8	Sirsa	3395	3972	4065	5000	5000
9	Kalanwali	85	615	250	200	200
10	Ellenabad	75	0	205	100	100
11	Dabwali	50	0	0	0	0
12	Fatehabad	1590	615	1925	1000	1000
13	Ratia	50	0	0	0	0
14	Tohana	110	0	0	0	0
15	Bhattu	1310	640	710	0	0
16	Panchkula	4485	11238	6929	5000	6000
17	Ambala	3289	3800	2317	1500	500
18	Shahabad	180	155	0	0	0
19	Pehowa	639	125	0	0	0
20	Naraingarh	10	125	0	0	0
21	Kurukshetra	4448	3430	2050	2000	2500
22	MTS Gulha	210	100	0	0	0
23	MTS Pundri	85	100	0	0	0
24	Kaithal	10690	675	2120	1000	1000
25	**Total**	**42173**	**33580**	**31116**	**28900**	**27100**

Forest Department

Plantation to be undertaken on river banks by Forest Department

Sr. No.	**Name of Division**	**No. of planted/ proposed to be planted on river banks**				**Remarks (Please indicate approximate expenditure for planting each plant)**
		Planted		**Proposed**		
		2017-18	**2018-19**	**2018-19**	**2019-20**	
1.	Morni-Pinjore	0	5000 (TP)	0	110000 (15X22 size 20000 (TP) (30X45)	11000000/-@100/- per plants (15X22) 7500000 @ 300/- per plant (30X45) Total=18500000
2.	Ambala	0	0	0	0	15000 TP with tree guards (Rs. 440 per plant with mtc and Rs. 1400 per tree guard Total Rs. 1840 per

						plant G. Total Rs. 27600000 14000 P. Bag Plants @ Rs. 154 per plant with Mtc. Total Rs. 2156000
3.	Kurukeshetra	0	0	0	0	No. of Tall Plants 250 per RKM @ 350/- per plant
4.	Ghaggar Nagar	115750	132000	0	57500	Tall Plant =Rs. 349/- per plant Small Plant= Rs. 99/- per plant (As per cost norms year 2018-19)
5.	Panipat	52911	90360	33000	22000	As per cost norms
6.	Sonepat	1000	1500	0	50000	Rs. 32 per plants (Bunds targets) Rs. 349 per plants (cities)
7.	Sirsa	22500	0	0	23000	350/- per plants
8.	Fatehabad	0	0	0	27000	14475671
9.	Gurugram	0	0	0	0	Rs. 350/-per plant
10.	Faridabad	0	2700 (TP)	0	10000 (TP)	Rs. 350/- per plant

Plantation to be undertaken cities by Forest Department.

Sr. No.	**Name of Division**	**No. of plants planted/ proposed to be planted in the cities**				**Remarks (Please indicate approximate expenditure for planting each plant)**
		Planted		**Proposed**		
		2017-18	**2018-19**	**2018-19**	**2019-20**	
1.	Morni-Pinjore	0	0	0	5000 (TP) (30X45)	11000000/-@100/- per plants (15X22) 7500000 @ 300/- per plant (30X45) Total=18500000
2.	Ambala	6000	8000	0	15000	15000 TP with tree guards (Rs. 440 per plant with mtc and Rs. 1400 per tree guard Total Rs. 1840 per plant G. Total Rs. 27600000 14000 P. Bag Plants @ Rs. 154 per plant with Mtc. Total Rs. 2156000
3.	Kurukeshetra	9000	5500	0	20000	No. of Tall Plants 250 per RKM @ 350/- per plant
4.	Ghaggar	4500	4000	0	5000	Tall Plant =Rs. 349/- per

	Nagar					plant Small Plant= Rs. 99/- per plant (As per cost norms year 2018-19)
5.	Panipat	1500	5500			As per cost norms
6.	Sonepat	2500	5500	0	7500	Rs. 32 per plants (Bunds targets) Rs. 349 per plants (cities)
7.	Sirsa	9000	4500	0	10500	350/- per plants
8.	Fatehabad	24000	2250	750	2500	14475671
9.	Gurugram	3000 (TP)	15000 (TP)	0	50000 (TP)	Rs. 350/-per plant
10.	Faridabad	12000 (TP)	6250 (TP)	0	6000 (TP)	Rs. 350/- per plant

22. Ground Water Management

All the task force have been mandated to prevent the exposure of ground water with industrial effluent. The industries found reverse pumping are closed and power of closure has already been delegated to the Regional Officers of HSPCB.

The STFs hvave also been directed to close down the contaminated sources of drinking water and also place sign boards nearby the respective contaminated source regarding "Water is not fit for Drinking ourpose". The monthly action taken reports are being sought in this regard from District Level Task Forces constituted in this matter by the State Government.

Monitoring of Ground water
Panchkula

Sr. No.	Sampling location	Analysis Report No.	Date of collection	Colour & Intensity	Odor	Human activities around station	pH (6.5 to 8.5 limit)	Conductivity	BOD mg/l	COD mg/l	Ammonia	Total Dissolved Solids mg/l (500 limits)	Total Suspended Solids mg/l
1	Hand Pump 500 m from Ghaggar River Near Pir Khwaja At Sarala Khurd.	4897, 11.05.2018	2.05.2018	Colourless	**Odourless**	--	7.92	2330	ND	33.2	ND	1416	15
2	Hand Pump 12 meter away from River Ghaggar at Vill- Tiwana	4592, 11.05.2018	2.05.2018	Light Yellowish	Odourless	--	7.71	666	ND	16.4		410	7
3	Borewell of Sh. Ram Chander Leather Units, Shiwala Mandi, Ambala.	4652, 14.05.2018	7.05.2018	Colourless	Odourless	--	7.51	8800	ND	139.2		5300	ND
4	Hand Pump no. 1 at Vill-Tiwana	4598, 11.05.2018	2.05.2018	Colourless	Odourless	--	7.94	2350	ND	48.4		1422	15
5	Hand Pump Sh. Mehar Singh, at vil- Rampur, Ambala	4593, 11.5.2018	2.05.2018	Yellowish	Odourless	--	8.26	840	ND	14.8		520	ND
6	Hand Pump Sh. Surinder Singh At vill Rampur, Ambala	4594, 11.05.2018	02.05.2018	Colourless	Odourless	--	8.26	835	ND	15.6	ND	530	ND
7	Tubewell NO. 2, Sector-24, HUDA, Panchkula	5365, 14.11.2018	02.11.2018	Colourless	Odourless	--	7.54		ND	8.8			ND
8	Tubewell NO. 3, Sector-24, HUDA, Panchkula	5319, 12.11.2018	30.10.2018	Colourless	Odourless	--	7.21		ND	17.2			ND
9	Tubewell No. 1, (HUDA division No. 3) Near dumping ground sector-23, Panchkula	5318, 12.11.2018	30.10.2018	Colourless	Odourless	--	6.91		ND	14			ND
10	Tubewell No. 5, Sector-24, HUDA, Panchkula	5321, 12.11.2018	30.10.2018	Almost Colourless	Almost Odourless	--	7.18		ND	14.8			ND
11	Tubewell No. 4, Sector-24, HUDA, Panchkula	5320, 12.11.2018	30.10.2018	Almost Colourless	Almost Odourless	--	7.02		ND	15.6			ND

Sr. No.	Sampling location	Analysis Report No.	Date of collection	Colour & Intensity	Odor	Human activities around station	pH (6.5 to 8.5 limit)	Conductivity	BOD mg/l	COD mg/l	Ammonia	Total Dissolved Solids mg/l (500 limits)	Total Suspended Solids mg/l
12	Tubewell No. 9, Sector-4, HUDA, Panchkula	5366, 14.11.2018	02.11.2018	Almost Colourless	Odourless	--	7.52		ND	10.4			ND
13	Tubewell No. 6, Div-II, Sector-24, Panchkula	5322, 12.11.2018	30.10.2018	Almost Colourless	Almost Odourless	--	6.9		ND	16	--		ND

	Sampling location	Total Hardness mg/l (300 limit)	Fluoride mg/l (1.0 limits)	Chloride mg/l (250 limits)	Sulphate mg/l (200 limits)	Calcium mg/l (75 limits)	Magnesium mg/l	Nickel mg/l	Copper mg/l (0.05 limits)	Chromium mg/l (0.05 limits)	Zinc mg/l (5 limits)	Lead mg/l(0.05 limits)	Iron mg/l (0.3 limits)
1	Hand Pump 500 m from Ghaggar River Near Pir Khwaja At Sarala Khurd.	684		262		149.6	75.33	ND	ND	-	0.017		0.04
2	Hand Pump 12 meter away from River Ghaggar at Vill- Tiwana	222		20		71.2	10.692	ND	ND		0.007		ND
3	Borewell of Sh. Ram Chander Leather Units, Shiwala Mandi, Ambala.	1070		2630		252	106.92	ND	ND		0.054		0.062
4	Hand Pump no. 1 at Vill-Tiwana	554		262		121.6	60.75	ND	ND		0.017		0.028
5	Hand Pump Sh. Mehar Singh, at vil- Rampur, Ambala	242		68		76	12.636	ND	ND		0.015		ND
6	Hand Pump Sh. Surinder Singh At vill Rampur, Ambala	200		72		41.6	23.328	ND	ND		0.014		ND
7	Tubewell NO. 2, Sector-24, HUDA, Panchkula	266		14		65.6	24.786	ND	ND		0.076		0.38
8	Tubewell NO. 3, Sector-24, HUDA, Panchkula	242		38		56	24.786	ND	ND		0.002		0.07

	Sampling location	Total Hardness mg/l (300 limit)	Fluoride mg/l (1.0 limits)	Chloride mg/l (250 limits)	Sulphate mg/l (200 limits)	Calcium mg/l (75 limits)	Magnesium mg/l	Nickel mg/l	Copper mg/l (0.05 limits)	Chromium mg/l (0.05 limits)	Zinc mg/l (5 limits)	Lead mg/l(0.05 limits)	Iron mg/l (0.3 limits)
9	Tubewell No. 1, (HUDA division No. 3) Near dumping ground sector-23, Panchkula	107.2		32	-	88	11.664	ND	ND		0.037		ND
10	Tubewell No. 5, Sector-24, HUDA, Panchkula	184		28		42.4	18.954	ND	ND		0.006		0.05
11	Tubewell No. 4, Sector-24, HUDA, Panchkula	180		32		48.8	14.094	ND	ND		0.007		0.08
12	Tubewell No. 9, Sector-4, HUDA, Panchkula	248		20		62.4	22.356	ND	ND		0.095		0.06
13	Tubewell No. 6, Div-II, Sector-24, Panchkula	182	--	20	--	52.8	12.15	ND	ND	-	0.009	-	0.06

Jind

Sr. No.	Samplimg location	Analysis Report No.	Date of collection	Colour & Intensity (5 limits)	Odor	Human activities around station	pH (6.5 to 8.5 limit)	Conductivity	BOD mg/l	COD mg/l	Ammonia	Total Dissolved Solids mg/l(500 limits)	Total Suspended Solids mg/l
1	**Outlet of Hand pump installed by PHED near Rani Talab, Taxi Stand, Jind**	4420	28-Mar-18	Colourless	Odourless	Adjacent Commercia Market	7.56	305	Not Detected	8.8	Not Tested	190	4
2	Tubewali no. 1, Near upstream Ghaggar River at Village Chiali	4924	24.07.18	Colourless	Odourless	agriculture Fields	ND		13.2	8.70		ND	5
3	Tubewali no. 1, Near upstream Ghaggar River at Village Chiali	5036	21.08.18	Colourless	Odourless	agriculture Fields	ND		17.6	8.08		ND	7

Sr. No.	Samplimg location	Analysis Report No.	Date of collection	Colour & Intensity (5 limits)	Odor	Human activities around station	pH (6.5 to 8.5 limit)	Conductivity	BOD mg/l	COD mg/l	Ammonia	Total Dissolved Solids mg/l(500 limits)	Total Suspended Solids mg/l
4	Tubewali no. 1, Near upstream Ghaggar River at Village Chiali	5156	27.09.18	Colourless	Odourless	agriculture Fields	ND		29.6	8.38		ND	ND
5	Tubewali no. 1, Near upstream Ghaggar River at Village Chiali	5295	29.10.18	Colourless	Odourless	agriculture Fields	ND		18.8	6.76		ND	ND

Sr. No.	Samplimg location	Total Hardness mg/l (300 limit)	Fluoride mg/l (1.0 limits)	Chloride mg/l (250 limits)	Sulphate mg/l (200 limits)	Calcium mg/l(75 limits)	Magnesium mg/l	Nickel mg/l	Copper mg/l (0.05 limits)	Chromium mg/l(0.05 limits)	Zinc mg/l (5 limits)	Lead mg/l(0.05 limits)	Iron mg/l (0.3 limits)
1	**Outlet of Hand pump installed by PHED near Rani Talab, Taxi Stand, Jind**	174	Not Tested	16	Not Tested	50.4	11.664	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested	
2	Tubewali no. 1, Near upstream Ghaggar River at Village Chiali												
3	Tubewali no. 1, Near upstream Ghaggar River at Village Chiali												
4	Tubewali no. 1, Near upstream Ghaggar River at Village Chiali												
5	Tubewali no. 1, Near upstream Ghaggar River at Village Chiali												

Hisar

Sr. No.	Sampling location	Analysis Report No.	Date of collection	Colour & Intensity	Odor	Human activities around station	pH (6.5 to 8.5 limit)	Conductivity	BOD mg/l	COD mg/l	Ammonia	Total Dissolved Solids mg/l (500 limits)	Total Suspended Solids mg/l
1	Near Budhwana Ghat, Amandeep Tubewell, Farwai Kalan, Sirsa	258	19.11.18		odorless		8.6		ND	ND		92	12
2	Near point source, Village Kelania, Sirsa	259	19.11.18		odorless		8		ND	ND		120	14
3	Near point source, Gopal tubewell, Sirsa	260	19.11.18		odorless		8.3	-	ND	ND		120	12
4	Near Bridge, Sirsa - Dabwali Road, Sirsa, 1025 GH-1	261	19.11.18		odorless		8		ND	ND			
5	Near Chandpur Syphen, GH-2 1026, Fatehabad	262	19.11.18		odorless		8	-	ND	ND		190	14
6	Near ottu wier (1887) Sirsa	263	19.11.18		odorless		7.6	-		ND		170	16

Sr. No.	Sampling location	Total Hardness mg/l (300 limit)	Fluoride mg/l (1.0 limits)	Chloride mg/l(250 limits)	Sulphate mg/l (200 limits)	Calcium mg/l (75 limits)	Magnesium mg/l	Nickel mg/l	Copper mg/l (0.05 limits)	Chromium mg/l(0.05 limits)	Zinc mg/l (5 limits)	Lead mg/l (0.05 limits)	Iron mg/l(0.3 limits)
1	Near Budhwana Ghat, Amandeep Tubewell, Farwai Kalan, Sirsa	190	ND	210	16	130	60	ND	ND	ND	ND	ND	ND

Sr. No.	Sampling location	Total Hardness mg/l (300 limit)	Fluoride mg/l (1.0 limits)	Chloride mg/l(250 limits)	Sulphate mg/l (200 limits)	Calcium mg/l (75 limits)	Magnesium mg/l	Nickel mg/l	Copper mg/l (0.05 limits)	Chromium mg/l(0.05 limits)	Zinc mg/l (5 limits)	Lead mg/l (0.05 limits)	Iron mg/l(0.3 limits)
2	Near point source, Village Kelania, Sirsa	100	ND	120	12	70	30			ND	ND		ND
3	Near point source, Gopal tubewell, Sirsa	130	ND	90	10	90	40			ND			
4	Near Bridge, Sirsa - Dabwali Road, Sirsa, 1025 GH-1												
5	Near Chandpur Syphen, GH-2 1026, Fatehabad	140	ND	190	16	100	40			ND	ND		ND
6	Near ottu wier (1887) Sirsa	170	ND	180	16	110	60				ND		ND

Steps taken by HSVP for rain water harvesting / conservation of water/avoid exploitation of ground water

1. Roof Top Rain Water Harvesting Scheme

On 31.10.2001, a notification regarding making roof rain water harvesting-Conversation & Artificial recharge of ground water compulsory in Govt. buildings/HSVP Buildings, including all the private houses/buildings to be constructed in Urban Estates, in future having roof top surface area 100 Sqm. more was issued. Notification has already been circulated vide No.9945-46 dated 29.11.2001 (copy enclosed) and the areas/Urban Estates in Haryana where this notification has been made applicable have also been notified vide letter no.1200 dated 10.12.2001. (copy enclosed).

Zonal Administrator/Estate Officers of HSVP ensure that occupation certificate is not issued in the absence of the implementation of above cited notification.

Further, station wise detail of rain water harvesting systems constructed by HSVP is as under:

Sr.No.	Name of U/E	No. of rain water harvesting wells constructed
1.	Panchkula	22
2.	Kaithal	2
3.	Kurukshetra	5
4.	Jind	5
	TOTAL	**47**

2. Installation of Dual Button Flushing Cistern

Haryana Govt. has issued notification on 13.08.2014, making installation of dual button cisterns (capacity 10/5 Litre and 6/3 Litre) mandatory for all types of plot holders (new buildings) in HSVP areas in addition to all Govt. Buildings and Buildings in licensed areas. Occupation certificate shall not be issued in the absence of dual button flushing cisterns in these buildings.

3. Graded Tariff for Economic Use Of Water

The graded water tariff has been implemented in various Urban Estates in Haryana for economical domestic use of water.

4. Reuse of Tertiary Treated / Recycled Water

To avoid exploitation of ground water, tertiary treated water is being used for irrigation/flushing purpose in some of Urban Estates of HSVP. Efforts are being made for its implementation in other Urban Estates also.

23. Open defecation in Districts.

Haryana (Urban) has been declared ODF first time on 2nd October, 2017 by the Ministry of Housing and Urban Affairs under Swachh Bharat Mission (Urban). Later on all the Urban Local Bodies except Faridabad, 2nd time also declared Open Defecation Free by the process of independent evaluation through the agency appointed by MoHUA. To evaluate the sustainability of

ODF, Ministry has been started recertification process of all ULBs as per the protocols of ODF third times and in this process 28 ULBs already recertified ODF out of 80.

To achieve this status Department of Urban Local Bodies has been taken various steps such as motivate community for construction of Individual House Hold Latrines (IHHL), Construction and renovation of Community Toilets and Public Toilets seats. Till date 61412 IHHL have been constructed by the individuals and Government of Haryana released Rs. 14000 to each individuals household for construction of toilets as subsidy (Rs. 4000/- from Central Government and Rs. 10000/- from State Government). Directorate of Urban Local Bodies has fixed the target of

65000 IHHL which are to be completed by September, 2019. Similarly, to stop open defecation, DULB also took initiatives for construction and renovation of Community Toilets and Public Toilets seats for providing the toilets facilities for community which have not their own toilets. Total 10122 (97%) community and Public toilets seats have been constructed against the target of 10394 seats, whereas more than 200 seats of community and public toilets are under construction. Department has been fixed its target to construct all CT/PT before 30th September, 2019.

Action Plan to Complete the 100% Target of Construction of Individual House Hold Latrines (IHHL) Community Toilets (CT/ Public Toilets (PTs) Seats

Target	**IHHL**	**CT-PT Seats**
	65000	**10122**
Target Achieved as on December, 2018	61412	10122
Target to be Achieved	**3588**	**272**
Jan-19	100	10
Feb-19	150	20
Mar-19	250	25
Apr-19	350	30
May-19	400	35
Jun-19	500	40
Jul-19	550	35
Aug-19	600	35
Sep-19	700	45
Total	**3600**	**275**

24. Septage Management/Disposal by sewages through tankers.

The decentralized STPs planned along the drains shall also be planned for receiving untreated sewage by tankers for treatment. The practice of disposing sewage in drains through the tanker is going on in many town/cities. Municipal Corporation Gurugram has finalized the rate contract for disposal of sewage through Suction Tanker. Under this Septage Management Plan, the sewage of unauthorised colonies and septic tanks shall be listed through Suction taken and disposed-off at 35 No. identified locations of STP/MPS. This will be monitored by online monitoring system through QR code.

The Urban Local Bodies Department has given the target dates for implementation of the septage management plan and the detail is given for each town in the table as under:-

Sr.No	Name of MC	Target Date of Commissioning of Tanker System
1.	Hisar	10 Nos of Tanker has been registered in area of Municipal Corporation, Hisar for Septage Management. Septage tanker are being disposed to nearest STP of PHED/HSVP. Target Date is 28.02.2019
2.	Tohana	30.04.2019
3.	Jakhal Mandi	30.04.2019
4.	Pehowa	30.05.2019
5.	Ambala	15.11.2019
6.	Cheeka	31.03.2019
7.	Dabwali	30.05.2019
8.	Kaithal	31.03.2019
9.	Panchkula	30.06.2019

25. Involvement of Civil Society/Creation of awareness

For involving the general public and other stakeholders, it has been decided to create a website by HSPCB giving a provision for inviting suggestions, comments and feedback. A redressal system will also be provided through concerned Departments and action taken on the suggestions/complaints in the portal.

HSPCB has been spreading awareness on environment consciousness with the involvement of public including students, women, factory workers, industrialist and their employees and various other sections of the civil society.

Activities including awareness seminars, competitions, rallies, etc. involving the Eco Clubs of Children, NGOs, MPs/MLAs/Councilors/Sarpanches/Panches and General Public are organized by the Regional Officers (ROs) with the help the local administration spread across the entire year.The list of HSPCB ROs and their jurisdiction is as under for Ghaggar Action Plan

Regional Office	District
Panchkula	Panchkula, Ambala and Kurukshetra
Jind (at Bhiwani)	Jind and Kaithal
Hissar	Hissar, Sirsa and Fatehabad

Initiatives/Planning around the same for the year 2019 has already been initiated. Details/Plan on the same listed as below:-

1. **Education Camps:** Haryana Forest Development Corporation Limited (Haryana Govt. undertaking) has been entrusted with conducting Environment Education Camps for School Children, farmers, women groups with a proposal for organizing 70 nature education camps @ Rs. 35000/- per camp in coming months i.e. total amount of Rs. 24,50000/-. This was a much-appreciated activity conducted in 2018 in form of 119 camps involving close to 2000 people from the civil society.
2. **Public Awareness Campaign through Media focused on**
    - Diwali
    - Wheat Stubble Burning
    - Paddy Straw Burning

    Newspapers: Publishing series of advertisements in leading Newspapers circulated in the state of Haryana, on the said theme ahead of and during the season of Diwali, Stubble Burning and Harvesting.

    Radio: Radio Campaigns on FM in Haryanvi dialect, for spreading awareness among the masses including the farmer families and others.

3. **Free Distribution of Non-Plastic Carry Bags** at Subzi Mandi for spreading awareness on discouraging plastics and its ill effects.
4. **Pamphlet / Flyer distribution** in schools/ restaurants/ cinema houses / petrol pumps educating people toward the hazard of pollution and environment unfriendliness.
5. **Celebration of International Environment/Related days** are planned to be held all the 22 districts with the help of local administration by involving Eco Club children's, industrialists, under privileged children with the help of NGO's, local MP/MLA and general public as per the below schedule. These activities may be conducted at Schools/colleges/public places including religious centres and social places

Period	Occasion	Date	Activities
Jan-Mar	**World Wetlands Day**	**Feb 2, 2019**	• Guided Nature Walk at a Wetland viz., Lake/River, etc
	World Water Day	**March 22, 2019**	• Awareness Session • Painting Contest • Slogan Contest on Save Water or related theme
Apr-Jun	**World Earth Day**	**April 22, 2019**	• Awareness Sessions • Essay Contest • Poster Making Contest On Save Earth or related theme
	World Environment Day	**June 5, 2019**	Celebrated as *Environment Month* from May 15 to June 15. • State level function • district level functions • education sessions on environment consciousness with special focus around '**paddy stubble burning'** at Block level • quiz contest • tree plantation drives • skit's at religious/social/public places, • environment related movies /documentary screening, • bicycle rally's, • mini marathon Further activities may be added focused around the declared theme of the year, declared ahead of the World Environment Day.

Jul-Sep	**World Ozone Day**	**September 16, 2019**	• Information and Awareness sessions on '**Ozone layer depletion'** • Expert Talk on Ozone Layer Protection for General Public • On the spot contests on related theme.
Oct-Dec	**World Ecology Day**	**November 1, 2019**	• Public Awareness session • On the spot painting & essay writing competition on Go Green, or related theme.
	National Environment Month		• State Level Function of Environment • Screening of Environment Consciousness message Movies/ Telefilms in Schools, Colleges, Universities and Public/Social places • Street Plays on environment and related theme to be performed, recorded and broadcasted digitally • Weekly Awareness Sessions / drives at District level to be organised on environment friendliness involving the civil society would be organised.

6. **Suggestions from Public:** For involving the general public and other stakeholders, it has been decided to create a provision in the website of HSPCB for inviting suggestions, comments and feedback for a innovative ways of pollution control and environment improvement. A redressal/recognition system will also be provided through concerned departments on action taken on the suggestions/complaints in the portal.

7. **Public involvement through STF:** It has also planned to involve eco-clubs through the Education Departments. HSPCB will be issuing advertisements on such sensitive issues periodically. Besides, the SESTF, constituted at District Level will also actively involve public participation and in redressal of issues relating to pollution and cleaning of the rivers/drain one of the drives as mentioned under is proposed to be undertaken in one or two towns in river catchment every 15 days.
    - Swatchta Abhiyan in towns.
    - Swatchta Abhiyan / Nature walk on River Banks.
    - Mini Marathon in towns.

- Swatchta Abhiyan at various Religious places.

8. **Reaching out to the masses digitally:** HSPCB is also exploring reaching out to the masses through digital media / social media and related approved channels for spreading awareness on environment and related issues.

26. Organizing of Health Camps.

The Health Department has been directed to organize health camps in areas prone to water pollution in the catchment of diver Ghaggar and to get profile studies conducted on specific diseases observed in the locality, through reputed institutions. The Health Department has prepared an action plan for organization of health camps as given below in the table. Health Department shall review the status and progress in the case in its monthly meeting.

District Panchkula: Action Plan for Health Camps in year 2019.

Sr. No.	Name of Village	Days of Camp
1.	Chandikotla	3rd Saturday of Jan, 2019
2.	Chandimandir	3rd Saturday of Feb, 2019
3.	Burjkotia	3rd Saturday of Mar, 2019
4.	Patan	3rd Saturday of April, 2019
5.	Ambwala	3rd Saturday of May, 2019
6.	Amarawati	3rd Saturday of June, 2019
7.	Koshalya Hutt	3rd Saturday of July, 2019
8.	Khatakmangoli	3rd Saturday of Aug, 2019
9.	Nada Sahib	3rd Saturday of Sept., 2019
10.	Old Panchkula	3rd Saturday of Oct., 2019
11.	Gate No. 3&4	3rd Saturday of Nov., 2019
12.	Brij Hutt	3rd Saturday of Dec., 2019

Ambala District: Action Plan for Health Camps in year 2019.

Sr. No.	Name of CHC/PHC	Name of Village	Date of Health Camp
1.	PHC Majri	Bara	18.01.2019
2.	PHC Naggal	Brishangarh	17.01.2019
3.	PHC Naggal	Gorsian	24.01.2019
4.	PHC Noorpur	Shahpur	11.01.2019
5.	PHC Noorpur	Gasitpur	15.01.2019
6.	PHC Majri	Jalbera	22.02.2019
7.	PHC Naggal	Niharsi	05.02.2019
8.	PHC Naggal	Adomajra	14.02.2019
9.	PHC Naggal	Segta	21.02.2019
10.	PHC Majri	Kaula	23.03.2019

11.	PHC Naggal	Bhunni	14.03.2019
12.	PHC Majri	Mohra	26.04.2019
13.	PHC Naggal	Segta	04.04.2019
14.	PHC Naggal	Gorsia	18.04.2019
15.	PHC Majri	Dang Dehri	20.05.2019
16.	PHC Naggal	Segta	16.05.2019
17.	PHC Naggal	Bishangarh	23.05.2019
18.	PHC Majri	Lailana	21.06.2019
19.	PHC Naggal	Addomajra	20.06.2019
20.	PHC Naggal	Niharsi	13.06.2019
21.	PHC Majri	Shivala Mandi	27.07.2019
22.	PHC Naggal	Niharsi	02.07.2019
23.	PHC Majri	Durala	12.08.2019
24.	PHC Majri	Ladana	23.09.2019
25.	PHC Naggal	Adomajra	05.09.2019
26.	PHC Majri	Jandli	21.10.2019
27.	PHC Naggal	Segta	01.10.2019
28.	PHC Majri	Ghel	22.11.2019
29.	PHC Naggal	Bishangarh	04.11.2019
30.	PHC Majri	Tharwa	14.12.2019

Fatehabad District : Action Plan for Health Camps in year 2019.

Sr. No.	Proposed Camp Site CHC	Proposed Camp Site Village	Proposed date of health camp
1	Ratia	Mirana	01.10.2019
2	Ratia	Kanwalgarh	02.12.2019
3	Ratia	Kalotha	21.02.2019
4	Ratia	Lali	03.11.2019
5	Ratia	Babanpur	23.04.2019
6	Ratia	Lalwas	05.09.2019
7	Ratia	Baliyala	15.05.2019
8	Ratia	Alika	06.11.2019
9	Ratia	Kamana	25.06.2019
10	Ratia	Bhunderwas	07.10.2019
11	Ratia	Nathwan	08.06.2019
12	Ratia	Khairpur	19.08.2019
13	Ratia	Malwala	17.09.2019
14	Ratia	Ganda	22.10.2019
15	Ratia	Ward No. 4 & 5 Ratia	11.05.2019
16	Ratia	Gatta Factory	12.10.2019
17	Jakhal	Kasampur	17.01.2019
18	Jakhal	Narail	25.02.2019
19	Jakhal	Mussakhera	03.07.2019
20	Jakhal	Sidhani	04.03.2019
21	Jakhal	Sadhanwas	20.05.2019
22	Jakhal	Chandura	06.11.2019
23	Jakhal	Mundlian	15.07.2019
24	Jakhal	Dhani Babanpur	20.08.2019

25	Jakhal	Kasampur	09.10.2019
26	Jakhal	Sidhani	15.10.2019
27	Jakhal	Dhani Babanpur	20.11.2019
28	Jakhal	Chandpura	12.09.2019

Sirsa District: Action Plan for Health Camps in year 2019.

Sr. No.	Proposed Camp site	Month	Proposed date of Health Camp
1.	Bansudhar	January	11.01.2019
2.	Ottu		15.01.2019
3.	Jhorarnali	February	11.02.2019
4.	Ranga		15.02.2019
5.	Chamal	March	11.03.2019
6.	Chakbani		15.03.2019
7.	Musahibwala	April	11.04.2019
8.	Panihari		15.04.2019
9.	Kelnia	May	11.05.2019
10.	Nagoki		15.05.2019
11.	Chakrayian	June	11.06.2019
12.	Saharani		15.06.2019
13.	Mirpur	July	11.07.2019
14.	Farwai		15.07.2019
15.	Chaksahiba	August	09.08.2019
16.	Nejadela Kalan		16.08.2019
17.	Ahmadpur	September	11.09.2019
18.	Dhottar		16.09.2019
19.	Mojgarh	October	11.10.2019
20.	Khairekan		15.10.2019
21.	Kariwala	November	11.11.2019
22.	Mattar		15.11.2019
23.	Nakora	December	11.12.2019
24.	Bahambhoor		16.12.2019

28. Concluding Remarks

The above action plan has been prepared on specific action points after consulting all the stakeholder Departments of Haryana and they have also provided a specific time frame for every activity to bring down the pollution contributing to river Ghaggar. This will be reviewed by the Departments concerned, at their level, in every monthly meeting. Further, the progress of all the actions shall be reviewed by Administrative Secretary of Environment Department every month with the Secretaries / senior officers of all stakeholder Departments, where the progress vis-a-vis timelines will be reviewed. It has also been decided that a Quarterly Review meeting will be done at the level of Chief Secretary with the Administrative Secretaries concerned and the progress will be reported after every Quarterly Review Meeting, to the Monitoring Committee appointed by NGT and the status will be reported to NGT as well.

Annexure-1

Govt of Haryana
Environment Department

Order

Whereas the Hon'ble National Green Tribunal issued order dated 7.8.2018 in the matter of OA No. 138 of 2016 and OA No. 139 of 2016-titled Stench Grips Mansa's Sacred Ghaggar River and Yogender Kumar in the matter relating to pollution in Ghaggar River and observed that "the findings of the joint inspection report are that values of various parameters such as BOF,TSS, Deacal Coliform, Lead and Iron were beyond permissible limits at most of the locations in Himachal Pradesh, Haryana, Punjab and Chandigarh".

Whereas the Hon'ble NGT has also directed to prepare an action plan to prevent the discharge of untreated effluent and observed that;

"7 Having regard to the alarming situation depicted in the joint inspection report apart from perusal action as above, an action plan with firm timelines is required to be prepared for preventing discharge of untreated effluents in the river by setting up appropriate anti-pollution device such as STP/ETP/CETP or any other such instruments. Wherever required polluting units have to be closed. The action plan must be realistic and provide for speeding mechanism. The funds can be generated as per applicable schemes for STP/CETP. The objective of the action plan must be to ensure that the testing of the sample of the water is found to be consistent with the laid down standards within the targeted time. We are also of the view that it is necessary to involve civil society and not to leave the matter to be dealt with by the concerned officers alone "and

Whereas, the Hon'ble NGT has constituted "Executing Committee"compris8ing of Justice Pritam Pal, Former Judge, Punjab and Haryana High Court as Chairman and Sr. Scientist/Engineer from Ministry of Environment and Forests (MOED), New Delhi and Central Pollution Control Board, New Delhi 9CPCB) to execute the orders of the Hon'ble Tribunal in this matter.

Therefore, in compliance of the orders of the Hon'ble NGT dated 7.8.2018 Special Task Force (STF) are constituted as below:-

i) State Level Special Task Force (STF)

Sr. No.	Designation of Member
1.	Chief Secretary, Govt. of Haryana
2.	Administrative Secretary, Department of Environment, Govt. Of Haryana
3.	Administrative Secretary, Town and Country Planning Department, Govt. Of Haryana

ii) District Level Special Task Force (STF) for Panchkula, Ambala, Kurukshetra, Jind, Kaithal, Fatehabad, Hisar and Sirsa districts.

District Level STF	District Level STF
1.	Deputy Commissioner of concerned District

2.	Superintendent of Police of the concerned District
3.	Regional Officer of HSPCB having jurisdiction over the District
4.	Person nominated by District Judge of the concerned District

The following actions shall be ensured by the STFs concerned.

State Level Special Task Force (STF)

- The State level STF shall submit quarterly report on action taken during the quarter to Central Pollution Control Board. The first report submitted by 30.9.2018 and thereafter reports shall be submitted quarterly.
- It will also ensure that the quarterly ATRs are uploaded in the websites of Environment Department of Haryana and Haryana State Pollution Control Board (HSPCB).
- The State Level STF shall finalize the action plan with firm timelines and review the same periodically.
- The State Level STF shall co-operate and co-ordinate with the Executing Committee appointed by the Hon'ble Tribunal.

District Level Special Task Force (DSTF)

- The District Level STF shall identify all persons, responsible for violation of law and norms relating to pollution in Ghaggar River and the drains joining it.
- It shall also initiate civil and criminal action against the violators as well as those who fail to perform their duties in this regard and shield the culprits.
- The District Level STF shall submit a monthly report on all actions taken by it to the SLSTF, by any first week of every month.
- District Level STF shall also assist the SLSTF in preparation of the action plan and finalising the timelines.
- District Level STF shall involve Civil Society Organisations and public participations in preparing the action plan in all possible areas.
- District Level STF shall ensure periodic sampling of river water as well as ground water to check the water quality.

Dated, Chandigarh the
21st August , 2018

Devender Singh
Additional Chief Secretary,
Environment Department

Endst. No. 16/14/2018-3Env. **Dated 29.8.2018**

A copy of the above is forwarded to the following for information and necessary action please:-

1. Chairman, Central Pollution Control Board (CPCB) with request to bring above order in Knowledge of the Executing Committee.
2. PS to Chief Secretary, Govt. of Haryana.
3. PS to Administrative Secretary, Department of Environment, Govt. of Haryana
4. PS to Administrative Secretary, Urban Local Bodies Department, Govt. of Haryana
5. PS to Administrative Secretary, Town and Country Planning Department, Govt. of Haryana
6. Deputy Commissioner, Panchkula.
7. Deputy Commissioner, Ambala.
8. Deputy Commissioner, Kurukshetra
9. Deputy Commissioner, Jind.

10. Deputy Commissioner, Kaithal
11. Deputy Commissioner, Fatehabad
12. Deputy Commissioner, Hisar
13. Deputy Commissioner, Sirsa
14. District and Session Judge, Panchkula with a request to nominate a person for the District Level Task force.
15. District and Session Judge, Ambala with a request to nominate a person for the District Level Task force.
16. District and Session Judge, Kurukshetra with a request to nominate a person for the District Level Task force
17. District and Session Judge, Jind with a request to nominate a person for the District Level Task force
18. District and Session Judge, Kaithal with a request to nominate a person for the District Level Task force.
19. District and Session Judge, Fatehabad with a request to nominate a person for the District Level Task force
20. District and Session Judge, Hisar with a request to nominate a person for the District Level Task force.
21. District and Session Judge, Sirsa with a request to nominate a person for the District Level Task force
22. Chairman, Haryana State Pollution Control Board, Panchkula
23. Member Secretary, Haryana State Pollution Control Board, Panchkula
24. Directory General, Environment Department, Haryana
25. Superintend of Police, Panchkula
26. Superintendent of Police, Ambala
27 Superintendent of Police, Kurukshetra
28 Superintendent of Police, Jind
29. Superintendent of Police, Kaithal
30. Superintendent of Police, Fatehabad
31. Superintendent of Police, Hisar
32. Superintendent of Police, Sirsa
33. Regional Officer of HSPCB having jurisdiction over the District

FA/ Copy of orders of Hon'ble NGT

-sd-

Superintendent Environment
For Additional Chief Secretary to Govt. Haryana
Environment Department

Annexure-2

Quality of River Ghaggar

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
1	**Ghaggar river before meeting discharge of STP Sec-28 at Kakrali, Punjab. (Lat- 30.643124 ,Long-76.871828)**								
	2725dt. 09.02.2017	30.01.2017	8.03	7	30	22	ND	ND	-
	3095dt. 25.05.2017	17.05.2017	7.66	11	52.4	19	ND	3.4	-
	3293dt. 06.07.2017	30.06.2017	8.31	6	20.8	11	ND	5	-
	3761dt. 07.11.2017	27.10.2017	8.18	7	50	12	ND	2.8	-
	4293dt. 06.03.2018	28.02.2018	8.14	10	58.4	10	ND	3.08	-
	4603dt. 14.05.2018	03.05.2018	7.84	10	46.4	15	ND	4.4	-
	5066dt. 28.09.2018	21.09.2018	8.34	9	27.6	16	ND	3.92	-
	5340dt. 14.11.2018	31.10.2018	7.21	8	26.4	174	ND	3.36	-
	5485dt. 12.12.2018	30.11.2018	7.65	7	32.4	1494	ND	ND	-
2	**Ghaggar river after meeting discharge of STP Sec-28 at Kakrali, Punjab.(Lat- 30.639388 ,Long-76.872299**								
	2726, 09.02.2017	30.01.2017	8.06	14	49.6	14	ND	ND	-
	3094, 25.05.2017	17.05.2017	7.79	12	50	14	ND	3.2	-
	3291, 06.07.2017	30.06.2017	8.32	8	38.4	14	ND	6	-
	3759, 07.11.2017	27.10.2017	7.37	10	58	18	ND	3.36	-
	4291, 06.03.2018	28.02.2018	8.12	13	70	17	ND	4.48	-
	4601, 14.05.2018	03.05.2018	7.84	11	48.4	16	ND	5.4	-
	5064, 28.09.2018	21.09.2018	8.31	8	30.4	18	ND	3.36	-
	5338, 14.11.2018	31.10.2018	7.31	9	32.8	126	ND	3.36	-
	5484, 12.12.2018	30.11.2018	7.07	16	56.8	135	ND	14	-
3	**Ghaggar River before meeting Sukhna Choe at Vill- Bhankarpur, Punjab (Lat- 30.612935 ,Long-76.837602)**								
	2730dt. 09.02.2017	30.01.2017	8	8	34	50	ND	ND	-
	3108dt. 26.05.2017	19.05.2017	7.59	36	152.8	52	ND	7	-
	3296dt. 06.07.2017	30.06.2017	8	9	50.8	20	ND	4	-
	3764dt. 07.11.2017	27.10.2017	7.24	13	69.2	20	ND	2.24	-

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
	4295dt. 06.03.2018	28.02.2018	7.66	40	182	51	2.5	6.72	-
	4606dt. 14.05.2018	03.05.2018	7.79	13	50.4	22	ND	5.5	-
	5069dt. 28.09.2018	21.09.2018	8.06	8	24.8	19	ND	3.92	-
	5343dt. 14.11.2018	31.10.2018	7.19	6	22.8	19	ND	3.36	-
	5488dt. 12.12.2018	30.11.2018	6.46	6	28	1339	ND	ND	-
4	**Ghaggar River after meeting Sukhna Choe at Vill- Bhankarpur, Punjab (Lat- 30.613448 ,Long-76.832026)**								
	2728dt. 09.02.2017	30.01.2017	7.15	38	150	180	2	ND	-
	3107dt. 26.05.2017	19.05.2017	7.52	17	82.4	26	ND	4	-
	3294dt. 06.07.2017	30.06.2017	7.7	13	62.4	27	ND	5	-
	3762dt. 07.11.2017	27.10.2017	7.22	26	110.4	36	2.5	4.48	-
	4294dt. 06.03.2018	28.02.2018	7.71	26	126.4	31	2.5	4.76	-
	4604dt. 14.05.2018	03.05.2018	7.53	17	84.8	23	ND	5.2	-
	5067dt. 28.09.2018	21.09.2018	7.82	32	105.2	36	2.5	4.48	-
	5341dt. 14.11.2018	31.10.2018	7.35	26	98.4	36	2	2.8	-
	5486dt. 12.12.2018	30.11.2018	7.62	16	80.4	1632	ND	9.52	-
5	**Ghaggar River before meeting Derabassi Drain near Vill- Bakkarpur (Punjab) (Upstream) (Lat-30.603196 ,Long-76.815684**								
	2856dt. 21.03.2017	14.03.2017	7.29	22	92.8	58	2	6.72	-
	3049dt. 08.05.2017	29.04.2017	7.37	32	130.8	43	2	4.6	-
	3160dt. 07.06.2017	31.05.2017	7.61	22	116.4	42	2.5	3.92	-
	3267dt. 06.07.2017	29.06.2017	7.85	21	102.4	31	2.5	3	-
	3733dt. 06.11.2017	26.10.2017	6.98	50	224.4	60	4.5	5.6	-
	4389dt. 02.04.2018	20.03.2018	7.64	12	68.8	21	ND	4.48	-
	4778dt. 19.06.2018	14.06.2018	7.54	34	187.6	38	3	11.76	-
6	**Ghaggar River after meeting Derabassi near Vill- Bakkarpur (Punjab). (Lat- 30.604185 ,Long-76.812126)**								
	2858dt. 21.03.2017	14.03.2017	7.09	40	228	82	3.5	11.2	-
	3051dt. 08.05.2017	29.04.2017	7.52	40	160	43	ND	7	-
	3162dt. 07.06.2017	31.05.2017	7.6	40	242.4	72	3.5	5.6	-

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
	3269dt. 06.07.2017	29.06.2017	7.52	56	260	74	3.5	9	-
	3731dt. 06.11.2017	26.10.2017	6.96	23	110	33	ND	2.24	-
	4391dt. 02.04.2018	20.03.2018	7.74	26	120.8	31	ND	13.44	-
	4780dt. 19.06.2018	14.06.2018	7.54	46	262.4	40	3.5	16.8	-
7	**Ghaggar River before meeting Basauli Choe at Vill- Tepla (Punjab) (Lat- 30.444543 ,Long-76.748207)**								
	2862dt. 21.03.2017	14.03.2017	7.18	8	42.4	38	ND	5.04	-
	3055dt. 08.05.2017	29.04.2017	7.83	12	49.6	17	ND	NA	-
	3166dt. 07.06.2017	31.05.2017	7.56	8	40.8	14	ND	5.88	-
	3273dt. 06.07.2017	29.06.2017	7.35	15	62.4	28	ND	8	-
	3737dt. 06.11.2017	26.10.2017	6.98	15	60.8	27	ND	5.6	-
	4395dt. 02.04.2018	20.03.2018	7.72	10	48.4	13	ND	3.36	-
	4784dt. 19.06.2018	14.06.2018	7.73	9	46.8	14	ND	7.84	-
		Oct	Sample not collected due to nil flow in drain						
		Nov	Sample not collected due to nil flow in drain						
		Nov	Sample not collected due to nil flow in drain						
8	**Ghaggar River after meeting Basauli Choe at Vill- Tepla (Punjab) (Lat- 30.443014 ,Long-76.74863)**								
	2864dt. 21.03.2017	14.03.2017	7.47	14	74.4	60	ND	7.8	-
	3057dt. 08.05.2017	29.04.2017	7.78	20	96	38	ND	NA	-
	3168dt. 07.06.2017	31.05.2017	7.75	12	64.8	30	2	9.52	-
	3275dt. 06.07.2017	29.06.2017	7.39	30	110.4	58	2	10	-
	3739dt. 06.11.2017	26.10.2017	7.77	23	108	49	ND	7.84	-
	4397dt. 02.04.2018	20.03.2018	7.69	24	108	31	2	8.4	-
	4786dt. 19.06.2018	14.06.2018	7.78	26	128.4	30	ND	10.64	-
		Oct	Sample not collected due to nil flow in drain						
		Nov	Sample not collected due to nil flow in drain						
9	**Ghaggar river before meeting Jharmal Choe at Vill- Tiwana (Punjab) (Lat- 30.473597 ,Long-76.767947)**								
	2859dt. 21.03.2017	14.03.2017	7.5	14	74.4	21	2	4.48	-
	3052dt. 08.05.2017	29.04.2017	7.41	18	66.4	32	ND	10	-
	3163dt. 07.06.2017	31.05.2017	7.66	14	80.4	32	ND	6.16	-

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
	3270dt. 06.07.2017	29.06.2017	8.25	15	80.4	43	2	6	-
	3734dt. 06.11.2017	26.10.2017	6.98	15	77.2	54	ND	6.16	-
	4392dt. 02.04.2018	20.03.2018	7.62	14	60.4	15	ND	5.04	-
	4781dt. 19.06.2018	14.06.2018	7.62	19	86.4	22	ND	8.96	-
		Oct	Sample not collected due to nil flow in drain						
		Nov	Sample not collected due to nil flow in drain						
10	**Ghaggar River after mixing Jharmal Choe, At- Vill- Tiwana, (Punjab) (Lat- 30.472978 ,Long-76.768948)**								
	2861dt. 21.03.2017	14.03.2017	7.43	28	131.2	58	2	15.4	-
	3054dt. 08.05.2017	29.04.2017	7.83	30	130	44	12.5	NA	-
	3165dt. 07.06.2017	31.05.2017	7.48	26	138.4	36	2.5	7.28	-
	3272dt. 06.07.2017	29.06.2017	7.5	38	162	62	2.5	12.3	-
	3736dt. 06.11.2017	26.10.2017	7.89	30	136.4	58	2	7.28	-
	4394dt. 02.04.2018	20.03.2018	7.77	26	130.4	32	2	10.08	-
	4783dt. 19.06.2018	14.06.2018	7.66	18	108.4	23	ND	12.88	-
	5262dt. 02.11.2018	22.10.2018	7.46	16	70.8	38	ND	8.4	-
11	**Ghaggar River before mixing Ghail drain at Rampur (Ambala) (Lat- 30.334705 ,Long-76.668041)**								
	2929dt. 07.04.2017	30.03.2017	7.58	8.2	36	10	ND	2.24	-
	3041dt. 05.05.2017	27.04.2017	7.62	14	66	31	ND	2.1	-
	3121dt. 02.06.2017	25.05.2017	7.89	9	46.4	16	ND	4	-
	3279dt. 06.07.2017	29.06.2017	7.3	9	40.4	16	ND	5	-
	3741dt. 06.11.2017	25.10.2017	7.77	10	48	21	ND	5.6	-
	4094dt. 07.02.2018	30.01.2018	7.44	22	110	24	ND	4	-
	4399dt. 02.04.2018	20.03.2018	7.78	15	82	21	ND	4.2	-
	4703dt. 05.06.2018	25.05.2018	7.16	8	34.4	20	ND	ND	-
	5004dt. 04.09.2018	22.08.2018	6.95	6	28	274	ND	3.92	-
	5160dt. 11.10.2018	28.09.2018	8.11	7	21.6	13	ND	3.36	-
	5240dt. 26.10.2018	16.10.2018	7.21	9	42.4	16	ND	-	-
	5265dt. 02.11.2018	22.10.2018	7.6	12	54	37	ND	8.4	-

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
12	**Ghaggar River after mixing Ghail Drain at Rampur (Ambala) (Lat- 30.331914 ,Long-76.666763)**								
	2928dt. 07.04.2017	30.03.2017	7.65	11.2	52	16	ND	3.36	-
	3040dt. 05.05.2017	27.04.2017	7.55	12	70	15	ND	3	-
	3120dt. 02.06.2017	25.05.2017	7.51	9.8	52.8	16	ND	3.8	-
	3278dt. 06.07.2017	29.06.2017	7.27	10	50.8	15	ND	5.2	-
	3962dt. 04.01.2018	27.12.2017	7.78	24	105.6	31	2.5	-	-
	4586dt. 11.05.2018	02.05.2018	7.99	11	48	14	ND	8	-
	4702dt. 05.06.2018	25.05.2018	7.66	14	50.8	19	ND	12.32	-
	5003dt. 04.09.2018	22.08.2018	7.62	7	28.8	214	ND	4.48	-
	5159dt. 11.10.2018	28.09.2018	8.03	8	30.8	17	ND	3.36	-
	5239dt. 26.10.2018	16.10.2018	7.2	12	50.4	20	ND	-	-
	5264dt. 02.11.2018	22.10.2018	6.73	17	104.8	121	2	4.48	-
	5466dt. 11.12.2018	29.11.2018	7.15	12..0	50.4	36	ND	-	-
13	**Ghaggar River before mixing Pachis Draha drain at Vill- Sarala Khurd (Patiala). (Lat- 30.304787 ,Long-76.628287)**								
	2926dt. 07.04.2017	30.03.2017	7.55	9	40	8	ND	3.08	-
	3044dt. 05.05.2017	27.04.2017	7.7	12	58	15	ND	5	-
	3124dt. 02.06.2017	25.05.2017	7.85	7.4	44.8	13	ND	4	-
	3282dt. 06.07.2017	29.06.2017	7.62	12	58.4	21	ND	4	-
	3744dt. 06.11.2017	25.10.2017	7.81	8.5	44.8	11	ND	3.92	-
	3966dt. 04.01.2018	27.12.2017	7.85	10	48	17	ND	-	-
	4097dt. 07.02.2018	30.01.2018	7.49	15	90	20	ND	4	-
	4402dt. 02.04.2018	20.03.2018	7.7	14	72	17	ND	5.6	-
	4589dt. 11.05.2018	02.05.2018	7.68	8	38.8	13	ND	9	-
	4706dt. 05.06.2018	25.05.2018	7.45	10	41.6	13	ND	12.88	-
	5007dt. 04.09.2018	22.08.2018	6.92	8	35.6	312	ND	3.92	-
	5163dt. 11.10.2018	28.09.2018	7.61	8	30.6	16	ND	2.8	-
	5243dt. 26.10.2018	16.10.2018	7.31	8	40.8	12	ND	-	-

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
	5469dt. 11.12.2018	29.11.32018	7.23	10	42.8	42	ND	-	-
14	**Ghaggar River after mixing Pachis Draha drain at Sarala khurd (Patiala). (Lat- 30.305379 ,Long-76.626743)**								
	2924,07.04.2017	30.03.2017	8.1	12	66.4	14	ND	4.48	-
	3042,05.05.2017	27.04.2017	7.63	16	70.4	51	ND	6	-
	3122,02.06.2017	25.05.2017	7.69	9	54.8	15	ND	2	-
	3280, 06.07.2017	29.06.2017	7.08	13	64.4	21	ND	5	-
	3742, 06.11.2017	25.10.2017	7.81	9	45.2	20	ND	5.6	-
	3964, 04.01.2018	27.12.2017	7.92	14	70.4	25	ND	-	-
	4095, 07.02.2018	30.01.2018	7.69	19	100.1	25	2	4	-
	4400, 02.04.2018	20.03.2018	7.83	22	96.4	24	ND	5.04	-
	4587, 11.05.2018	02.05.2018	7.92	14	58.4	21	ND	10	-
	4704, 05.06.2018	25.05.2018	7.63	12	45.6	18	ND	14	-
	5005, 04.09.2018	22.08.2018	7.36	12	40.4	212	ND	8.48	-
	5161, 11.10.2018	28.09.2018	8.07	10	38.8	21	ND	3.92	-
	5241, 26.10.2018	16.10.2018	7.34	13	48.8	15	ND	-	-
	5467, 11.12.2018	29.11.2018	7.03	13	52.8	23	ND	-	-
15	**Ghaggar River before meeting river Markanda at Village Chiali. (Lat- 30.128079 ,Long-76.433011)**								
	2910dt. 06.04.17	28.03.17	7.69	13	58	39	ND	-	-
	3148dt. 07.06.17	30.05.17	7.68	8	32.4	21	ND	-	-
	3258dt. 06.07.17	29.06.17	7.8	10	48.8	21	ND	-	-
	3688dt. 18.10.17	11.10.17	7.91	9	42.8	16	ND	-	-
	3840dt. 28.11.17	20.11.17	7.72	8.5	40.8	16	ND	-	-
	4061dt. 30.01.18	17.01.18	7.92	9	40.8	12	ND	-	-
	4191dt. 01.03.18	21.02.18	7.54	11	54.4	15	ND	-	-
	4379dt. 02.04.18	20.03.18	7.8	12	54.8	13	ND	-	-
	4472dt. 20.04.18	11.04.18	7.27	9	40.8	14	ND	-	-
	4719dt. 19.06.18	29.05.18	7.8	8	32.8	14	ND	-	-

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
	4830dt. 09.07.18	26.06.18	7.6	16	52.4	15	ND	-	-
	4938dt. 08.08.18	24.07.18	7.01	8	39.6	16	ND	-	-
	5015dt. 04.09.18	22.08.18	7.38	8	44.4	16	ND	-	-
	5147dt. 11.10.18	27.09.18	7.7	7	24.4	15	ND	-	-
	5309dt. 12.11.18	29.10.18	7.51	8	36.8	40	ND	-	-
	5437dt. 11.12.18	27.11.18	7.47	11	51.6	26	ND	-	-
16	**Ghaggar River after mixing Markanda River at village Dhandota. (Lat- 30.090167 ,Long-76.376183)**								
	2912 dt. 06.04.17	28.03.17	7.75	16	66.8	28	ND	-	-
	3013 dt. 05.05.17	27.04.17	7.3	13	58	40	2	-	-
	3150 dt. 07.06.17	30.05.17	7.87	13	56.4	24	ND	-	-
	3260 dt. 06.07.17	29.06.17	7.86	12	56.4	29	ND	-	-
	3690 dt. 18.10.17	11.10.17	7.94	14	52.8	30	ND	-	-
	3842 dt. 28.11.17	20.11.17	7.52	9	44.8	18	ND	-	-
	4063 dt. 30.01.18	17.01.18	7.79	10	53.6	14	ND	-	-
	4193 dt. 01.03.18	21.02.18	7.55	12	66.4	17	ND	-	-
	4381 dt. 02.04.18	20.03.18	7.96	19	64.4	13	2	-	-
	4474 dt. 20.04.18	11.04.18	7.36	12	48.4	20	ND	-	-
	4721 dt. 19.06.18	29.05.18	7.97	9	34.8	17	ND	-	-
	4832 dt. 09.07.18	26.06.18	7.43	13	56.8	14	ND	-	-
	4940 dt. 08.08.18	24.07.18	7.6	12	42.8	15	ND	-	-
	5017 dt. 04.09.18	22.08.18	7.12	11	42.4	15	ND	-	-
	5149 dt. 11.10.18	27.09.18	7.8	8	32.8	16	ND	-	-
	5311 dt. 12.11.18	29.10.18	7.52	14	58	58	ND	-	-
	5439 dt. 11.12.18	27.11.18	7.42	12	52.8	33	ND	-	-
17	**Ghaggar River before mixing, Patiala Nadi at Vill. Bhatia. (Lat- 30.078617 ,Long-76.244933)**								
	2913 dt. 06.04.17	28.03.17	7.76	15	59.2	34	ND	-	-
	3014 dt. 05.05.17	27.04.17	7.79	12	61.2	33	ND	-	-

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
	3151 dt. 07.06.17	30.05.17	7.88	17	72	28	ND	-	-
	3261 dt. 06.07.17	29.06.17	7.75	14	72.4	17	ND	-	-
	3691 dt. 18.10.17	11.10.17	7.95	15.5	76	15	ND	-	-
	3843 dt. 28.11.17	20.11.17	7.45	10	58.4	27	ND	-	-
	4064 dt. 30.01.18	17.01.18	7.82	9	52.4	16	ND	-	-
	4194 dt. 01.03.18	21.02.18	7.68	10	56.4	15	ND	-	-
	4382 dt. 02.04.18	20.03.18	7.89	10	56.4	16	ND	-	-
	4475 dt. 20.04.18	11.04.18	7.74	9	40.8	17	ND	-	-
	4722 dt. 19.06.18	29.05.18	8.1	8	30.8	16	ND	-	-
	4833 dt. 09.07.18	26.06.18	7.93	14	56.4	15	ND	-	-
	4941 dt. 08.08.18	24.07.18	7.4	9	34.8	16	ND	-	-
	5018 dt. 04.09.18	22.08.18	7.22	12	54.8	18	ND	-	-
	5150 dt. 11.10.18	27.09.18	7.52	6	28.8	19	ND	-	-
	5312 dt. 12.11.18	29.10.18	7.5	7	32.8	35	ND	-	-
	5440 dt. 11.12.18	27.11.18	7.32	8	35.2	27	ND	-	-
18	**Ghaggar River after mixing of Patiala Nadi at Village Ratanheri. (Lat- 30.077417 ,Long-76.242367)**								
	2915 dt. 06.04.17	28.03.17	7.84	34	91.2	158	2	-	-
	3016 dt. 05.05.17	27.04.17	7.82	18	76.4	87	ND	-	-
	3153 dt. 07.06.17	30.05.17	7.95	40	160.8	52	3	-	-
	3263 dt. 06.07.17	29.06.17	7.78	27	121.6	58	3.5	-	-
	3693 dt. 18.10.17	11.10.17	7.94	25	115.6	26	2	-	-
	3845 dt. 28.11.17	20.11.17	7.3	50	190	62	3	-	-
	4066 dt. 30.01.18	17.01.18	7.76	30	162.4	40	2.5	-	-
	4196 dt. 01.03.18	21.02.18	7.58	28	152.4	32	2.5	-	-
	4384 dt. 02.04.18	20.03.18	8.01	30	140.8	48	2	-	-
	4477 dt. 20.04.18	11.04.18	7.51	22	84	31	2	-	-
	4724 dt. 19.06.18	29.05.18	7.72	24	114	29	2	-	-

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
	4835 dt. 09.07.18	26.06.18	7.79	22	104	21	2	-	-
	4943 dt. 08.08.18	24.07.18	7.33	11	42.8	19	ND	-	-
	5020 dt. 04.09.18	22.08.18	7.14	25	124.8	32	2	-	-
	5152 dt. 11.10.18	27.09.18	7.09	11	41.6	28	ND	-	-
	5314 dt. 12.11.18	29.10.18	7.65	56	260.4	112	ND	-	-
	5442 dt. 11.12.18	27.11.18	7.31	20	90.8	100	ND	-	-
19	**Ghaggar River before mixiing Sagar Para Drain at Village Rasoli. (Lat- 29.905144 ,Long-76.169394)**								
	2916 dt. 06.04.17	28.03.17	7.71	12	59.2	35	ND	-	-
	3017 dt. 05.05.17	27.04.17	7.62	12	70.8	57	ND	-	-
	3154 dt. 07.06.17	30.05.17	7.79	20	76.4	25	ND	-	-
	3264 dt. 06.07.17	29.06.17	7.77	23	104.4	27	2	-	-
	3846 dt. 28.11.17	20.11.17	7.31	48	210	71	3	-	-
	4067 dt. 30.01.18	17.01.18	7.71	60	220.8	71	3.5	-	-
	4197 dt. 01.03.18	21.02.18	7.42	36	190	48	3.5	-	-
	4385 dt. 02.04.18	20.03.18	7.54	28	156.4	42	2.5	-	-
	4478 dt. 20.04.18	11.04.18	7.42	18	82.4	49	ND	-	-
	4725 dt. 19.06.18	29.05.18	7.94	17	74.4	23	ND	-	-
	4836 dt. 09.07.18	26.06.18	7.85	16	68.4	19	ND	-	-
	4944 dt. 08.08.18	24.07.18	7.18	28	120.4	40	2	-	-
	5021 dt. 04.09.18	22.08.18	8.32	16	70.4	21	ND	-	-
	5153 dt. 11.10.18	27.09.18	7.78	10	36.8	15	ND	-	-
	5315 dt. 12.11.18	29.10.18	8.45	52	182	110	ND	-	-
	5443 dt. 11.12.18	27.11.18	6.73	20	92.8	65	ND	-	-
20	**Ghaggar River after mixing of Sagar Para Drain at Village Rasoli. (Lat- 29.891673 ,Long-76.16892)**								
	2918 dt. 06.04.17	28.03.17	7.87	16	78	32	ND	-	-
	3019 dt. 05.05.17	27.04.17	7.95	55	260	172	6.5	-	-
	3156 dt. 07.06.17	30.05.17	8.16	40	172.4	48	2.5	-	-

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
	3266 dt. 06.07.17	29.06.17	7.97	52	210.4	72	4.5	-	-
	3848 dt. 28.11.17	20.11.17	7.46	70	340	81	3	-	-
	4069 dt. 30.01.18	17.01.18	7.58	120	450.4	142	2.5	-	-
	4199 dt. 01.03.18	21.02.18	7.48	66	310.4	74	3.5	-	-
	4387 dt. 02.04.18	20.03.18	7.63	60	240.8	72	4	-	-
	4480 dt. 20.04.18	11.04.18	7.72	62	270.4	144	4.5	-	-
	4727 dt. 19.06.18	29.05.18	8.04	52	232	55	3	-	-
	4838 dt. 09.07.18	26.06.18	8.2	74	372	72	4	-	-
	4946 dt. 08.08.18	24.07.18	7.31	30	126.8	32	2	-	-
	5023 dt. 04.09.18	22.08.18	7.45	18	80.4	26	ND	-	-
	5155 dt. 11.10.18	27.09.18	7.81	32	126.8	34	2.5	-	-
	5317 dt. 12.11.18	29.10.18	7.7	26	116	70	2	-	-
	5445 dt. 11.12.18	27.11.18	7.09	42	170.4	120	2.5	-	-
21	**River Ghaggar before mixing Kaithal drain at Khanauri. ((Lat- 29.847172 ,Long-76.116581)**								
	2887 dt. 31.03.17	28.03.17	7.57	32	156	41	2	-	-
	3020 dt. 05.05.17	27.04.17	7.63	13	70.8	68	ND	-	-
	3138 dt. 07.06.17	30.05.17	8.2	18	86.8	23	ND	-	-
	3345 dt. 01.08.17	25.07.17	7.43	44	182	43	3	-	-
	3828 dt. 28.11.17	20.11.17	7.38	10	48.4	18	ND	-	-
	4049 dt. 30.01.18	17.01.18	7.62	9.0.	52.4	23	ND	-	-
	4200 dt. 01.03.18	21.02.18	7.32	12	60.4	13	ND	-	-
	4367 dt. 02.04.18	20.03.18	7.35	10	52.4	14	ND	-	-
	4481 dt. 20.04.18	11.04.18	8.04	13	76.4	21	ND	-	-
	4728 dt. 19.06.18	29.05.18	8.09	17	72.8	23	ND	-	-
	4818 dt. 09.07.18	26.06.18	7.85	15	69.6	21	ND	-	-
	4926 dt. 08.08.18	24.07.18	7.31	10	36.4	12	ND	-	-
	5024 dt. 04.09.18	22.08.18	7.02	10	47.6	13	ND	-	-

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
	5135 dt. 11.10.18	27.09.18	7.54	12	45.8	20	ND	-	-
	5297 dt. 12.11.18	29.10.18	6.8	8	30.8	12	ND	-	-
	5446 dt. 11.12.18	27.11.18	7.3	10	52.4	41	ND	-	-
22	**River Ghaggar after mixing Kaithal Darin into River Ghaggar. (Lat- 29.8453 ,Long-76.111536)**								
	2890 dt. 31.03.17	28.03.17	7.37	40	183.2	48	4.5	-	-
	3023 dt. 05.05.17	27.04.17	7.79	36	150	270	3	-	-
	3141 dt. 07.06.17	30.05.17	8.01	29	120.8	62	2	-	-
	3235 dt. 03.07.17	22.06.17	8.03	27	123.2	72	2	-	-
	3348 dt. 01.08.17	25.07.17	7.41	40	190.8	41	3	-	-
	3655 dt. 13.10.17	04.10.17	7.73	12	40.4	19	ND	-	-
	3831 dt. 28.11.17	20.11.17	7.4	11	45.2	25	ND	-	-
	4052 dt. 30.01.18	17.01.18	7.37	26	150.4	31	3	-	-
	4203 dt. 01.03.18	21.02.18	7.45	28	140	31	ND	-	-
	4370 dt. 02.04.18	20.03.18	7.6	25	132.4	23	2.5	-	-
	4484 dt. 20.04.18	11.04.18	7.51	26	124.4	39	2	-	-
	4731 dt. 19.06.18	29.05.18	7.51	42	205.6	43	3	-	-
	4821 dt. 09.07.18	26.06.18	7.61	26	126.4	34	2.5	-	-
	4929 dt. 08.08.18	24.07.18	7.48	22	86.8	21	2	-	-
	5057 dt. 04.09.18	21.08.18	7.24	13	57.6	20	ND	-	-
	5138 dt. 11.10.18	27.09.18	7.54	10	51.6	22	ND	-	-
	5300 dt. 12.11.18	29.10.18	6.75	36	142.8	38	2	-	-
	5449 dt. 11.12.18	27.11.18	7.18	32	170.4	58	2.5	-	-
23	**River Ghaggar before meeting discharge of Moonak Town. (Lat- 29.808059 ,Long-75.896589)**								
	2891 dt. 31.03.17	28.03.17	7.64	16	92	26	2	-	-
	3024 dt. 05.05.17	27.04.17	7.78	30	140	84	4	-	-
	3142 dt. 07.06.17	30.05.17	8.16	21	112.4	33	2	-	-
	3236 dt. 03.07.17	22.06.17	7.85	18	84.4	31	ND	-	-

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
	3349 dt. 01.08.17	25.07.17	7.29	12	58.8	23	ND	-	-
	3658 dt. 13.10.17	04.10.17	7.82	6.5	33.6	16	ND	-	-
	3834 dt. 28.11.17	20.11.17	7.42	17	78	19	ND	-	-
	4055 dt. 30.01.18	17.01.18	7.69	18	100	32	2	-	-
	4206 dt. 01.03.18	21.02.18	7.52	20	118.4	24	ND	-	-
	4373 dt. 02.04.18	20.03.18	7.91	20	100.8	24	2	-	-
	4487 dt. 20.04.18	11.04.18	7.72	23	110.8	29	ND	-	-
	4734 dt. 19.06.18	29.05.18	7.65	21	92.8	24	2	-	-
	4824 dt. 09.07.18	26.06.18	7.39	16	68.8	20	68.8	-	-
	4932 dt. 08.08.18	24.07.18	7.69	6	32.4	19	ND	-	-
	5030 dt. 04.09.18	21.08.18	7.01	24	96.4	28	ND	-	-
	5141 dt. 11.10.18	27.09.18	7.6	12	48.8	20	ND	-	-
	5303 dt. 12.11.18	29.10.18	6.86	34	148.4	31	ND	-	-
	5452 dt. 11.12.18	27.11.18	7.33	12	70.8	40	ND	-	-
24	**River Ghaggar after meeting discharge of Moonak Town with River Ghaggar. (Lat- 29.808874 ,Long-75.894387)**								
	2893 dt. 31.03.17	28.03.17	7.59	18	96	34	2	-	-
	3026 dt. 05.05.17	27.04.17	7.8	34	139.2	89	4	-	-
	3144 dt. 07.06.17	30.05.17	8.19	40	160.8	48	2.5	-	-
	3238 dt. 03.07.17	22.06.17	7.75	28	92.4	37	2.5	-	-
	3351 dt. 01.08.17	25.07.17	7.3	20	105.6	32	ND	-	-
	3660 dt. 13.10.17	04.10.17	7.65	10	42	21	ND	-	-
	3836 dt. 28.11.17	20.11.17	7.35	20	108.8	33	2	-	-
	4057 dt. 30.01.18	17.01.18	7.8	28	140.4	32	2.5	-	-
	4208 dt. 01.03.18	21.02.18	7.58	30	152.4	38	2.5	-	-
	4375 dt. 02.04.18	20.03.18	7.94	7.94	147.6	46	2.5	-	-
	4489 dt. 20.04.18	11.04.18	7.8	32	136.4	39	2	-	-
	4736 dt. 19.06.18	29.05.18	7.58	70	344	77	4.5	-	-

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
	4826 dt. 09.07.18	26.06.18	7.39	18	83.6	17	2	-	-
	4934 dt. 08.08.18	24.07.18	7.38	10	39.2	19	ND	-	-
	5032 dt. 04.09.18	21.08.18	7.28	26	98.4	30	2	-	-
	5143 dt. 11.10.18	27.09.18	7.56	19	58.4	32	ND	-	-
	5305 dt. 12.11.18	29.10.18	6.87	46	172.8	46	2.5	-	-
	5454 dt. 11.12.18	27.11.18	7.3	14	70.4	42	ND	-	-
25	**River Ghaghar before meeting Jhambuwali Choe at Village Chandu. (Lat- 29.829028 ,Long-76.003248)**								
	2894 dt. 31.03.17	28.03.17	7.57	30	138.4	32	2	-	-
	3027 dt. 05.05.17	27.04.17	7.96	28	143.2	50	3	-	-
	3145 dt. 07.06.17	30.05.17	8.07	10	52.4	27	ND	-	-
	3239 dt. 03.07.17	22.06.17	7.64	24	113.2	29	2	-	-
	3352 dt. 01.08.17	25.07.17	7.25	15	70.4	22	ND	-	-
	3661 dt. 13.10.17	04.10.17	7.89	6.5	34	20	ND	-	-
	3837 dt. 28.11.17	20.11.17	7.56	16	72	26	ND	-	-
	4058 dt. 30.01.18	17.01.18	7.58	14	74.8	17	ND	-	-
	4209 dt. 01.03.18	21.02.18	7.52	14	70.8	21	ND	-	-
	4376 dt. 02.04.18	20.03.18	7.8	18	88	23	2	-	-
	4490 dt. 20.04.18	11.04.18	7.77	20	90.8	23	ND	-	-
	4737 dt. 19.06.18	29.05.18	7.22	36	187.6	44	3	-	-
	4827 dt. 09.07.18	26.06.18	8.29	22	98.4	16	2	-	-
	4935 dt. 08.08.18	24.07.18	7.44	20	77.6	23	2	-	-
	5033 dt. 04.09.18	21.08.18	7.11	14	55.6	17	ND	-	-
	5144 dt. 11.10.18	27.09.18	7.64	8	24.8	15	ND	-	-
	5306 dt. 12.11.18	29.10.18	6.81	33	130.4	32	ND	-	-
	5455 dt. 11.12.18	27.11.18	7.28	14	68.8	37	ND	-	-
26	**River Ghaghar after meeting Jhambuwali Choe at Village Chandu. (Lat- 29.82725 ,Long-75.998544)**								
	2896 dt. 31.03.17	28.03.17	7.53	33	152.8	46	2	-	-

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
	3029 dt. 05.05.17	27.04.17	8.02	32	140	66	2.5	-	-
	3147 dt. 07.06.17	30.05.17	7.86	19	80.4	32	2	-	-
	3241 dt. 03.07.17	22.06.17	7.73	28	132.8	39	2	-	-
	3354 dt.01.08.17	25.07.17	7.24	20	80.8	26	ND	-	-
	3663 dt. 13.10.17	04.10.17	7.92	11	47.2	40	ND	-	-
	3839 dt. 28.11.17	20.11.17	7.49	22	92.4	41	ND	-	-
	4060 dt. 30.01.18	17.01.18	7.53	15	74.8	20	ND	-	-
	4211 dt. 01.03.18	21.02.18	7.56	16	78.4	27	ND	-	-
	4378 dt. 02.04.18	20.03.18	7.78	22	124	39	2	-	-
	4492 dt. 20.04.18	11.04.18	7.81	26	130	34	2	-	-
	4739 dt. 19.06.18	29.05.18	7.34	56	266.4	59	3.5	-	-
	4829 dt. 09.07.18	26.06.18	7.73	24	118.8	30	2	-	-
	4937 dt. 08.08.18	24.07.18	7.05	12	46.8	15	ND	-	-
	5035 dt. 04.09.18	21.08.18	6.96	18	82.4	22	ND	-	-
	5146 dt. 11.10.18	27.09.18	7.55	9	30.4	18	ND	-	-
	5308 dt. 12.11.18	29.10.18	6.83	42	160.4	31	2	-	-
	5457 dt. 11.12.18	27.11.18	7.32	22	88.4	32	2	-	-
27	**River Ghaggar before meeting discharge of Ratia. (Lat- 29.693333 ,Long-75.580474)**								
	330 dt 06.04.17	20.03.17	6.7	42	104	120	ND	20	-
	98dt. 07.07.17	30.06.17	7.9	28	88	60	ND	12	-
	172dt. 12.10.17	29.09.17	7	24	48	30	ND	ND	-
	243dt. 10.01.18	29.12.17	6.9	26	48	60	ND	8	-
	19dt. 15.05.18	30.04.18	8	26	40	70	ND	8	-
	56dt. 22.06.18	13.06.18	8	24	80	60	ND	12	-
	110dt. 28.07.18	23.07.18	8	26	80	70	ND	12	-
	235dt. 15.11.18	30.10.18	8	18	32	60	ND	8	-
	268dt. 30.11.18	21.11.18	8.2	42	120	80	8	26	-

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
	378dt. 31.12.18	21.12.18	8.5	36	64	70	8	26	-
28	**River Ghaggar after meeting of discharge of Ratia. (Lat- 29.716549,Long-75.549705)**								
	331 dt 06.04.17	20.03.17	7	38	96	90	ND	18	-
	99dt. 07.07.17	30.06.17	7.5	30	64	50	ND	10	-
	173 12.10.17	29.09.17	7	18	40	26	ND	ND	-
	244dt. 10.01.18	29.12.17	7	22	40	70	ND	8	-
	20dt. 15.05.18	30.04.18	7.9	18	32	60	ND	8	-
	57dt. 22.06.18	13.06.18	8	22	72	70	ND	12	-
	111dt. 28.07.18	23.07.18	8.1	22	88	80	ND	12	-
	236dt. 15.11.18	30.10.18	7.9	16	40	50	ND	8	-
	269dt. 30.11.18	21.11.18	8.4	40	104	70	6	20	-
	379dt. 31.12.18	20.12.18	8.4	38	64	60	8	26	-
29	**River Ghaggar before meeting disharge of Vill. Bhunder (Lat- 29.697406,Long-75.227408)**								
	336 dt 06.04.17	20.03.17	7.2	38	94	80	ND	12	-
	95dt. 07.07.17	30.06.17	8.2	14	40	40	ND	6	-
	169 12.10.17	29.09.17	7.9	22	64	50	ND	12	-
	240dt. 10.01.18	29.12.17	7.6	24	48	110	ND	10	-
	16dt. 15.05.18	30.04.18	7.9	20	56	130	ND	10	-
	53dt. 22.06.18	13.06.18	7.8	20	32	130	ND	10	-
	232dt. 15.11.18	30.10.18	7.9	18	32	110	ND	10	-
30	**River Ghaggar after meeting dishcarge of vill. Bhunder (Lat- 29.690992,Long-75.218354)**								
	337 dt 06.04.17	20.03.17	6.7	34	80	60	ND	10	-
	96dt. 07.07.17	30.06.17	8.2	40	136	70	ND	16	-
	170 12.10.17	29.09.17	7.6	18	48	40	ND	8	-
	241dt. 10.01.18	29.12.17	7.9	16	40	90	ND	10	-
	18dt. 15.05.18	30.04.18	7.9	18	40	100	ND	8	-
	54dt. 22.06.18	13.06.18	7.8	22	32	120	ND	8	-
	233dt. 15.11.18	30.10.18	7.9	20	40	120	ND	8	-

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
31	**River Ghaggar before meeting discharge of Sardulgarh town (Lat- 29.699414,Long-75.242549)**								
	333 dt 06.04.17	20.03.17	6.4	32	72	70	ND	12	-
	92dt. 07.07.17	30.06.17	8.2	16	32	60	ND	12	-
	166 12.10.17	29.09.17	7.6	18	48	40	ND	8	-
	237dt. 10.01.18	29.12.17	7.9	22	54	120	ND	8	-
	13dt. 15.05.18	30.04.18	7.7	24	48	130	ND	10	-
	50dt. 22.06.18	13.06.18	7.9	26	48	120	4	12	-
	229dt. 15.11.18	30.10.18	7.7	26	56	140	ND	10	-
	271dt. 30.11.18	21.11.18	8.2	46	144	120	8	30	-
	381dt. 31.12.18	20.12.18	8.6	48	88	130	8	24	-
32	**River Ghaggar after meeting discharge of Sardulgarh town (Lat- 29.697706,Long-75.228063)**								
	334 dt 06.04.17	20.03.17	7.4	44	96	140	ND	14	-
	93dt. 07.07.17	30.06.17	8.2	18	48	40	ND	10	-
	167 dt. 12.10.17	29.09.17	7.5	16	40	36	ND	6	-
	238dt. 10.01.18	29.12.17	8	20	40	130	ND	8	-
	14dt. 15.05.18	30.04.18	7.8	22	56	120	ND	8	-
	51dt. 22.06.18	13.06.18	7.8	24	40	110	4	12	-
	230dt. 15.11.18	30.10.18	7.8	24	48	120	ND	8	-
	272dt. 30.11.18	21.11.18	8.3	44	128	130	6	26	-
	382dt. 31.12.18	20.12.18	8.4	46	80	120	6	26	-
33	**Ghaggar GH-1 at road bridge, Sirsa- Dabwali Road (Lat- 29.596304,Long-75.018021)**								
	59, 21.06.17	15.06.17	6.7	70	152	240	4	-	-
	107, 14.07.17	08.07.17	8.2	36	-	-	-	-	-
	125, dt 07.09.17	16.08.17	8.2	22	-	-	-	-	-
	204, 10.01.18	15.12.17	8.5	16	-	-	-	-	-
	249, 11.01.18	01.01.18	8	22	-	-	-	16	3.6
	270, 06.03.18	16.02.18	8.5	18	64	130	-	12	3.4
	292, 16.03.18	07.03.18	40	8.6	22	80	-	14	3.7

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
	10, 15.05.18	30.04.18	8	24	88	120	-	12	4.2
	39, 05.06.18	31.05.18	7.9	22	40	110	-	12	4
	62, 22.06.18	13.06.18	8.2	30	48	130	ND	20	-
	104, 14.07.18	10.07.18	7.8	28	72	130	-	16	3.9
	136, 14.09.18	29.08.18	8.1	26	88	140	-	18	3.6
	198, 03.10.18	28.09.18	8.1	18	48	130	-	10	4.2
	239, 15.11.18	30.10.18	8.1	20	40	140	-	10	4
	304, 18.12.18	30.11.18	8.3	22	48	160	-	12	4.3
	375, 31.12.18	20.12.18	7.7	24	88	130	-	10	4
34	**Ghaggar Ottu Weir (Lat- 29.489727 ,Long-74.892745)**								
	339 dt 06.04.17	20.03.17	7.1	18	56	50	ND	-	-
	60dt. 21.06.17	15.06.17	6.7	46	120	140	4	-	-
	101dt. 07.07.17	30.06.17	7.9	30	64	60	ND	-	-
	108dt. 14.07.17	08.07.17	8	40	-	-	-	-	-
	126 dt. 07.09.17	16.08.17	8	24	-	-	-	-	-
	175 dt. 12.10.17	29.09.17	7.2	26	40	30	ND	-	-
	246dt. 10.01.18	29.12.17	7.9	24	40	140	ND	-	-
	22dt. 15.05.18	30.04.18	8.2	22	48	90	ND	-	-
	59dt. 22.06.18	13.06.18	8	26	48	90	ND	-	-
	238 dt. 15.11.18	30.10.18	8.2	26	56	110	ND	14	-
	384 dt. 31.12.18	20.12.18	8.5	26	56	110	ND	14	-
35	**Ghaggar GH-2 at Chandpur Syphen (Lat- 29.766484 ,Long-75.743456)**								
	298dt. dt. 17.02.17	02.02.17	7.2	32	-	-	-	22	3.9
	329 dt 06.04.17	15.03.17	6.7	30	-	-	-	26	2.7
	04dt. 25.04.17	10.04.17	7.1	28	-	-	-	16	3.4
	21dt. 19.05.17	04.05.17	7	32	-	-	-	14	3.7
	63dt. 21.06.17	16.06.17	6.7	26	-	-	-	12	3.2

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
	108dt. 14.07.17	08.07.17	8	40	-	-	-	12	4.2
	126 dt. 07.09.17	16.08.2017	8	24	-	-	-	8	3.1
	10.01.18	15.12.17	-	8.7	-	-	-	-	3
	250dt. 11.01.18	01.01.18	-	8.6	-	-	-	-	4.2
	271dt. 06.03.18	16.02.18	8.4	34	88	110	-	18	4.3
	293dt. 16.03.18	07.03.18	56	8.6	32	60	-	20	4.4
	11dt. 15.05.18	30.04.18	8.1	36	40	90	-	18	4.9
	40dt. 05.06.18	31.05.18	7.5	32	32	80	-	16	4.7
	60dt. 22.06.18	13.06.18	8	26	88	120	ND	10	-
	105dt. 14.07.18	10.07.18	7.9	34	96	80	-	20	4.7
	137dt. 14.09.18	29.08.18	7.9	32	48	90	-	22	4.5
	199dt. 03.10.18	28.09.18	7.9	20	48	110	-	12	3.2
	240dt. 15.11.18	30.10.18	7.9	22	48	120	-	10	3
	305dt. 18.12.18	30.11.18	8.3	24	72	170	-	16	3.7
	376dt. 31.12.18	20.12.18	7.7	20	64	120	-	10	3.6
36	**Ghaggar before ottu weir (before mixing with Satluj canal water) (Lat- 29.520122 ,Long-74.925031)**								
	299 dt. 17.02.17	02.02.17	7.9	22	-	-	-	12	3.4
	327 dt 06.04.17	15.03.17	7.4	40	-	-	-	20	3.4
	05dt. 25.04.17	10.04.17	6.7	34	-	-	-	16	4.1
	22dt. 19.05.17	05.05.17	6.7	36	-	-	-	16	3.9
	64dt. 21.06.17	16.06.17	7.1	46	-	-	-	22	2.4
	109dt. 14.07.17	08.07.17	7.9	48	-	-	-	20	3.1
	127dt. 07.09.17	16.08.2017	8	20	-	-	-	12	2.9
	206dt. 10.01.18	15.12.17	8.2	26	-	-	-	18	3.7
	251dt. 11.01.18	01.01.18	7.6	24	-	-	-	22	3
	272dt. 06.03.18	16.02.18	8.3	26	-	-	-	20	3.2

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
	294dt. 16.03.18	07.03.18	28	48	-	-	-	-	70
	12dt. 15.05.18	30.04.18	8.1	32	-	-	-	18	4.1
	41dt. 05.06.18	31.05.18	7.5	28	-	-	-	14	-
	72dt. 22.06.18	18.06.18	7.8	26	3.9	-	-	16	3.9
	106dt. 14.07.18	10.07.18	8.1	26	3.7	-	-	18	3.7
	138dt. 14.09.18	29.08.18	8	28	3.7	-	-	16	3.7
	200dt. 03.10.18	28.09.18	8	16	32	140	-	10	3.4
	241dt. 15.11.18	30.10.18	8	26	48	110	-	14	3.7
	306dt. 18.12.18	30.11.18	8.2	25	56	130	-	18	3.9
	377dt. 31.12.18	20.12.18	7.6	24	72	140	-	14	3.2

Annexure-3

Water Quality of the Drains outfalling in River Ghaggar in the State of Haryana.

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
1	**Sukhna Nallah coming from Himachal Pradesh Industries and domestic effluent of Parwanoo Town at Parwanoo Barrier(H.P) near Kalka Haryana (Lat-30.839962, Long-76.944730)**								
	4509dt. 26.04.2018	13.04.2018	7.25	80	286.4	188	12.5	24.08	-
	4812dt. 09.07.2018	22.06.2018	7.65	14.5	54	17	ND	-	-
	5549dt. 14.12.2018	06.12.2018	7.24	40	135.2	36	4.5	-	-
2	**Jatton Wala Nallah coming from Himachal Pradesh Industries near Kala Amb (Lat-30.495275, Long-77.197137)**								
	2744dt. 09.02.2017	31.01.2017	6.92	180	516	428	10	-	-
	2779dt. 01.03.2017	19.02.2017	7	80	251.6	128	12.5	-	-
	2899dt. 05.04.2017	24.03.2017	7.56	120	364.8	200	14	-	-
	3047dt. 05.05.2017	28.04.2017	4.89	190	632	238	15	-	-
	3251dt. 04.07.2017	26.06.2017	7.41	610	2648	1252	16	-	-
	3323dt. 14.07.2017	06.07.2017	8.12	120	376	354	12.5	-	-
	3968dt. 04.01.2018	27.12.2017	7.36	240	836.8	562	18	-	-
	4286dt. 06.03.2018	28.02.2018	7.5	90	350.4	3996	5.5	-	-
	4411dt. 04.04.2018	26.03.2018	6.59	320	859.2	548	12.5	ND	-
	4547dt. 30.04.2018	19.04.2018	6.98	220	692.8	254	14	12.32	-
	4840dt. 09.07.2018	26.06.2018	7.4	240	743.2	364	16	12.32	-
	AFLPL/E/300718014dt. 07.08.2018	30.07.2018	6.89	196	720	498	15.8	32	-
	AFLPL/E/280818008 dt. 25.09.2018	28.08.2018	6.45	237.9	860	562	21	39	-
	5102dt. 05.10.2018	25.09.2018	7.54	110	390	236	11	-	-
	5290dt. 12.11.2018	30.10.2018	6.36	140	460	356	12.5	-	-
	5411dt. 03.12.2018	22.11.2018	6.83	157.5	603.2	614	12.5	ND	-
3	**Drain carrying discharge of STP, Sec-28, Panchkula at Vill- Kakrali, Punjab (Lat-30.639945, Long-76.873018)**								
	2727dt. 09.02.2017	30.01.2017	7.45	18	68	8	ND	4.2	-
	3096dt. 25.05.2017	17.05.2017	8	8	36	10	ND	2.8	-
	3292dt. 06.07.2017	30.06.2017	8.22	9	42.4	23	ND	7	-
	3760dt. 07.11.2017	27.10.2017	7.78	15	60	22	ND	4.48	-
	4292dt. 06.03.2018	28.02.2018	8.18	20	90.4	24	2	4.2	-
	4602dt. 14.05.2018	03.05.2018	7.74	13	58.4	18	ND	5.4	-
	5065dt. 28.09.2018	21.09.2018	7.64	21	77.6	24	2	4.48	-
	5339dt. 14.11.2018	31.10.2018	7.15	24	80.4	25	2	5.04	-
	5484dt. 12.12.2018	30.11.2018	7.07	16	56.8	135	ND	14	-
4	**MDC Drain before meeting manimajra domestic effluent, Sector-18, Panchkula (Lat-30.705636, Long-76.837947)**								
	2735dt. 09.02.2017	30.01.2017	7.73	6	29.6	8	ND	ND	-
	4623dt. 14.05.2018	03.05.2018	7.52	33	152.4	40	ND	7	-
	5170dt. 11.10.2018	28.09.2018	7.86	46	227.6	62	2	8.4	-

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
	5360dt. 14.11.2018	31.10.2018	7.2	26	120	45	2.5	4.48	-
	5505dt. 12.12.2018	30.11.2018	6.47	90	324	3592	7	12.32	-
5	**Sukhna choe at Vill- Bhankarpur, Punjab (Lat-30.613836, Long-76.836983)**								
	2729dt. 09.02.2017	30.01.2017	7.41	50	190	110	5	10.08	-
	3109dt. 26.05.2017	19.05.2017	7.79	11.2	50.4	16	ND	1.8	-
	3295dt. 06.07.2017	30.06.2017	7.57	12	60.4	25	ND	8	-
	3763dt. 07.11.2017	27.10.2017	7.76	45	160.8	53	3.5	8.4	-
	4294dt. 06.03.2018	28.02.2018	7.71	26	126.4	31	2.5	4.76	-
	4605dt. 14.05.2018	03.05.2018	7.73	32	168.4	31	2	8	-
	5068dt. 28.09.2018	21.09.2018	7.56	480	2496	55	7.5	19.6	-
	5342dt. 14.11.2018	31.10.2018	6.97	56	224.4	55	5.5	4.48	-
	5487dt. 12.12.2018	30.11.2018	6.46	480	1460.8	3880	12.5	16.24	-
6	**Ambala Drain near Motor Market, Ambala City (Lat-30.388012, Long-76.790604)**								
	4844dt. 10.07.2018	27.06.2018	7.53	56	158.8	244	6	12.88	-
	5104dt. 05.10.2018	25.09.2018	7.34	46	130	169	3.5	-	-
7	**Ghail drain at Rampur, Ambala (Lat-30.333485, Long-76.668369)**								
	2927dt. 07.04.2017	30.03.2017	7.37	14	65.6	17	ND	6.16	-
	3039dt. 05.05.2017	27.04.2017	7.82	19	85.2	32	ND	6	-
	May	NIL FLOW							
	3277dt. 06.07.2017	29.06.2017	7.3	11	60.4	21	ND	7	-
	Oct-18	NIL FLOW							
	Nov-18	NIL FLOW							
	Dec-18	NIL FLOW							
	Jan-18	NIL FLOW							
	Mar-18	NIL FLOW							
	May-18	NIL FLOW							
	5002dt. 04.09.2018	22.08.2018	7.43	10	45.6	220	ND	5.04	-
	5158dt. 11.10.2018	28.09.2018	8.15	9	35.6	18	ND	4.48	-
	Oct-18	NIL FLOW							
	Nov-18	NIL FLOW							
8	**Sagar Para Drain before mixing in Ghaghar river, Village Sagra. (Longitude $76^0$11.249' and Latitude $29^0$52.976')**								
	2917 dt. 06.04.17	28.03.17	7.67	110	408.8	106	8	-	-
	3018 dt. 05.05.17	27.04.17	7.85	160	642.4	140	13.5	-	-
	3155 dt. 07.06.17	30.05.17	8.09	130	406.4	132	8.5	-	-
	3265 dt. 06.07.17	29.06.17	8.16	120	412	128	12.5	-	-
	3847 dt. 28.11.17	20.11.17	7.48	110	412	148	3	-	-
	4068 dt. 30.01.18	17.01.18	7.66	180	820.8	170	8.5	-	-
	4198 dt.01.03.18	21.02.18	7.56	110	398.4	118	8.5	-	-
	4386 dt. 02.04.18	20.03.18	7.78	90	320.4	93	6	-	-
	4479 dt. 20.04.18	11.04.18	8.02	642.4	160	218	12	-	-
	4726 dt. 19.06.18	29.05.18	8.07	1168	330	252	12.5	-	-
	4837 dt. 09.07.18	26.06.18	8.24	1085	242	188	8.5	-	-
	4945 dt. 08.08.18	24.07.18	7.3	144	36	43	2.5	-	-

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
	5022 dt. 04.09.18	22.08.18	7.33	95.6	27	30	2	-	-
	5154 dt. 11.10.18	27.09.18	7.65	55	209.6	27	3	-	-
	5316 dt. 12.11.18	29.10.18	7.38	32	124.8	65	2	-	-
	5444 dt. 11.12.18	27.11.18	7.3	15	45.6	62	ND	-	-
9	**Markanda River before mixing River Ghaggar at Bhagal Bridge. (Longitude $76^0$26.218' and Latitude $30^0$05.025')**								
	2911 dt. 06.04.17	28.03.17	7.66	17	85.2	22	ND	-	-
	3012 dt. 05.05.17	26.04.17	7.62	15	73.2	59	2	-	-
	3149 dt. 07.06.17	30.05.17	8.3	17	60.8	28	ND	-	-
	3259 dt. 06.07.17	29.06.17	7.82	13	65.2	32	2	-	-
	3689 dt. 18.10.17	11.10.17	7.4	11	50	32	ND	-	-
	3841 dt. 28.11.17	20.11.17	7.56	10	48	20	ND	-	-
	4062 dt. 30.01.18	17.01.18	7.7	14	70.4	15	ND	-	-
	4192 dt. 01.03.18	21.02.18	7.65	14	70.4	21	ND	-	-
	4380 dt. 02.04.18	20.03.18	7.64	15	70.4	23	ND	-	-
	4473 dt. 20.04.18	11.04.18	7.24	16	58.4	27	ND	-	-
	4720 dt. 19.06.18	29.05.18	7.78	11	39.6	20	ND	-	-
	4831 dt. 09.07.18	26.06.18	7.85	21	61.6	20	2	-	-
	4939 dt. 08.08.18	24.07.18	7.68	12	44.8	20	ND	-	-
	5016 dt. 04.09.18	22.08.18	7.02	13	43.6	18	ND	-	-
	5148 dt. 11.10.18	27.09.18	7.78	9	39.6	18	ND	-	-
	5310 dt. 12.11.18	29.10.18	7.09	10	47.2	42	ND	-	-
	5438 dt. 11.12.18	27.11.18	7.74	21	72.4	25	ND	-	-
10	**Kaithal drain before mixing River Ghaggar at Khanauri. (Longitude $76^0$06.831' and Latitude $29^0$50.731')**								
	2888 dt. 31.03.17	28.03.17	7.4	60	196	50	5.5	-	-
	3021 dt. 05.05.17	27.04.17	7.84	40	170.4	82	2	-	-
	3139 dt. 07.06.17	30.05.17	7.89	44	170.4	62	4.5	-	-
	3346 dt. 01.08.17	25.07.17	7.26	72	320.8	78	3.5	-	-
	3829 dt. 28.11.17	20.11.17	7.26	72	320.8	78	3.5	-	-
	4050 dt.30.01.18	17.01.18	7.81	11	60.8	30	ND	-	-
	4201 dt. 01.03.18	21.02.18	7.82	40	190.4	43	4.5	-	-
	4368 dt. 02.04.18	20.03.18	7	22	110	25	ND	-	-
	4482 dt. 20.04.18	11.04.18	7.6	44	182.8	62	3	-	-
	4729 dt. 19.06.18	29.05.18	7.76	56	252	63	3.5	-	-
	4819 dt. 09.07.18	26.06.18	7.75	38	180.4	50	3	-	-
	4927 dt. 08.08.18	24.07.18	7.14	11	37.6	14	ND	-	-
	5025 dt. 04.09.18	21.08.18	6.98	28	94.4	32	2	-	-
	5136 dt. 11.10.18	27.09.18	7.6	14	52.4	25	ND	-	-
	5298 dt. 12.11.18	29.10.18	7.71	48	210.4	40	2.5	-	-
	5447 dt. 11.12.18	27.11.18	7.31	52	210.8	80	2.5	-	-
11	**Discharge of MC Ratia Town through Drain (Longitude 29.711468 and Latitude 75.551894)**								
	332 dt 06.04.17	20.03.17	6.4	46	112	160	4	22	-
	100dt. 07.07.17	30.06.17	7.9	36	80	80	ND	14	-

Sr. No.	AR/No. & dt.	Date	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	O & G (mg/l)	Ammonical -N (mg/l)	DO (mg/l)
	174dt. 12.10.17	29.09.17	8.2	14	32	18	ND	ND	-
	245dt. 10.01.18	29.12.17	7.9	14	32	24	ND	ND	-
	21dt. 15.05.18	30.04.18	8	14	24	12	ND	ND	-
	58dt. 22.06.18	13.06.18	8	12	48	14	ND	ND	-
	112dt. 28.07.18	23.07.18	7.8	14	56	22	ND	ND	-
	237dt. 15.11.18	30.10.18	8	12	32	14	ND	ND	-
	270dt. 30.11.18	21.11.18	8.3	18	72	20	ND	ND	-
	380dt. 31.12.18	20.12.18	8.6	18	24	20	ND	ND	-

Annexure-4

Waste water consumption/ waste water generation by industries

Name of the Town	Sector wise	No. Of Industries	Water Consumption in KLD	Source of Water Supply	Industrial Effluent generation in KLD (Trade Effluent)	No. Of Industries attached to CETPs	No. of CETP		CETP capacity (in KLD)			Final mode of disposal of trade effluent in drains/river KLD	
							Existing	Proposed	Existing	Proposed	Under commissioning	Treated	Untreated
Kalaka	Electoplating	2	1.1	HSIIDC	0.6	0	0	0	0	0	0	0.6	NA
	Hospitals	4	4	M.C/Own Tubewell	0.8	0	0	0	0	0	0	0.8	NA
Kalka, HSIIDC, Industrial Area	Food and Food Processing	1	10	HSIIDC	2	0	Nil	Nil	Nil	Nil	Nil	2	NA
	Electoplating	1	10	HSIIDC	8	0	0	0	0	0	0	8	NA
HSIIDC, Industrial Area, Barwala	Food and Food Processing	1	20	HSIIDC	18	1	1	Nil	0.5	0	0	18	NA
	Service Station	1	8.5	HSIIDC	8	1	1	Nil	0.5	0	0	8	NA
	Electoplating	4	48.45	HSIIDC	22.5	4	1	Nil	0.5	Nil	Nil	22.5	NA
	Pharmaceutical Formulation of injectable	2	6.8	HSIIDC	5.5	2	1	Nil	0.5	Nil	Nil	5.5	NA
	Phosphating &	2	3.1	HSIIDC	1.1	2	1	Nil	0.5	Nil	Nil	1.1	NA

Name of the Town	Sector wise	No. Of Industries	Water Consumption in KLD	Source of Water Supply	Industrial Effluent generation in KLD (Trade Effluent)	No. Of Industries attached to CETPs	No. of CETP		CETP capacity (in KLD)			Final mode of disposal of trade effluent in drains/river KLD	
							Existing	Proposed	Existing	Proposed	Under commissioning	Treated	Untreated
	Powder coating												
Panchkula City	Fermentation industry yeast, beer	5	14	HUDA	8.9	0	Nil	Nil	Nil	Nil	Nil	8.9	NA
	Printing Press	1	13	HUDA	11	0	Nil	Nil	Nil	Nil	Nil	11	NA
	Hotel Industry	9	110	HUDA/M. C/Own Tubewell	2	0	Nil	Nil	Nil	Nil	Nil	2	NA
	Building and Construction Project	1	80	HUDA	0	0	Nil	Nil	Nil	Nil	Nil	0	NA
	Hospitals	21	179.1	HUDA/M. C/Own Tubewell	5.4	0	Nil	Nil	Nil	Nil	Nil	5.4	NA
Panchkula Industrial Area Phase-1 & 2	Dairy Firm (Milk Product)	1	6	HUDA	5	0	Nil	Nil	Nil	Nil	Nil	5	NA
	Service Station	18	127.56	HUDA/Own tubewell	108.3	0	Nil	Nil	0	Nil	Nil	108.3	NA
	Electoplating	15	60.375	HUDA/Own Tubewell	41.8	0	0	0	0	0	0	41.8	NA
	Electroplati	1	500	HUDA	100	0	Nil	Nil	Nil	Nil	Nil	100	NA

Name of the Town	Sector wise	No. Of Industries	Water Consumption in KLD	Source of Water Supply	Industrial Effluent generation in KLD (Trade Effluent)	No. Of Industries attached to CETPs	No. of CETP		CETP capacity (in KLD)			Final mode of disposal of trade effluent in drains/river KLD	
							Existing	Proposed	Existing	Proposed	Under commissioning	Treated	Untreated
	ng (E-Waste)												
	Pharmaceutical Formulation for R & D Centre	2	5.7	HUDA	3.1	0	Nil	Nil	Nil	Nil	Nil	3.1	NA
	Printing Press	1	10	HUDA	8	0	Nil	Nil	Nil	Nil	Nil	8	NA
	Bakery and confectionary	2	23	HUDA	20	0	Nil	Nil	Nil	Nil	Nil	20	NA
	Pharmaceutical Formulation of injectable	1	35	HUDA/HSIIDC	20	0	0	0	0	Nil	Nil	20	NA
	Phosphating & Powder coating	3	7	HUDA	5.9	0	0	Nil	0	Nil	Nil	5.9	NA
	Lead/Copper ingot (Unit covered under schedule IV	1	2.2	HUDA	2	0	Nil	Nil	Nil	Nil	Nil	2	NA

Name of the Town	Sector wise	No. Of Industries	Water Consumption in KLD	Source of Water Supply	Industrial Effluent generation in KLD (Trade Effluent)	No. Of Industries attached to CETPs	No. of CETP		CETP capacity (in KLD)			Final mode of disposal of trade effluent in drains/river KLD	
							Existing	Proposed	Existing	Proposed	Under commissioning	Treated	Untreated
	of HWTM Rules)												
Naraingarh	Hospitals	10	10	HUDA/M.C/Own Tubewell	1.9	0	Nil	Nil	Nil	Nil	Nil	1.9	NA
Saha	Hotel Industry	1	4	M.C/Own Tubewell	2	0	Nil	Nil	Nil	Nil	Nil	2	NA
Ambala City	Dairy Firm (Milk Product)	1	244	Own Tubewell	156	0	Nil	Nil	Nil	Nil	Nil	156	NA
	Service Station	2	7	Own Tubewell	5	0	0	0	0	0	0	5	NA
	Electoplating	2	0.806	Own Tubewell/ M.C	0.506	0	0	Nil	Nil	Nil	Nil	0.506	NA
	Hotel Industry	1	15	M.C drain	0	0	0	0	0	0	0	0	0
	Tanneries (Semi finish to finshed leather)	1	30	Own Tubewell	28	0	Nil	Nil	Nil	Nil	Nil	28	NA
	Hospitals	22	22	HUDA/M.C/Own Tubewell	4.5	0	Nil	Nil	Nil	Nil	Nil	4.5	NA
Industrial Area, Ambala	Service Station	1	9	HSIIDC	8	0	Nil	Nil	Nil	Nil	Nil	8	NA
	Electoplati	10	5.3	Own	2.6	0	Nil	Nil	Nil	Nil	Nil	2.6	NA

Name of the Town	Sector wise	No. Of Industries	Water Consumption in KLD	Source of Water Supply	Industrial Effluent generation in KLD (Trade Effluent)	No. Of Industries attached to CETPs	No. of CETP		CETP capacity (in KLD)			Final mode of disposal of trade effluent in drains/river KLD	
							Existing	Proposed	Existing	Proposed	Under commissioning	Treated	Untreated
Cantt.	ng			Tubewell/ M.C									
	Phosphating & Powder coating	2	1.3	HSIIDC	0.6	2	1	Nil	0.5	Nil	Nil	0.6	NA
	Hospitals	11	11	HUDA/M.C/Own Tubewell	2.3	0	0	Nil	0	0	0	2.3	NA
Pehowa	Dairy Firm (Milk Product)	1	206	Own Tubewell	100	0	Nil	Nil	Nil	Nil	Nil	100	NA
	Paper Mills	1	4000	Tubewell	3350	0	Nil	Nil	Nil	Nil	Nil	3350	NA
	Hospitals	1	21.5	Own Tubewell	20	0	Nil	Nil	Nil	Nil	Nil	20	NA
Shahabad	Service Station	1	2.4	Own Tubewell	0.8	0	0	0	0	0	0	0.8	NA
	Hotel Industry	1	15	Own Tubewell	0	0	0	0	0	0	Nil	0	NA
	Hospitals	2	3.2	Own Tubewell/ M.C	0.4	0	Nil	Nil	Nil	Nil	Nil	0.4	NA
Kurukshetra City	Service Station	2	6	HUDA/Own tubewell	3.5	0	0	0	0	0	0	3.5	NA
	Hotel Industry	1	15	Own Tubewell	0	Nil	Nil	Nil	Nil	Nil	Nil	0	NA

Name of the Town	Sector wise	No. Of Industries	Water Consumption in KLD	Source of Water Supply	Industrial Effluent generation in KLD (Trade Effluent)	No. Of Industries attached to CETPs	No. of CETP		CETP capacity (in KLD)			Final mode of disposal of trade effluent in drains/river KLD	
							Existing	Proposed	Existing	Proposed	Under commissioning	Treated	Untreated
	Hospitals	19	37.9	Own Tubewell/ M.C	19.6	0	Nil	Nil	Nil	Nil	Nil	19.6	NA
Kurukshetra Industrial Area, Sec-2	Service Station	3	15.6	HUDA/Own tubewell	12.6	0	0	0	0	0	0	12.6	NA
	Pharmaceutical Formulation for R & D Centre	1	1.3	HUDA	0.3	0	0	Nil	Nil	Nil	Nil	0.3	NA
	Total	**197**	**5968.191**		**4126.506**							**4126.506**	

Annexure-5

Details of Industries inspected after 01.08.2018

Sr. No.	Name of unit	Date of inspection	Observations if the unit found non-complying otherwise write complying	Sampling results of effluent (results of the last sample to be given if not collected on the day of inspection)	Permissible limits of effluent samples	Compliance status / Remarks/ ATR
1	Ultimate Automobiles Pvt. Ltd, Plot No. 355, Indl-Area, Ph-II, Panchkula	26.11.2018	Non Complying	SS=332 BOD=48 COD=269.6	SS=100 BOD=30 COD=250	Closed by Board vide no. 6158 dated 04.01.2019 and Recommend for sanction of prosecution vide this office letter no. 425 dated 23.01.2019
2	EM PEE Motors Pvt. Ltd., Plot No. 72, Indl-Area, Ph-1, Panchkula	26.11.2018	Non Complying. 1. Unit is not having valid agreement with GEPIL for disposal of HW. 2. Capacity of ETP as informed by the representative of unit is 08 KLD but total effluent generation is 30 KLD. 3. No record of ETP sludge maintained. 4. pH meter non functional.	pH =7.16 SS=17 BOD=18 COD=102 O & G = ND	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	Recommended for Closure vide no. 457 dated 24.01.2019.
3	V.M.S Metal Works Pvt. Ltd, Plot No. 278-279, I.A, Phase-I, Panchkula	26.11.2018	Non Complying1. ETP is installed, but not in operation2. APCM at buffing Section not provided. 3. APCM on Electroplating Section not Provided.	pH=7.39SS=12COD=109.6O & G =NDAmmonical Nitrogen=NDHexavalent Chromium=NDTotal Chrominum=NDZinc=0.2Nickle=0.5Cynaide=NDIron=0.6	pH=6-9SS=100COD=250O & G =10Ammonical Nitrogen=50Zinc=5Cynaide=0.2Iron=3	SCN issued vide No. 4688 dated 10.12.2018 and Closed by Board by vide no. 6178 dated 04.01.2019

Sr. No.	Name of unit	Date of inspection	Observations if the unit found non-complying otherwise write complying	Sampling results of effluent (results of the last sample to be given if not collected on the day of inspection)	Permissible limits of effluent samples	Compliance status / Remarks/ ATR
4	Unique Himtech Pvt. Ltd, Plot No. 28, HSIIDC, Kalka, Industrial Area, Kalka, Panchkula	26.11.2018	Non Complying 1. No record of ETP sludge generation provided at the time of the inspection. 2. Authorization under HOWM Rules, 2016 not provided at the time of inspection.	pH=7.71 SS=56.8 BOD=27 COD=120 O & G =ND Zinc=0.4 Chromium=ND Hexavalent Chormium=ND Nickle=ND Copper=0.38 Iron=0.55	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10 Zinc=5 Chromium=2 Hexavalent Chormium=0.1 Nickle=3 Copper=3 Iron=3	SCN issued vide No. 4674 dated 10.12.2018 and unit replied on 20.12.2018
5	Essen Connectors Pvt. Ltd,. 23-24, PH-I, INDL-AREA, Panchkula	26.11.2018	Non Complying.1. APCM on Electroplating Section not Provided.	pH=6.89SS=38O & G =0.2Cyanide=NDAmmonical Nitrogen=2.1Total residual chlorine=0.8Cadmium= NDNickel=0.82Zinc=0.9Hexavalent Chromium=NDTotal Chromium=0.66Copper=1.4Lead=NDIron=1.22Total Metal=5.0	pH=6-9SS=100O & G =10Cyanide=0.2Ammonical Nitrogen=50Total residual chlorine=1Cadmium= 2Nickel=3Zinc=5Hexavalent Chromium=0.1Total Chromium=2Copper=3Lead=0.1Iron=3.0Total Metal=10	SCN issued vide No. 4672 dated 10.12.2018 and unit replied on 18.12.2018. Recommended for closure vide no. 5219 dated 21.12.2018

Sr. No.	Name of unit	Date of inspection	Observations if the unit found non-complying otherwise write complying	Sampling results of effluent (results of the last sample to be given if not collected on the day of inspection)	Permissible limits of effluent samples	Compliance status / Remarks/ ATR
6	The Ambala Distt.. Co-OP. Milk Production Producers Union Ltd. G.T. Road, Ambala City.	26.11.2018	Complying	pH =7.44 SS=49 BOD=19 COD=90.8 O & G = 2	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	NA
7	Metro Motors, 106, Railway Road, Ambala Cantt.	26.11.2018	Non Complying1. pH meter not working.2. Log book of ETP not maintained after 12.11.2018.	pH =8.65SS=83BOD=24COD=106.0O & G = 2.5	pH=5.5-9SS=100BOD=30COD=250O & G =10	SCN issued vide No. 4660 dated 10.12.2018 and unit replied on 20.12.2018.
8	Modern Automobiles, NH-1, Adjoining Model Town Crossing, Ambala City	26.11.2018	Non Complying 1. Log book of ETP not maintained. 2. pH meter and Energy meter not found working. 3. Proper record of ETP sludge generation not maintained. 4. Housekeeping conditions not good.	pH=7.06 SS=78.0 BOD=24 COD=119.2 O & G =3.5	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	SCN issued vide No. 4662 dated 10.12.2018 and unit replied on 19.12.2018.
9	Haryana Milk Food Ltd., Vill. Usmanpur, Kaithal Road, Pehowa, Distt. Kurukshetra	26.11.2018	Non Complying	SS= 120 BOD= 46	SS=100 BOD=30	SCN issued vide No. 5232 dated 21.12.2018 and unit replied on 12.01.2019. Recommend for sanction of prosecution vide this office letter no. 435 dated 24.01.2019

Sr. No.	Name of unit	Date of inspection	Observations if the unit found non-complying otherwise write complying	Sampling results of effluent (results of the last sample to be given if not collected on the day of inspection)	Permissible limits of effluent samples	Compliance status / Remarks/ ATR
10	Sainsons Paper Indus. Ltd., Plot No. 5, Vill Bakhli, Pehowa, Kurukshetra.	26.11.2018	Complying	pH=8.4 SS=20 BOD=24 COD=144 O & G =6	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	NA
11	Motel Golden Saras, G.T Road, VPO Masana, Kuruskehtra	26.11.2018	Non Complying	pH=7.1SS=180BOD=70COD =320O & G =18	pH=5.5-9SS=100BOD=30COD=250O & G =10	Recommended for Closure vide no. 157 dated 04.01.2019 and Recommend for sanction of prosecution vide this office letter no. 449 dated 24.01.2019
12	Kapoor Enterprise 102, Vikaspuri, Near Sai Baba Mandir, Ambala Cantt.	26.11.2018	Non Complying 1. Not obtained CTO under Water (Prevention & Control of Pollution) Act, 1974 & Air (Prevention and Control of Pollution) Act, 1981. 2. Not installed ETP for treatment of trade effluent.	NA	NA	SCN issued vide No. 4666 dated 10.12.2018 and Closed by Board vide no. 6262 dated 15.01.2019 and Recommend for sanction of prosecution vide this office letter no. 410 dated 21.01.2019
13	Coatings & Chemicals, 113, Inds-Area, Ambala Cantt	26.11.2018	Non Complying.	pH=3.67 SS=204 BOD=70 COD=287.6	pH=5.5-9 SS=100 BOD=30 COD=250	Recommended for Closure vide no. 369 dated 17.01.2019 and Recommend for

Sr. No.	Name of unit	Date of inspection	Observations if the unit found non-complying otherwise write complying	Sampling results of effluent (results of the last sample to be given if not collected on the day of inspection)	Permissible limits of effluent samples	Compliance status / Remarks/ ATR
				O & G =7	O & G =10	sanction of prosecution vide this office letter no. 408 dated 21.01.2019.
14	M.M Continental (Hotel), Village -Mullana, District - Ambala	26.11.2018	Complying	pH=7.31 SS=56 BOD=24 COD=122 O & G =2.5	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	NA
15	Viking Tanners, Inc. Plot No 23, IDC, Near Motor Market, Ambala City	26.11.2018	Non Complying	pH=6.67SS=24BOD=80COD =272O & G =12.5Ammonical Nitrogen=3.36TDS=1420Chlorides=290Total Hardness=368Calcium=100 Magnesium=28.674Phenolic Compund=NDSulphate=680.6Copper=NDZinc=0.013	pH=5.5-9SS=100BOD=30COD=250O & G =10Phenolic Compund=1	Closed by Board vide no. 6248 dated 15.01.2019 and Recommend for sanction of prosecution vide this office letter no. 409 dated 21.01.2019
16	THE INDIAN EXPRESS LTD., PLOT NO. C-5, SECTOR-6, PANCHKULA	03.12.2018	Complying	pH=8.72 SS=32 BOD=23 COD=109.2 O & G =2.5	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	NA
17	Ojas Super Specialty Hospital, Site no. H1, Sec-26, Panchkula	03.12.2018	Complying	pH=7.98 SS=37 BOD=21 COD=90	pH=5.5-9 SS=100 BOD=30 COD=250	NA

Sr. No.	Name of unit	Date of inspection	Observations if the unit found non-complying otherwise write complying	Sampling results of effluent (results of the last sample to be given if not collected on the day of inspection)	Permissible limits of effluent samples	Compliance status / Remarks/ ATR
				O & G =2.5	O & G =10	
18	Paras Bliss Hospital Swastik Vihar, Ph-I, Sec-5, Panchkula	03.12.2018	Non Complying 1. Logbook of ETP not maintained by the unit.	pH=6.71 SS=9.0 BOD=12 COD=45.2 O & G =ND	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	SCN issued vide No. 4680 dated 10.12.2018 and unit replied on 20.12.2018.
19	Parbhat Hotels Pvt. Ltd., Site No. 4, Sector 10, Panchkula	03.12.2018	Non Complying 1. ETP not found working during inspection. 2. Logbook of ETP not maintained by the unit.	pH=3.59 SS=8870 BOD=350 COD=1180 O & G =22.5	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	SCN issued vide No. 5358 dated 28.12.2018 and unit replied on 17.12.2018. Recommend for sanction of prosecution vide this office letter no. 456 dated 24.01.2019.
20	CONTEL BELLA VISTA SECTOR -5, PANCHKULA	03.12.2018	Non Complying1. No ETP Sludge found during inspection.2. ETP not working satisfactorily during inspection.	pH=7.21SS= 48.9BOD= 23COD= 110O & G = ND	pH=5.5-9SS=100BOD=30COD=250O & G =10	SCN issued vide No. 4676 dated 10.12.2018 and unit replied on 18.12.2018.
21	Alchemist Hospital Ltd., Sector-21, Panchkula	03.12.2018	Non Complying	pH=5.60 SS=118 BOD=110 COD=367.6 O & G =7	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	SCN issued vide No. 5234 dated 21.12.2018 and unit replied. Recommend for sanction of prosecution vide this office letter no. 458

Sr. No.	Name of unit	Date of inspection	Observations if the unit found non-complying otherwise write complying	Sampling results of effluent (results of the last sample to be given if not collected on the day of inspection)	Permissible limits of effluent samples	Compliance status / Remarks/ ATR
						dated 24.01.2019.
22	Miri Piri Institute of Medical Sciences Research, G.T. Road, Shahbad, Markanda, Kurukshetra	03.12.2018	Complying	pH=8.8 SS=20 BOD=16 COD=48 O & G =ND	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	NA
23	Shri Balaji Aarogyam Hospital, Behind Old Bus Stand, Kurukshetra	03.12.2018	Non Complying	pH=9.6 SS=120 BOD=46 COD=128 O & G =6	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	SCN issued vide No. 5228 dated 21.12.2018 and unit replied on 10.01.2019 through E-mail and hard copy 17.01.2019. Recommend for sanction of prosecution vide this office letter no. 448 dated 24.01.2019
24	Virk Hospital, SCO 16-17, Sec-17, Kurukshetra	03.12.2018	Non Complying	pH=9.3SS=230BOD=80COD =288O & G=8	pH=5.5-9SS=100BOD=30COD=250O & G =10	SCN issued vide No. 5236 dated 21.12.2018 and unit replied on 16.01.2019 through E-mail. Recommend for sanction of prosecution vide this office letter no. 441 dated 24.01.2019.

Sr. No.	Name of unit	Date of inspection	Observations if the unit found non-complying otherwise write complying	Sampling results of effluent (results of the last sample to be given if not collected on the day of inspection)	Permissible limits of effluent samples	Compliance status / Remarks/ ATR
25	Saraswati Mission Hospital, Ambala Road, Pehowa, Kurukshetra	03.12.2018	Non Complying	pH=8.2 SS=190 BOD=80 COD=264 O & G =6	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	SCN issued vide No. 5224 dated 21.12.2018 and recommend for sanction of prosecution vide this office letter no. 450 dated 24.01.2019.
26	Aggarwal Nursing Home, Salarpur Road, Kurukshetra	03.12.2018	Non Complying	pH=8.8 SS=490 BOD=190 COD=720 O & G =16	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	SCN issued vide No. 5226 dated 21.12.2018 and unit replied on 16.01.2019. Recommend for sanction of prosecution vide this office letter no. 451 dated 24.01.2019.
27	Luxmi Switch Gear Pvt. Ltd., Plot No. 82, Ind. Area, Ph-I, Panchkula.	23.01.2019	Non Complying1. Sludge drying bed not provided by the unit.2. Reaction unit not proper.3. pH meter not working.4. Flow meter on outlet of unit not provided.5. Storage site for hazardous waste not provided.	pH=7.89SS=14BOD=9COD=34.4O & G =ND	pH=5.5-9SS=100BOD=30COD=250O & G =10	SCN issued vide No. 467 dated 25.01.2019.
28	Venus Remedies Limited, 51-52, Industrial Area, Ph-I, Panchkula	23.01.2019	Non Complying 1. Agreement of unit made with TSDF-GEPIL expired on 21.02.2018. 2. No storage site of Hazardous Waste	pH=8.4 SS=14 BOD=15.6 COD=49.2	pH=5.5-9 SS=100 BOD=30 COD=250	SCN issued vide No. 461 dated 25.01.2019.

Sr. No.	Name of unit	Date of inspection	Observations if the unit found non-complying otherwise write complying	Sampling results of effluent (results of the last sample to be given if not collected on the day of inspection)	Permissible limits of effluent samples	Compliance status / Remarks/ ATR
			provided. 3. No record of Hazardous Waste transported to GEPIL. 4. Logbook not maintained properly. 5. Kitchen wasted is discharged directly into sewer without treatment. 6. Boiler erection done without taking CTE expansion from HSPCB.	O & G =ND Lead=ND Hexavalent Chromium=ND Total Chromium=ND Copper=ND Zinc=0.065 Nickel=ND Dissolved phosphates=ND Sulphide=ND Iron=0.057	O & G =10 Lead=0.1 Dissolved Phosphate=5.0 Sulphide=2.0	
29	A.K. International, Plot No. 267, Ind. Area, Ph-I, Panchkula.	23.01.2019	Non Complying1. Board of Hazardous Waste information not provided by the unit at the entrance gate.2. Proper storage room for hazardous waste not provided.3. Housekeeping conditions not good.4. Dosing of poly electrolyte not proper.	pH=6.62SS=14COD=38.4O & G= NDAmmonical Nitrogen=NDCopper=0.004 Zinc=0.274Nickle=0.1Iron= 1.347Total Chromium=NDHexavalent Chormium=NDLead =ND	pH=5.5-9SS=100COD=250 O & G =10Iron=3.0Ammonical Nitrogen=50	SCN issued vide No. 463 dated 25.01.2019
30	Raghav Industries, Plot No. 392, I.A, Phase-II, Panchkula	12.11.2018	Complying	pH=6.59 SS=78 BOD=28 COD=140 O & G =ND	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	NA
31	DLF Homes Panchkula Pvt. Ltd, Vill. Islam Nagar, Bhagwanpur, Sec-3, Distt. Panchkula	27.11.2018	Complying	pH=7.34 SS=7 BOD=14 COD=65.2 O & G =ND	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10	NA
32	Troika International Pvt.	20.09.2018	Complying	pH=6.89SS=24COD=90O &	pH=5.5-	NA

Sr. No.	Name of unit	Date of inspection	Observations if the unit found non-complying otherwise write complying	Sampling results of effluent (results of the last sample to be given if not collected on the day of inspection)	Permissible limits of effluent samples	Compliance status / Remarks/ ATR
	Ltd., # 248, Ind-Area, PH-1, Panchkula			G =2.5Ammonical Nitrogen=NDZinc=0.45Chromium=0.26Hexavalent Chromium=0.05Nickle=0.14Copper=0.62Iron=0.36Total Metal=1.83	9SS=100COD=250 O & G =10Ammonical Nitrogen=50Zinc=5Chromium=2Hexavalent Chromium=0.1Nickle=3Copper=3Iron=3Total Metal=10	
33	WELCOME CROP HEALTH PRODUCTS VILL & PO. MOULI, PANCHKULA	24.09.2018	Complying	pH=7.84 SS=8 BOD=9 COD=48.8 O & G =ND Calcium=140 Magnisium=63.18 Phenolic Compound=ND Copper=ND Zinc=0.3 Nickle=ND Iron=0.7 Total Chromium=ND Hexavalent Chromium=ND Dissolved Phosphate= 0.844 Nitrate=1.327	pH=5.5-9 SS=100 BOD=30 COD=250 O & G =10 Phenolic Compound=1.0	NA
34	5 MLD STP MOTI NAGAR,	09.08.2018	Complying	pH=7.41	pH=5.5-9	NA

Sr. No.	Name of unit	Date of inspection	Observations if the unit found non-complying otherwise write complying	Sampling results of effluent (results of the last sample to be given if not collected on the day of inspection)	Permissible limits of effluent samples	Compliance status / Remarks/ ATR
	Ambala			SS=10 BOD=17 COD=59.6 O & G =ND	SS=100 BOD=30 COD=250 O & G =10	
35	Panchkula Roller Flour Mills Ltd., Plot No. 79, Ind. Area, Phase-I, PKL	04.12.2018	Complying	pH=7.3SS=18BOD=12COD=49.2O & G =ND	pH=5.5-9SS=100BOD=30COD=250O & G =10	NA

Annexure-6

List of closed industries w.e.f. 01.08.2018.

Name & address of the Unit	Closure order Date	Reason for Closure	Present Status
Unit of Sh. Baru Ram S/o Sh. Sumittr Pal R/o Village Gumthala Gahru, Distt. Kurukshetra.	13.08.2018	Illegal operating without CTE/CTO	Unit still lying closed
Unit of Sh. Jethu Ram S/o Sh. Surja Ram. R/o Village Gumthala Gahru, Pehowa, Distt. Kurukshetra.	07.08.2018	Illegal operating without CTE/CTO	Unit still lying closed
Unit of Sh. Jasbir Singh, R/o Village Gumthala Gahru, Pehowa, Distt. Kurukshetra	07.08.2018	Illegal operating without CTE/CTO	Unit still lying closed
Manpreet casting, Naraingarh Road, Katholi, Ambala	14.09.2018	Illegal operating without CTE/CTO	Closed by Board
Frontier agencies, Vill-Dukheri, Ambala Road, Ambala Cantt.	31.08.2018	Illegal operating without CTE/CTO	Unit still lying closed
Guru Nank Screening plant, Vill-Miyanpur, Ambala	31.08.2018	Illegal operating without CTE/CTO	Unit still lying closed
Shree Krishna Foods & Beverages, Near-Keshopur, Vill-Manglai, Saha Road, Ambala Cantt.	31.08.2018	Illegal operating without CTE/CTO	Unit still lying closed
Luxmi Engineering works, Vill-Khuda Khurd, Saha, Ambala	31.08.2018	Illegal operating without CTE/CTO	Closed by Board
Sidak Automobiles, VPO-Khuddi Saha, ambala	31.08.2018	Illegal operating without CTE/CTO	Closed by Board
Beena Traders(Inside Sanjay Agro industry), Behind- Partap Fabric, Dukheri Road, NH-1, Ambala Cantt.	15.11.2018	Illegal operating without CTE/CTO	Unit still lying closed
Markanda Enterprises, Ambala	20.12.2018	Illegal operating without CTE/CTO	Closed by Board
Simran Ice Factory, Nahan House, Ambala	20.12.2018	Illegal operating without CTE/CTO	Closed by Board
Pavani Infracon Ltd., Vill-Khetpurali, Panchkula	02.01.2019	Illegal operating without CTE/CTO	Closed by Board
Gupta Lime, Vill-Golpura, Barwala, Panchkula	02.01.2019	Illegal operating without CTE/CTO	Closed by Board
Sidhigan Plywood, Vill-Shahzadpur, Tehsil-Naraingarh, Ambala	02.01.2019	Illegal operating without CTE/CTO	Closed by Board
Supreme Engineers, Ambala	02.01.2019	Illegal operating without CTE/CTO	Closed by Board

Annexure-7

Action Plan of Irrigation Department for De-silting/ cleaning of drains in the catchment of River Ghaggar.

Sr. No.	Name of Drain to be Desilted	Timelines for the execution of cleaning work
	BWS Kaithal	
1.	Internal clearance of Saraswati Drain RD. 0-5000	May/June/2018
2.	Internal clearance of Kakrala Inyat Link Drain RD 0-16900	May/June/2018
3.	Internal clearance of Ghaggar Creak Drain RD. 0-50730	May/June/2018
4.	Internal clearance of Saraswati Drain RD. 0-14000	May/June/2018
5.	Internal clearance of Meerapur Choe Drain RD. 44500-52000	May/June/2018
6.	Internal clearance of Papsar Link Drain RD. 0-21300	May/June/2018
7.	Internal clearance of Nauch Mangna Link Drain RD. 0-9200	May/June/2018
8.	Internal clearance of Devigarh Link Drain RD. 0-12000.	May/June/2018
9.	Internal clearance of Geong Link Drain RD. 18000-34000	May/June/2018
10.	Removing Jungle clearance of Kaithal Drain RD. 91987-132800	May/June/2018
11.	Removing Jungle clearance of Kaithal Drain RD. 108600-91987	May/June/2018
12.	Removing Jungle clearance of Kaithal Drain RD. 91987-97500	May/June/2018
13.	Removing Jungle clearance of Kaithal Drain RD. 127500-108600	May/June/2018
14.	Removing Jungle clearance of Kaithal Drain RD. 56000-91987	May/June/2018
15.	Removing Jungle clearance of Mago Majri Link Drain Rd. 0-24100	May/June/2018
16.	Removing Jungle clearance of Manas Link Drain Rd. 0-18500	May/June/2018
17	Amin Drain from RD 0-140000	May/June/2018
18	Pundri Drain No.1 from RD 0-99590	May/June/2018
19	Kassan Drain from RD 0-59090	May/June/2018
20	Pundri Link Drain from RD 0-22743	May/June/2018
21	Peoda L-Drain from RD 0-30240	May/June/2018
22	Peoda Sub L-Drain from RD 0-12160	May/June/2018
23	Titram L-Drain from RD 0-9000	May/June/2018
24	Fatehpur L-Drain from RD 0-9300	May/June/2018
25	Kailram L-Drain from RD 0-10300	May/June/2018
26	Kaul link drain RD 0-5000	May/June/2018
	BWS Sirsa	
1	Internal clearance of Rori Ghaggar Drain from RD 100000 to 130750-Tail and its 4 Nos.subsidiary drains. A. Surtia Link Drain No. II RD 0- 7500 B. Surtia Sub Link Drain No. I RD 0- 5300 C. Surtia Sub Link Drain No. II RD 0- 4600 D. Surtia Sub Link Drain No. III RD 0- 800	Completed upto 30.06.2018
2	Internal Clearance of Rania Link Drain from RD 0- 13000 Tail	Completed upto 30.06.2018
3	Link Drain No. 1 (Jhorar Rohi) RD 0- 3500	Completed upto 30.06.2018
4	Internal clearance of HGMPD RD 0- 141000	Completed upto 30.06.2018

Sr. No.	Name of Drain to be Desilted	Timelines for the execution of cleaning work
5	Rangoi Kharif Channel	Completed upto 30.06.2018
6	Banmandori Drain No. 1	Completed upto 30.06.2018
7	Banmabndori Field Drain II	Completed upto 30.06.2018
8	Banmabndori Field Drain III	Completed upto 30.06.2018
9	Banmandori Drain No. 4.	Completed upto 30.06.2018
10	Banmandori Ditch Drain outfalliang at RD 400-L	Completed upto 30.06.2018
11	Nathusari Link Drain RD 0- 9750	Completed upto 30.06.2018
12	Darba Link Drain	Completed upto 30.06.2018
	BWS Fatehabad	
1	Sirhind Choe RD 0-19580	Completed upto 30.06.2018
2	Rangoi Diversion Drain RD 0-14350	Completed upto 30.06.2018
3	Bareta Drain RD 0-28730	Completed upto 30.06.2018
4	Toderpur Link Drain RD 0-7100	Completed upto 30.06.2018
5	Gorakhpur Drain RD 0-7200	Completed upto 30.06.2018
6	Pariphari Drain RD 0-8900	Completed upto 30.06.2018
7	Unchu Drain RD 0-4850	Completed upto 30.06.2018
8	Mahmadpur Rohi Pucca Drain RD 0-9000	Completed upto 30.06.2018
9	M-III Drain RD 425-8000	Completed upto 30.06.2018
10	Kirdhan Link Drain RD 0-10000	Completed upto 30.06.2018
11	Bhattu Link Drain RD 0-8000	Completed upto 30.06.2018
12	Rangoi Kharif Channell RD 0-153600	Completed upto 30.06.2018
13	Hisar Ghaggar Multipurpose Channel RD 141000 -205230	Completed upto 30.06.2018
14	Gorakhpur Link Drain RD 0-5200	Completed upto 30.06.2018
	BWS-I Hisar	
1	Drain 'A' -6220 ft	Cleared before 30.06.2018
2	Drain 'D'-15000ft	Cleared before 30.06.2018
3	Drain 'E'-3750ft	Cleared before 30.06.2018
4	Drain 'F'-1500ft	Cleared before 30.06.2018
5	Drain 'G'-3000ft	Cleared before 30.06.2018
6	Drain 'M'-6000ft	Cleared before 30.06.2018
7	Drain 'N'-6000ft	Cleared before 30.06.2018
8	Drain 'X'-7000ft	Cleared before 30.06.2018
9	Drain 'Y'-7000ft	Cleared before 30.06.2018
10	Dabra Ditch Drain-6500ft	Cleared before 30.06.2018
11	Ditch Drain along Barwala Branch RD 120000 to 129000 and 103000 to 108000 R/Side of Barwala Branch-14000ft	Cleared before 30.06.2018
12	Ghirai Field Drains.-6000ft	Cleared before 30.06.2018
13	Hisar Drain-98000ft	Cleared before 30.06.2018
14	Hisar Ghaggar Multipurpose Channel-128950ft+64420ft=193370ft	Cleared before 30.06.2018
15	Kabir Link Drain-4900ft	Cleared before 30.06.2018
16	Khanpur Sisai Link Drain-47000ft	Cleared before 30.06.2018
17	Khokha Link Drain-2350ft	Cleared before 30.06.2018
18	Mirkan Field Drain-3000ft	Cleared before 30.06.2018
19	Mirzapur Field Drain-7500ft	Cleared before 30.06.2018
20	Raipur Link Drain-6500ft	Cleared before 30.06.2018
21	Satrod Mirka Drain-37400ft	Cleared before 30.06.2018
22	Badala Drain O/F RD 123275-R, BMC-3800ft	Cleared before 30.06.2018
23	Badala 'A' Drain O/F RD 119640-R, BMC-3970ft	Cleared before 30.06.2018

Sr. No.	Name of Drain to be Desilted	Timelines for the execution of cleaning work
24	Badchapper Drain-4000ft	Cleared before 30.06.2018
25	Bas Multipurpose channel-155580 ft	Cleared before 30.06.2018
26	Bass Ptr. Drain O/F RD 40000-R, Siwani Feeder- 18750ft	Cleared before 30.06.2018
27	Bass 'A' Drain O/F RD 14800-R, Bass Kharbala Drain-8000ft	Cleared before 30.06.2018
28	Bass Kharbala Drain O/F RD 157500-R, SS Branch-18750ft	Cleared before 30.06.2018
29	Bass Kharbala Field Drain O/F RD 104000-L, BMC-27600ft	Cleared before 30.06.2018
30	Bhaklana Drain O/F RD 8100-L, Bass Petwar Drain-20000ft	Cleared before 30.06.2018
31	Bhatol Drain-26350ft	Cleared before 30.06.2018
32	Budana Drain-10350ft	Cleared before 30.06.2018
33	D/Drain along H M Disty -48600ft	Cleared before 30.06.2018
34	D/Drain along H M Disty -37800ft	Cleared before 30.06.2018
35	D/Drain along H M Disty left side-31300ft	Cleared before 30.06.2018
36	Dhani Kendu Dr-7100ft	Cleared before 30.06.2018
37	Dhani Pal Drain O/F RD 25000-R, Bhatla Minor-11215ft	Cleared before 30.06.2018
38	Hansi Drain O/F RD 62000-L, Balsamand S/Br.-81325ft	Cleared before 30.06.2018
39	Hansi Multipurpose Channel O/F RD 125-R, BMC-38320ft	Cleared before 30.06.2018
40	Jamawari Drain O/F RD 14075-L, Kumbha Drain-4200ft	Cleared before 30.06.2018
41	Kharkra Drain O/F RD 12300-R, Bhatol Drain-9650ft	Cleared before 30.06.2018
42	Kharkra 'A' Drain O/F RD 21300-R, Bhatol Drain-3800ft	Cleared before 30.06.2018
43	Khumba Drain O/F RD 72400, Hansi Drain-25100ft	Cleared before 30.06.2018
44	Lohari Drain-17440ft	Cleared before 30.06.2018
45	Mohalla Bhaklana Drain O/F RD 17000-L, Bhaklana Drain-2600ft	Cleared before 30.06.2018
46	Moth Link Drain O/F RD 47676-R, Sisai Drain-37246ft	Cleared before 30.06.2018
47	Narnaund Drain O/F RD 37246, Moth Drain-19689ft	Cleared before 30.06.2018
48	Petwar Link Drain O/F RD 30280-L, Thurana Drain-16000ft	Cleared before 30.06.2018
49	Puthi Drain-2464ft	Cleared before 30.06.2018
50	Puthi 'A' Drain-790ft	Cleared before 30.06.2018
51	Puthi Mundal Link Drain-49970ft	Cleared before 30.06.2018
52	Singhwa 'A' Drain O/F RD 23890, Puthi Mundhal Link Dr.-3700ft	Cleared before 30.06.2018
53	Singhwa Drain-2800ft	Cleared before 30.06.2018
54	Sisai Bola Drain-4500ft	Cleared before 30.06.2018
55	Sisai Drain O/F RD 31225-R, Hansi Drain-55089ft	Cleared before 30.06.2018
56	Sorkhi Drain O/F RD 91450-L, BMC-9650ft	Cleared before 30.06.2018
57	Sulchani Drain-9000ft	Cleared before 30.06.2018
58	Thurana Drain O/F RD 78350, Hansi Drain-30280ft	Cleared before 30.06.2018
59	Ugalan Drain O/F RD 37000-L, New Siwani Feeder-30000ft	Cleared before 30.06.2018
	SYL Ambala	
1	SYL Parallel drain RD 0-31711	30.06.2018
2	Baknour drain RD 0-8500.	29.06.2018
3	Baknour area drain RD 0-7000	26.06.2018
4	Jodha Nallah RD 0-18000	29.06.2018
5	Khera Nadiali drain 0-12550	25.06.2018
6	Sullar drain RD 0-20100 (Except 10800 –8200)	21.06.2018
7	Barouli Drain RD 0-2000	24.06.2018
8	Chaurmastpur drain RD 0-7700	22.06.2018

Sr. No.	Name of Drain to be Desilted	Timelines for the execution of cleaning work
9	Ganda Nallah RD 0-69000	30.06.2018
10	Outfall link drain RD 0-2800	26.06.2018
11	Ghaggar creek in downstream portion of Ghel drain.	30.06.2018
12	Drain along Ghel Road right side from RD 0-4000	18.06.2018
13	Drain along Ghel Road left side from RD 0-4300	25.06.2018
12	Ghallary drain RD 0-3500	29.06.2018
13	Ghallery link drain D/S Inlet RD 0-3240	29.06.2018
14	Hemamjra Ghallary drain 0-4600	30.06.2018
15	Allahapur drain (Harda Hardi) RD 0-10800	30.06.2018
16	Dhanana Choe	06.07.2018
17	Holi drain RD 0-2600	27.06.2018
18	Milkdhan Kota drain 0-3800	02.07.2018
19	Gokalgarh drain RD 0-5000	25.06.2018
20	Pathehri drain RD 0-19800	16.07.2018
21	Panjeton drain RD 0-4000	27.06.2018
22	Tepla drain RD 0-35000	01.07.2018
23	Khuda drain RD 0-2200	07.06.2018
24	Mahesh Nagar drain RD 0-42000 except 6000 to 15000	04.07.2018
25	Cunnettee of D/S Inlet of Mahesh Nagar drain RD 0-2132	30.06.2018
26	Singhawala drain RD 0-6650	21.06.2018
27	Kanshi Nagar drain RD 0-2360	17.06.2018
28	Gurguria Nallah RD 0-2350	19.06.2018
29	Air field diversion drain from RD 0-18424	03.07.2018
30	3 Nos. Air field drain	20.06.2018
31	Ambala Drain	22.06.2018
32	Ghel Drain	22.06.2018
Drains to be desilted/cleared during 2019		
Sr. No.	**BWS Kaithal**	**Timelines for the execution of cleaning work**
1.	Internal clearance of Saraswati Drain RD. 0-5000	April-June, 2019.
2.	Internal clearance of Kakrala Inyat Link Drain RD 0-16900	-do-
3.	Internal clearance of Ghaggar Creak Drain RD. 0-50730	-do-
4.	Internal clearance of Saraswati Drain RD. 0-14000	-do-
5.	Internal clearance of Meerapur Choe Drain RD. 44500-52000	-do-
6.	Internal clearance of Papsar Link Drain RD. 0-21300	-do-
7.	Internal clearance of Nauch Mangna Link Drain RD. 0-9200	-do-
8.	Internal clearance of Devigarh Link Drain RD. 0-12000.	-do-
9.	Internal clearance of Geong Link Drain RD. 18000-34000	-do-
10.	Removing Internal clearance & Jungle clearance of Kaithal Drain RD. 18000-163600	-do-
11.	Removing Internal clearance & Jungle clearance of Mago Majri Link Drain Rd. 0-24100	-do-
12.	Removing Internal clearance & Jungle clearance of Manas Link Drain Rd. 0-18500	-do-
13	Amin Drain from RD 0-140000,	-do-
14	Pundri Drain No.1 from RD 0-99590	-do-
15	Kassan Drain from RD 0-59090	-do-
16	Pundri Link Drain from RD 0-22743	-do-
17	Peoda L-Drain from RD 0-30240	-do-
18	Peoda Sub L-Drain from RD 0-12160	-do-
19	Titram L-Drain from RD 0-9000	-do-
20	Fatehpur L-Drain from RD 0-9300	-do-

Sr. No.	Name of Drain to be Desilted	Timelines for the execution of cleaning work
21	Kailram L-Drain from RD 0-10300	-do-
22	Kaul link drain RD 0-5000	-do-
	BWS Sirsa	
1	Internal clearance of Rori Ghaggar Drain from RD 100000 to 130750-Tail and its 4 Nos. subsidiary drains. A. Surtia Link Drain No. II RD 0- 7500 B. Surtia Sub Link Drain No. I RD 0- 5300 C. Surtia Sub Link Drain No. II RD 0- 4600 D. Surtia Sub Link Drain No. III RD 0- 800	April to June, 2019
2	Internal Clearance of Rania Link Drain from RD 0-13000 Tail	April to June, 2019
3	Link Drain No. 1 (Jhorar Rohi) RD 0- 3500	April to June, 2019
4	Internal clearance of HGMPD RD 0- 141000	April to June, 2019
5	Rangoi Kharif Channel	April to June, 2019
6	Banmandori Drain No. 1	April to June, 2019
7	Banmabndori Field Drain II	April to June, 2019
8	Banmabndori Field Drain III	April to June, 2019
9	Banmandori Drain No. 4.	April to June, 2019
10	Banmandori Ditch Drain outfalliang at RD 400-L	April to June, 2019
11	Nathusari Link Drain RD 0- 9750	April to June, 2019
12	Darba Link Drain	April to June, 2019
	BWS Fatehabad	
1	Rangoi Nallah Km 0-14.672	May to June, 2019
2	Sirhind Choe RD 0-19580	May to June, 2019
3	Rangoi Diversion Drain RD 0-14350	May to June, 2019
4	Bareta Drain RD 0-28730	May to June, 2019
5	Toderpur Link Drain RD 0-7100	May to June, 2019
6	Gorakhpur Drain RD 0-7200	May to June, 2019
7	Pariphari Drain RD 0-8900	May to June, 2019
8	Unchu Drain RD 0-4850	May to June, 2019
9	Mahmadpur Rohi Pucca Drain RD 0-9000	May to June, 2019
10	M-III Drain RD 425-8000	May to June, 2019
11	Kirdhan Link Drain RD 0-10000	May to June, 2019
12	Bhattu Link Drain RD 0-8000	May to June, 2019
13	Rangoi Kharif Channell RD 0-153600	May to June, 2019
14	Hisar Ghaggar Multipurpose Channel RD 141000 -205230	May to June, 2019
15	Gorakhpur Link Drain RD 0-5200	May to June, 2019
16	Matkana Drain RD 0-5000	May to June, 2019
	BWS-I Hisar	
1	Drain 'A' -6220 ft	May to June, 2019
2	Drain 'D'-15000ft	May to June, 2019
3	Drain 'E'-3750ft	May to June, 2019
4	Drain 'F'-1500ft	May to June, 2019
5	Drain 'G'-3000ft	May to June, 2019
6	Drain 'M'-6000ft	May to June, 2019

Sr. No.	Name of Drain to be Desilted	Timelines for the execution of cleaning work
7	Drain 'N'-6000ft	May to June, 2019
8	Drain 'X'-7000ft	May to June, 2019
9	Drain 'Y'-7000ft	May to June, 2019
10	Dabra Ditch Drain-6500ft	May to June, 2019
11	Ditch Drain along Barwala Branch RD 120000 to 129000 and 103000 to 108000 R/Side of Barwala Branch-14000ft	May to June, 2019
12	Ghirai Field Drains.-6000ft	May to June, 2019
13	Hisar Drain-98000ft	May to June, 2019
14	Hisar Ghaggar Multipurpose Channel-128950ft+64420ft=193370ft	May to June, 2019
15	Kabir Link Drain-4900ft	May to June, 2019
16	Khanpur Sisai Link Drain-47000ft	May to June, 2019
17	Khokha Link Drain-2350ft	May to June, 2019
18	Mirkan Field Drain-3000ft	May to June, 2019
19	Mirzapur Field Drain-7500ft	May to June, 2019
20	Raipur Link Drain-6500ft	May to June, 2019
21	Satrod Mirka Drain-37400ft	May to June, 2019
22	Badala Drain O/F RD 123275-R, BMC-3800ft	May to June, 2019
23	Badala 'A' Drain O/F RD 119640-R, BMC-3970ft	May to June, 2019
24	Badchapper Drain-4000ft	May to June, 2019
25	Bas Multipurpose channel-155580 ft	May to June, 2019
26	Bass Ptr. Drain O/F RD 40000-R, Siwani Feeder- 18750ft	May to June, 2019
27	Bass 'A' Drain O/F RD 14800-R, Bass Kharbala Drain-8000ft	May to June, 2019
28	Bass Kharbala Drain O/F RD 157500-R, SS Branch-18750ft	May to June, 2019
29	Bass Kharbala Field Drain O/F RD 104000-L, BMC-27600ft	May to June, 2019
30	Bhaklana Drain O/F RD 8100-L, Bass Petwar Drain-20000ft	May to June, 2019
31	Bhatol Drain-26350ft	May to June, 2019
32	Budana Drain-10350ft	May to June, 2019
33	D/Drain along H M Disty -48600ft	May to June, 2019
34	D/Drain along H M Disty -37800ft	May to June, 2019
35	D/Drain along H M Disty left side-31300ft	May to June, 2019
36	Dhani Kendu Dr-7100ft	May to June, 2019
37	Dhani Pal Drain O/F RD 25000-R, Bhatla Minor-11215ft	May to June, 2019
38	Hansi Drain O/F RD 62000-L, Balsamand S/Br.-81325ft	May to June, 2019
39	Hansi Multipurpose Channel O/F RD 125-R, BMC-38320ft	May to June, 2019
40	Jamawari Drain O/F RD 14075-L, Kumbha Drain-4200ft	May to June, 2019
41	Kharkra Drain O/F RD 12300-R, Bhatol Drain-9650ft	May to June, 2019
42	Kharkra 'A' Drain O/F RD 21300-R, Bhatol Drain-3800ft	May to June, 2019
43	Khumba Drain O/F RD 72400, Hansi Drain-25100ft	May to June, 2019
44	Lohari Drain-17440ft	May to June, 2019
45	Mohalla Bhaklana Drain O/F RD 17000-L, Bhaklana Drain-2600ft	May to June, 2019
46	Moth Link Drain O/F RD 47676-R, Sisai Drain-37246ft	May to June, 2019
47	Narnaund Drain O/F RD 37246, Moth Drain-19689ft	May to June, 2019
48	Petwar Link Drain O/F RD 30280-L, Thurana Drain-16000ft	May to June, 2019
49	Puthi Drain-2464ft	May to June, 2019
50	Puthi 'A' Drain-790ft	May to June, 2019
51	Puthi Mundal Link Drain-49970ft	May to June, 2019

Sr. No.	Name of Drain to be Desilted	Timelines for the execution of cleaning work
52	Singhwa 'A' Drain O/F RD 23890, Puthi Mundhal Link Dr.-3700ft	May to June, 2019
53	Singhwa Drain-2800ft	May to June, 2019
54	Sisai Bola Drain-4500ft	May to June, 2019
55	Sisai Drain O/F RD 31225-R, Hansi Drain-55089ft	May to June, 2019
56	Sorkhi Drain O/F RD 91450-L, BMC-9650ft	May to June, 2019
57	Sulchani Drain-9000ft	May to June, 2019
58	Thurana Drain O/F RD 78350, Hansi Drain-30280ft	May to June, 2019
59	Ugalan Drain O/F RD 37000-L, New Siwani Feeder-30000ft	May to June, 2019
	SYL Ambala	
1	SYL Parallel drain RD 0-31711	To be desilted during April-June, 2019.
2	Baknour drain RD 0-8500.	-do-
3	Baknour area drain RD 0-7000	-do-
4	Jodha Nallah RD 0-18000	-do-
5	Khera Nadiali drain 0-12550	-do-
6	Sullar drain RD 0-20100 (Except 10800 –8200)	-do-
7	Barouli Drain RD 0-2000	-do-
8	Chaurmastpur drain RD 0-7700	-do-
9	Ganda Nallah RD 0-69000	-do-
10	Outfall link drain RD 0-2800	-do-
11	Ghaggar creek in downstream portion of Ghel drain.	-do-
12	Drain along Ghel Road right side from RD 0-4000	-do-
13	Drain along Ghel Road left side from RD 0-4300	-do-
12	Ghallary drain RD 0-3500	-do-
13	Ghallery link drain D/S Inlet RD 0-3240	-do-
14	Hemamjra Ghallary drain 0-4600	-do-
15	Allahapur drain (Harda Hardi) RD 0-10800	-do-
16	Dhanana Choe	-do-
17	Holi drain RD 0-2600	-do-
18	Milkdhan Kota drain 0-3800	-do-
19	Gokalgarh drain RD 0-5000	-do-
21	Pathehri drain RD 0-19800	-do-
22	Panjeton drain RD 0-4000	-do-

Sr. No.	Name of Drain to be Desilted	Timelines for the execution of cleaning work
20	Tepla drain RD 0-35000	-do-
25	Khuda drain RD 0-2200	-do-
26	Mahesh Nagar drain RD 0-42000 except 6000 to 15000	-do-
27	Cunnettee of D/S Inlet of Mahesh Nagar drain RD 0-2132	-do-
28	Singhawala drain RD 0-6650	-do-
29	Kanshi Nagar drain RD 0-2360	-do-
30	Gurguria Nallah RD 0-2350	-do-
31	Air field diversion drain from RD 0-18424	-do-
32	3 Nos. Air field drain	-do-
33	Ambala Drain	-do-
34	Ghel Drain	-do-

Annexure-8

Action Plan of ULB Department for De-silting/ cleaning of drains in the catchment of River Ghaggar

Name of Town: MC Hissar		
Sr.No	**Name of Drain**	**Target date of Desilting**
1	Sector 13 Drain	31.05.2019
2	Sector 14 Drain	31.05.2019
3	Sector 15 Drain	31.05.2019
4	Sector 16 & 17 Drain	31.05.2019
5	Sector 9 & 11 Drain	31.05.2019
6	Urban Estate-II	31.05.2019
7	Mela Ground	31.05.2019
8	P.L.A	31.05.2019
9	DHS Road	30.06.2019
Name of Town: Pehowa		
13	Ambala Kaithal Road on both side	30.06.2019
Name of Town: Jind		
14	Harijan Basti Road Nala	30.04.2019
15	Arya Samaj Mandir Road Nala	30.04.2019
Name of Town: Ambala		
16	Session Drain	25.03.2019
17	INCO Drain	15.03.2019
18	Ghel Drain	25.02.2019
19	Gudgudia Nala	25.03.2019
20	Mahesh Nagar Nala	18.03.2019
21	Subhash Park Nala	15.03.2019
22	Rangla Mandi nala	18.03.2019
23	Central Nala	18.03.2019
Name of Town: Barwala		
24	Nala at Banbhori Road	31.03.2019
25	Nala at Kharkda Road	31.03.2019
26	Union Bank to Bijli Board Both Side NH-65/52	31.03.2019
27	Nala at Daulatpur Road	31.03.2019
Name of Town: Barwala		
31	Anaj Mandi to Pashu Fatak	30.04.2019
32	Balmiki Basti To Pashu Fatak	30.04.2019
33	Mehar Chand To Holi Wala Johar	30.04.2019
34	Dhokalmal park to BR Hotal	30.04.2019
35	Petrol Pump to Kalar wala Johar	30.04.2019
36	Lodha Service Station to Pashu Hospital	30.04.2019
37	Badwala kua to Holi wala johar	30.04.2019
Name of Town: Panchkula		
39	Drains of Vishwakarma Colony, Bhima Devi, Shiv Shakti, Main Nalla along NH-22, Ratpur, Dharampur, Forest Complex, Bhogpur, Damdama ,Surajpur, Rajipur, Rampur Suidi,Chandimandir, Chandikotla	31.03.2019
40	Rambagh Road, Gandhi Chowk to railway Road.	31.03.2019

Annexure-9

Monitoring of STPs in the catchment area of river Ghaggar

Sr. No.		Report No. & date	BOD	COD	PH	TSS	Oil & Grease	Coliform	F. Coliform	Ammonical N.	Remarks
1.	**3.25 MLD STP Naya Gaon, Unit-I, Ambala City by PHED in Janurary, 2011**										
		4074 dt. 30.01.2018	10	36.4	7.52	22	ND				Complying
		4566 dt. 03.05.2018	8	48.8	7.31	11	ND				Complying
		4673 dt. 18.05.2018	12	57.6	7.36	15	ND				Complying
		4958 dt. 09.08.2018	14	49.2	7.59	13	ND				Complying
		5250, 26.10.2018	10	44	7.16	7	ND				Complying
2.	**3.25 MLD STP Naya Gaon, Unit-II Ambala City by PHED in 1.4.2016**										
		4073 dt. 30.01.2018	12	37.2	7.23	20	ND				Complying
		4567 dt. 03.05.2018	11	39.6	7.34	10	ND				Complying
		4674 dt. 18.05.2018	16	52.4	7.11	23	ND				Complying
		4959, 09.08.2018	9	38.4	7.39	14	ND				Complying
		5251, 26.10.2018	14	58	7.11	13	ND				Complying
3.	**2 MLD STP Sec-7, Urban Estate, Ambala City Ambala by HUDA in 10.9.2015**										
		4072 dt. 30.01.2018	12	39.6	8.36	19	ND				Complying
		4571 dt. 03.05.2018	12	47.2	7.38	15	ND				Complying
		4966 dt. 09.08.2018	12	50	7.46	15	ND				Complying
4.	**5 MLD Baldev Nagar, Unit-I, Ambala City by PHED 1.12.2012**										
		4078 dt. 30.01.2018	11	38.4	8.4	10	ND				Complying
		4568 dt. 03.05.2018	19	102.8	7.5	15	ND				Complying
		4668 dt. 18.05.2018	52	180.8	7.6	22	4.5				Non Complying
		4761 dt. 19.06.2018	21	129.6	7.61	31	2.5				Complying
		4965 dt. 09.08.2018	15	67.2	7.62	12	ND				Complying
		5253, 26.10.2018	9	42	7.17	9	ND				Complying
5.	**3.25 Baldev Nagar, Unit-II, Ambala City by PHED in 1.4.2016**										
		4079 dt. 30.01.2018	12	39.2	7.26	33	ND				Complying
		4569 dt. 03.05.2018	21	107.6	7.54	39	ND				Complying

Sr. No.		Report No. & date	BOD	COD	PH	TSS	Oil & Grease	Coliform	F. Coliform	Ammonical N.	Remarks
		4669 dt. 18.05.2018	56	200.4	7.71	32	8				Non Complying
		4760 dt. 19.06.2018	20	105	7.35	72	2				Complying
		4964, 09.08.2018	14	51.2	7.63	14	ND				Complying
		5252, 26.10.2018	9	39.6	7.12	8	ND				Complying
6.	**5 MLD Moti Nagar, Unit-I, Ambala City by PHED in June 2010**										
7.		4077 dt. 30.01.2018	9	35.2	8.2	11	ND				Complying
		4563 dt. 03.05.2018	10	43.2	7.31	18	ND				Complying
		4671 dt. 18.05.2018	12	46	7.21	14	ND				Complying
		4960 dt. 09.08.2018	11	35.6	7.82	13	ND				Complying
		5249, 26.10.2018	11	45.6	7.14	9	ND				Complying
8.	**5 MLD STP Moti Nagar, Unit-II, Ambala City by PHED Ambala in 1.8.2016**										
		4076 dt. 30.01.2018	13	36	7.64	32	ND				Complying
		4565 dt. 03.05.2018	9	39.6	7.34	13	ND				Complying
		4672 dt. 18.05.2018	13	47.6	7.24	12	ND				Complying
		4961, 09.08.2018	17	59.6	7.41	10	ND				Complying
		5248, 26.10.2018	15	59.2	7.08	10	ND				Complying
9.	**6 MLD STP Modal Town, Ambala City by PHED in 1.7.2012**										
		4071 dt. 30.01.2018	8	47.2	7.18	24	ND				Complying
		4572 dt. 03.05.2018	13	48.8	7.55	17	ND				Complying
		4670 dt. 18.05.2018	14	48.8	7.41	27	3				Complying
		4963 dt. 09.08.2018	14	59.6	7.66	12	ND				Complying
		5246, 26.10.2018	11	66	7.14	8	ND				Complying
10.	**3.25 Nasirpur Ambala City by PHED in 31.9.2016**										
		4080 dt. 30.01.2018	15	57.6	7.44	36	2				Complying
		4563 dt. 30.05.2018	16	59.2	7.61	32	ND				Complying
		4675 dt. 18.05.2018	17	56.8	7.79	34	2				Complying
		4969 dt. 09.08.2018	13	46.8	7.55	11	ND				Complying
		5247, 26.10.2018	12	57.6	7.16	11	ND				Complying
11.	**0.25 MLD Sadopur, Ambala PHED in 31.12.2016**										

Sr. No.		Report No. & date	BOD	COD	PH	TSS	Oil & Grease	Coliform	F. Coliform	Ammonical N.	Remarks
		4092 dt. 07.02.2018	13	52.8	7.67	15	2				Complying
		4570 dt. 03.05.2018	15	53.2	7.63	14	ND				Complying
		4677dt.18.05 .2018	18	58.8	7.58	12	2				Complying
		4968 dt. 09.08.2018	10	42.8	7.68	11	ND				Complying
		5244, 26.10.2018	10	38.4	7.13	12	ND				Complying
12.	**3.25 MLD Devi Nagar, Ambala City by PHED on 31.5.2013**										
		4070 dt. 30.01.2018	10	30.8	7.59	15	ND				Complying
		4573 dt. 03.05.2018	12	44.8	7.68	9	ND				Complying
		4676 dt.18.05.201 8	64	185	7.58	38	4.5				Non Complying
		4762 dt.19.06.201 8	18	102.4	7.45	60	2				Complying
		4962 dt. 09.08.2018	18	66.4	7.5	12	ND				Complying
		5245, 26.10.2018	10	38	7.15	9	ND				Complying
13.	**3 MLD STP Nariangarh, Ambala by PHED in 1.7.2014**										
		4075 dt. 30.01.2018	14	44.8	7.85	21	ND				Complying
		4574 dt. 03.05.2018	18	88.4	7.46	58	ND				Complying
		4957 dt. 09.08.2018	12	39.6	7.63	35	ND				Complying
		5293, 12.11.2018	12	42	6.58	14	ND				Complying
14.	**8 MLD STP Model Town, Pehowa Kurukshetra by PHED in May, 2015**										
		3996 dt. 16.01.2018	9	42	7.51	32	ND				Complying
		4557 dt. 04.05.2018	12.5	48.2	7.73	14	ND				Complying
		4906 dt. 01.08.2018	11.5	43.6	7.63	13	ND				Complying
		5254, 31.10.2018	9	38	7.29	8	ND				Complying
		22 dt. 16.01.2019	20	92	7.37	52	ND	542000	22000	18.48	Non complying
15.	**11.5 MLD STP Ladwa Road, Shahbad Kurukshetra by PHED in May, 2016**										
		3995 dt. 16.01.2018	8	48	7.83	9	ND				Complying
		4578 dt. 04.05.2018	11	48.8	8.03	12	ND				Complying
		4908 dt. 01.08.2018	14.5	44	7.39	12	ND				Complying
		5255,	11	44.8	6.46	10	ND				Complying

Sr. No.		Report No. & date	BOD	COD	PH	TSS	Oil & Grease	Coliform	F. Coliform	Ammonical N.	Remarks
		31.10.2018									
		23 dt. 16.01.2019	13	51.2	7.42	22	ND	348000	21000	16.24	Non-Complying
16.	**7 MLD STP Ladwa Kurukshetra by PHED in 31.10.2016**										
		3994 dt. 16.01.2018	8	37.2	7.55	18	ND				Complying
		4576. dt. 04.05.2018	15	57.2	8.02	13	ND				Complying
		4907 dt. 01.08.2018	16	52	7.97	12	ND				Complying
		5256, 31.10.2018	10	42.8	7.21	8	ND				Complying
17.	**18 MLD STP Panchkula by HUDA in 31.12.2002**										
		4002 dt. 17.01.2018	12	56.8	7.53	22	ND				Complying
		4512 dt. 26.04.2018	8	36	7.49	10	ND				Complying
		4866 dt. 18.07.2018	9	40.4	7.62	42	2.5				Complying
		5277, 05.11.2018(18 MLD)	7	34	6.86	18	ND				Complying
		30 dt. 17.01.2019	14	58	7.29	15	ND	220000	5000		
18.	**39 MLD STP Panchkula by HUDA in Nov. 2011**										
		4002 dt. 17.01.2018	9	46.8	7.35	11	ND				Complying
		4511 dt. 26.04.2018	9	38.8	7.84	9	ND				Complying
		4865 dt. 18.07.2018	10	60.4	7.87	25	ND				Complying
		5275, 05.11.2018(39 MLD)	10	47.2	6.83	14	ND				Complying
		30 dt. 17.01.2019	13	55.6	7.28	12	ND	240000	130000		Non complying
19.	**15 MLD STP Panchkula by HUDA in 2012**										
		4001 dt. 17.01.2018	15	46.4	7.35	31	2				Complying
		4510 dt. 26.04.2018	9	40.4	8.3	10	ND				Complying
		4864 dt. 18.07.2018	9	36.4	7.6	12	ND				Complying
		5276, 05.11.2018	8	36.4	6.84	17	ND				Complying
		5325, 12.11.2018	13.5	39.2	7.01	13	ND				Complying
		82 dt.23.01.2019	18	69.2	6.89	24	ND	900000	109000	2.24	non complying
20.	**4.5 MLD Kalka Panchkula by PHED in 30.3.2015**										
		4039 dt. 23.01.2018	15	52.4	7.33	22	2				Complying
		4522 dt. 30.04.2018	9	36.4	7.46	18	ND				Complying

Sr. No.		Report No. & date	BOD	COD	PH	TSS	Oil & Grease	Coliform	F. Coliform	Ammonical N.	Remarks
		4868 dt. 18.07.2018	9	60	7.61	18	ND				Complying
		5273, 05.11.2018	7.5	35.6	6.85	23	ND				Complying
21.	**0.25 MLD Kalka Panchkula by PHED in 28.5. 2017**										
		Report No. & date	**BOD**	**COD**	**PH**	**TSS**	**Oil & Grease**				**Remarks**
		4040 dt. 23.01.2018	23	105.2	7.72	39	2.5				Complying
		4525 dt. 30.04.2018	10	38.8	7.4	10	ND				Complying
		4871 dt. 23.07.2018	9	36.8	7.48	14	ND				Complying
		5271, 05.11.2018	11	40	6.68	13	ND				Complying
22.	**5 MLD STP Nalagarh Road, Manakpur, Pinjore Panchkula by PHED 31.1.2015**										
		4041 dt. 23.01.2018	18	83.2	7.73	17	ND				Complying
		4524 dt. 30.04.2018	9	36.8	7.55	17	ND				Complying
		4862 dt. 18.07.2018	16	63.6	7.73	20	ND				Complying
		5274, 05.11.2018	8.5	34.8	6.71	10	ND				Complying
		81 dt. 21.01.2019	9.5	58	7.15	25	ND	2400000	270000	3.36	non complying
23.	**9 MLD STP Garrison Engineer, Chandimandir Panchkula in April 2012**										
		4038 dt. 23.01.2018	8.5	45.2	7.69	14	ND				Complying
		4523 dt. 30.04.2018	8	37.6	7.81	11	ND				Complying
		4867 dt. 18.07.2018	7	38.8	7.54	9	ND				Complying
		5272, 05.11.2018	8	38.8	6.6	13	ND				Complying
		6 dt. 11.01.2019	8	41.2	7.07	11	ND	7000	350000	10.08	Non complying
24.	**15 MLD STP by PHED Jind in Jan, 2009**										
		4118 dt. 19.02.18	21	116.4	7.32	60	2.5				Complying
		4441 dt. 10.04.18	110	368	7.33	164	8.5				Non complying
		4797 dt. 26.06.2018	20	85.2	7.49	25	N.D				Non complying
		122 dt. 14.08.18	14	56	7.7	-	N.D				Complying
25.	**10 MLD by HUDA Jind in 27.12.2014**										
		4119 dt. 19.02.18	17	95.2	8.23	26	ND				Complying
		4440 dt. 10.04.18	17	74.4	7.41	18	ND				Complying
		120 dt.	10	32	7.6	10	ND				Complying

Sr. No.		Report No. & date	BOD	COD	PH	TSS	Oil & Grease	Coliform	F. Coliform	Ammonical N.	Remarks
		14.08.18									
26.	**3.5 MLD Patiala Road, Narwana by PHED in Jan, 2011**										
		4125 dt. 19.02.18	14	58.4	7.28	27	ND				Complying
		4436 dt. 10.04.18	22	101.6	7.31	42	2				Complying
		130 dt. 14.08.18	18	64	7.6	18	ND				Complying
27.	**3.75 MLD STP Narwana Jind by PHED in Jan, 2011**										
		4126 dt. 19.02.18	15	70	7.33	21	ND				Complying
		4434 dt. 10.04.18	20	80.4	7.39	26	ND				Complying
		131 dt. 14.08.18	16	48	7.5	20	ND				Complying
28.	**02 MLD STP, PHED, Dablain Road, Narwana, Jind (24.5.2017)**										
		4124 dt. 19.02.18	16	98	7.3	40	ND				Complying
		4435 dt. 10.04.18	18	74.4	7.27	33	ND				Complying
		132 dt. 14.08.18	18	48	7.8	20	ND				Complying
29.	**2 MLD STP Uchana Jind by PHED in 22.2.2012**										
		4123 dt. 19.02.18	20	108	7.38	64	2				Complying
		4439 dt. 10.04.18	24	108	7.46	52	2.5				Complying
		134 dt. 14.08.18	18	48	7.5	18	ND				Complying
30.	**1.5 MLD Uchana by PHED in 31.5.2013**										
		4122 dt.19.02.18	21	94	7.3	45	2.5				Complying
		4438 dt. 10.04.18	18	73.6	7.28	17	ND				Complying
		133 dt. 14.08.18	16	48	7.7	18	ND				Complying
31.	**5 MLD STP Jind by PHED in 1.4.2016**										
		4121 dt. 19.02.18	18	93.6	7.29	54	ND				Complying
		4442 dt. 10.04.18	16	69.2	6.83	52	ND				Complying
		123 dt. 14.08.18	16	64	7.8	-	ND				Complying
32.	**4 MLD STP Julana, Jind by PHED in 1.4.2016**										
		4120 dt. 19.02.18	18	82.4	6.98	39	ND				Complying
		4434 dt. 10.04.18	19	87.6	7.39	46	2				Complying
		119 dt. 14.08.18	16	56	7.8	22	ND				Complying
33.	**9 MLD STP Safidon, Jind by PHED in 31.05.2018**										
		4796 dt. 26.06.18	17	59.2	7.77	37	ND				Complying
34.	**10 MLD STP Cheeka, Kaithal by PHED in 1.4.2013**										

Sr. No.		Report No. & date	BOD	COD	PH	TSS	Oil & Grease	Coliform	F. Coliform	Ammonical N.	Remarks
		4114 dt. 16.02.18	9.5	28	8.24	8	ND				Complying
		4446 dt. 11.04.18	13	42.8	7.87	13	ND				Complying
		4681 dt. 28.05.18	7	12.4	7.98	10	ND				Complying
		4980 dt. 09.08.2018	12	38.4	7.41	28	ND				Complying
		5380 dt. 26.11.18	18	85.6	6.68	21	ND				Complying
35.	**10 MLD STP, Jind Road Kaithal by PHED in September, 2012**										
		4110 dt.16.02.18	9	33.2	8.19	14	ND				Complying
		4449 dt. 11.04.18	15	54.4	7.97	11	ND				Complying
		4814 dt. 09.07.18	12	38.4	7.63	17	ND				Complying
		4987 dt. 09.08.2018	12	48	7.36	46	ND				Complying
		5382 dt. 26.11.18	19	86.8	6.76	37	2				Complying
36.	**10 MLD STP Manas Road, Kaithal by PHED in June, 2006**										
		4111 dt. 16.02.18	9	37.2	8.37	8	ND				Complying
		4448 dt. 11.04.18	12	39.2	7.88	14	ND				Complying
		4683 dt. 28.05.18	18	87.2	7.75	9	ND				Complying
		4815 dt. 09.07.18	14	52.4	7.71	25	ND				Complying
		4985 dt. 09.8.2018	15	68.8	7.47	10	ND				Complying
		5381 dt. 26.11.18	14	50.4	6.76	24	ND				Complying
37.	**10 MLD Manas Road, Kaithal bby PHED in Sep, 2012**										
		4115 dt. 16.02.18	10	24.8	7.2	9	ND				Complying
		4448 Dt. 11.04.18	12	39.2	7.88	14	ND				Complying
		4683 Dt. 28.05.18	18	87.2	7.75	9	ND				Complying
		4986 dt. 09.08.2018	13	56.8	7.36	24	ND				Complying
		5384 dt. 26.11.18	18	111.6	6.86	23	ND				Complying
38.	**7.5 MLD Kaithal by HUDA in 31.8.2016**										
		4112 dt. 16.02.18	10	33.6	8.09	28	ND				Complying
		4444 dt. 11.04.18	15	55	7.73	18	ND				Complying
		4982 dt. 09.08.2018	9	31.2	7.67	28	ND				Complying
		5379 dt. 26.11.18	19	66.4	7.22	24	ND				Complying

Sr. No.		Report No. & date	BOD	COD	PH	TSS	Oil & Grease	Coliform	F. Coliform	Ammonical N.	Remarks
39.	**5 MLD STP Kalayat, Kaithal by PHED in 1.4.2014**										
		4113 dt. 16.02.18	8.5	33.6	7.5	13	ND				Complying
		4445 dt. 11.04.18	14	48	7.92	12	ND				Complying
		4685 dt. 28.05.18	14	60	7.49	20	ND				Complying
		4984 dt. 09.08.2018	14	64.8	7.13	19	ND				Complying
		5385 dt. 26.11.18	17	110.8	6.32	22	ND				Complying
40.	**3.5 Pundri Kaithal by PHED in 4.7.2014**										
		4116 dt. 16.02.18	11	36	8.2	11	ND				Complying
		4447 dt. 11.04.18	13	44.8	8.08	9	ND				Complying
		4686 dt. 28.05.18	15	60	7.73	6	ND				Complying
		4980 dt. 09.08.2018	11	41.2	7.38	24	ND				Complying
		5383 dt. 26.11.18	20	70.4	6.73	17	2				Complying
41.	**10 MLD STP Dhana Road, Bhiwani by PHED in 16.6.2013**										
		4336 dt. 22.03.18	23.5	106.4	7.78	35	2				Complying
		4805 Dt. 03.07.18	22	123.6	7.69	21	ND				Complying
		5096 dt. 05.10.18	20	91.6	7.64	12	ND				Complying
42.	**5 MLD STP Dhani Kushal, Bhiwani Road, Hansi, Hisar by PHED in 15.4.2014**										
		253 dt.08.01.18	10	36	7.9	20	ND				Complying
		304, dt. 30.03.18	56	112	7.2	140	ND				Non complying
		81, 29.06.18	12	56	7.7	20	ND				Complying
		201, 11.10.18	16	48	7.9	18	ND				**Complying**
43.	**7.5 MLD STP Lalpura- Jind Road, Hansi, Hisar by PHED in 15.4.2014**										
		252 dt. 08.01.18	8	24	7.9	16	ND				Complying
		303, 30.03.18	70	144	7.8	130	ND				Non complying
		82, 29.06.18	14	48	7.6	22	ND				Complying
		202, 11.10.18	14	64	8	16	ND				**Complying**
44.	**6 MLD STP Dhani Gram, Barwala, Hisar by PHED in 9.12.2014**										
		213 dt.08.01.18	12	24	7.8	18	ND				Complying
		286, 16.03.18	10	32	7.9	12	ND				Complying
		76, 29.06.18	12	40	7.7	22	ND				Complying
		178,	8	24	7.2	10	ND				**Complying**

Sr. No.		Report No. & date	BOD	COD	PH	TSS	Oil & Grease	Coliform	F. Coliform	Ammonical N.	Remarks
		03.10.18									
45.	**15 MLD STP Azad Nagar, Rajgarh Road Hisar by PHED in 31.12.2014**										
		216 dt.08.01.18	6	16	7.4	10	ND				Complying
		278, dt. 06.03.18	8	32	7.6	10	ND				Complying
		68, 22.06.18	8	32	7.4	12	ND				Complying
		194, 03.10.18	8	24	7.9	12	ND				**Complying**
46.	**40 MLD STP Rishi Nagar, Hisar by PHED in 02.12.2017**										
		215 dt. 08.01.18	4	8	7.2	10	ND				Complying
		277 dt. 06.03.18	6	24	7.9	10	ND				Complying
		69, dt. 22.06.18	4	16	7.4	10	ND				Complying
		139, 14.09.18	8	24	7.7	10	ND				**Complying**
47.	**6.5 MLD STP Uklana, Hisar by PHED in 1.9.2017**										
		214 dt. 08.01.18	14	40	8	20	ND				Complying
		285, dt. 16.03.18	9	24	7.6	10	ND				Complying
		75, 29.06.18	12	32	7.5	20	ND				Complying
		192, 03.10.18	8	32	7.8	20	ND				**Complying**
48.	**15 MLD STP Dabara Tosham Road, Hisar by HUDA in 31.7.2014**										
		217 dt. 08.01.18	ND		7	10	ND				Complying
		285, dt. 16.03.18	9	24	7.6	10	ND				Complying
		67, 22.06.18	6	24	7.8	10	ND				Complying
		140, 14.09.18	6	16	7.5	10	ND				**Complying**
49.	**15 MLD STP, Shamsabad patti, Kalania Road, Sirsa by PHED in 1.7.2012**										
		198 dt. 08.01.18	6	16	7.6	12	ND				Complying
		290 dt. 16.03.18	8	32	8.2	12	ND				Complying
		45, dt. 05.06.18	14	48	7.7	18	ND				Complying
		181, 03.10.18	16	48	7.9	20	ND				**Complying**
50.	**5 MLD STP, Vill. Nattar 1, Sirsa by PHED in 1.5.2013**										
		196 dt. 08.01.18	6	24	7.6	10	ND				Complying
		288 dt. 16.03.18	14	32	8.3	12	ND				Complying
		44, dt. 05.06.18	18	56	7.9	22	ND				Complying
		179, 03.10.18	18	56	7.7	20	ND				**Complying**

Sr. No.		Report No. & date	BOD	COD	PH	TSS	Oil & Grease	Coliform	F. Coliform	Ammonical N.	Remarks
51.	**5 MLD STP, Vill. Nattar 2, Sirsa by PHED in 14.09.17**										
		289 dt. 16.03.18	10	48	8	16	ND				Complying
		46, dt. 05.06.18	12	48	8	20	ND				Complying
		180, 03.10.18	14	40	8.2	18	ND				**Complying**
52.	**7.5 MLD STP Ellenabad Sirsa by PHED in 11.5.2015**										
		197 dt. 08.01.18	8	32	7	14	ND				Complying
		287 dt. 16.03.18	12	40	8.2	14	ND				Complying
		47, dt. 05.06.18	12	40	7.9	16	ND				Complying
		188,03.10.18	16	56	6.9	24	ND				**Complying**
53.	**9.5 MLD STP, Daddu Road, Kalanwali, Sirsa by PHED in 17.02.2018**										
		291 dt. 16.03.18	8	24	8.1	10	ND				Complying
		42 dt. 05.06.18	10	32	7.2	12	ND				Complying
		189, 03.10.18	8	24	7.2	10	ND				**Complying**
54.	**6 MLD STP Rania Sirsa by PHED in 30.6.2017**										
		Report No. & date	**BOD**	**COD**	**PH**	**TSS**	**Oil & Grease**				**Remarks**
		185, 03.10.18	6	24	7.2	10	ND				**Complying**
55.	**16.5 MLD STP Dabwali, Sirsa by PHED in 30.6.2017**										
		261, 262 dt. 24.01.18	6	24	7.2	10	ND				Complying
		43 dt. 05.06.18	8	24	7.6	10	ND				Complying
		203, 11.10.18	36	104	8.8	120	4				**Non complying**
56.	**10 MLD STP Vill. Bhodia Khera, Bhattu Road, Fatehabad by PHED in 1.4.2013**										
		297 dt. 30.03.18	12	40	7.9	16	ND				Complying
		64, 20.06.18	18	40	7.2	22	ND				Complying
		167, 21.09.18	12	40	8	18	ND				**Complying**
57.	**10 MLD STP Vill.Amani, Tohana, Distt. Fatehabad by PHED in 1.4.2013**										
		248 dt 08.01.18	12	24	7.8	18	-				Complying
		295 dt. 30.03.18	12	40	7.9	14	ND				Complying
		66, 20.06.18	56	128	7.2	120	6				Non complying
		135, 14.08.2018	16	48	7.6	18	ND				**Complying**
		165,	14	40	7.9	18	ND				**Complying**

Sr. No.		Report No. & date	BOD	COD	PH	TSS	Oil & Grease	Coliform	F. Coliform	Ammonical N.	Remarks
		21.09.18									
58.	**6.5 MLD STP Ratia, Fatehabad by PHED in 1.9.2014**										
		247 dt. 08.01.18	12	32	7.6	16	ND				Complying
		296 dt. 30.03.18	14	48	8.2	18	ND				Complying
		63, 20.06.18	16	48	7.6	20	ND				Complying
		166, 21.09.18	10	24	8.2	12	ND				**Complying**
59.	**10 MLD STP Majra, Fatehabad by HUDA**										
		65, 20.06.18	5	16	7.6	10	ND				Complying
		168, 21.09.18	6	16	8	10	ND				**Complying**

Annexure-10

List of industries requiring Online Monitoring Devices for effluent

Sr. No.	Industry name	OMD installed or date by which it will be installed
1	Paramount Paper Mills, Plot No. 316, I-A, Ph-I, Panchkula	Installed.
2	Sislax Pharma Pvt. Ltd., 237 Inds-Area, Ph-II, Panchkula.	Installed.
3	Syschem India Pvt Ltd., Vill. Bargodam, Panchkula.	Installed.
4	Parabolic Drugs Ltd., 45, Inds-Area, Ph-II, Panchkula.	Not installed (Dismantled)
5	Viking Tanners Inc., Plot No 23, IDC, Near Motor Market, Ambala City.	Installed.

Annexure-11

List of E-Waste Facilities and Inspection details

Sr. no.	Name of E-waste units dismantler/Recycler	Latest inspection report	Compliance status	Action Taken thereof
1.	3 R RECYCLER,Plot No. 266, Sector - 8, IMT Manesar, Gurgaon	21-05-2018	Complying	-
2.	Deshwal Waste Management Pvt Ltd Plot No. 292, Sector-7, IMT Manesar, Gurgaon	09-08-2018	Complying	-
3.	EARTH SENSE RECYCLE PVT LTD Plot No. 100, Sector - 5, IMT Manesar, Gurgaon	18-02-2016	Complying	-
4.	Green Vortex Waste Management Pvt Ltd., # 331, Udyog Vihar, Phase-I, sector-37, Gurugram	24-04-2018	Complying	-
5.	SMS ENTERPRISES, Plot No. 544- D, First Floor, Sector -37, Pace City - II, Gurgaon (Haryana)	21-09-2016	Complying	-
6.	Ingram Micro India Pvt. Ltd., Plot-527, Pace City-II, Industrial Area, Sector-37, Gurugram	09-09-2016	Complying	-
7.	Dlila Systems, 1st Floor, Plot No-61, Sector-8, IMT manesar, Gurugram	03-10-2018	Complying	-
8.	3 R Recycler, Plot No-392, Sector-8, IMT Manesar, Gurugram	14-06-2018	Complying	-
9.	Nirwana Recyling Pvt. Ltd., D-6, Udyog Vihar Phase-6, HSIIDC, Gurugram	29-05-2017	Complying	-
10.	Apicem Recyclers Pvt. Ltd., Plot No-359, Sector-8, IMT Manesar, Gurugram	18-01-2019	Complying	-
11.	Exigo recycling (P) Ltd. GT Road Samalkha Panipat	12.08.2018	Complying	-
12.	Thapar Disposal Industries, 902, A/5/6, Charra mandi road Ambala City	23.05.2016	Complying	-
13.	Mittal battery Plot no. 349, Industrial Area Phase –I Panchkula	28.09.2017	Complying	-
14.	M/s Tes Amm (India) Pvt. Ltd., Village Wazidpur Saboli, Distt. Sonipat	18.02.2017	Complying	--

Sr. no.	Name of E-waste units dismantler/Recycler	Latest inspection report	Compliance status	Action Taken thereof
15.	M/s Satellite Vision India, Plot No. 130, HSIIDC, Rai, Distt. Sonipat	25.04.2018	Complying	--
16.	M/s Giriraj metal Plot no. 39 HSIIDC Kutana Rohtak	07.10.2015	Complying	--
17.	M/s Earth Waste Management Pvt. Ltd. Sampla Beri Road Rohtak	18.05.2015	Complying	--
18.	M/s R. K Enterprises Village Lohari Jhajjar	Unit lying temporary closed of its own		
19.	M/s Green World International Pvt. Ltd. Ganpati Dham Bahadurgarh	Unit lying temporary closed of its own		
20.	M/s Namo E-waste management ltd. Main Mathura Road Faridabad	14.07.2017	Complying	--
21.	M/s Endeavor Reprocessor and Recyclers India, Plot no. 323, Sec-24, industrial Area, Faridabad	26-03-2018	Complying	--
22.	M/s A to Z E-waste Solutions, Plot no. 66, Pargiti Vihar, Industrial Area, sector-59, Ballabgarh	16-05-2018	Complying	--
23.	M/s E-waste Solutions, Industrial Shed, 1A,Industrial Estate, Sec-6, Faridabad	25-09-2017	Complying	--

Annexure-12

List of CBWTFs and inspection detail

Sr. No.	Name of the CBWTF	Date of Inspection	Compliance Status	Action to be taken
1	M/s HAAT Supreme Waste Tech Ltd., Vill. Bazida Kalan, Distt. Karnal	15.12.2018	Complying	NA
2	M/s Synergy Waste Management (P) Ltd., Plot No. 168, Sector-27-28, Hisar	26.12.2018	Complying	NA
3	M/s Biotic Waste Limited, Formerly known as Biotic Waste (P) Ltd. & Vulcan Waste Management (P) Ltd, P. No. 725, Pace City-2, Sector-37, Industrial Area, Gurgaon	27.12.2018	Complying	NA
4	M/s S.D. Bio Medical Waste Management, Vill. Baland, Rohtak	29.12.2018	Complying	NA
5	M/s ESS KAY Hygienic Services, Vill. Bagwala, Distt. Panchkula	27.6.2018	Complying	NA
6	M/s Divya Waste Management Co., Vill. Kandela, Distt. Jind	3.10.2018	Complying	NA
7	M/s Rudraksh Envirocare, Vill. Bhadog, Distt. Ambala	28.09.2018	Complying	NA

8	M/s Golden Eagle Waste Management Co., Vill. & PO Jasana, Opp. Aravali College, Faridabad	04.01.2019	Complying	NA
9	M/s Maruti Bio Medical Waste Plant, Vill. & PO Hetampura, Distt. Bhiwani	21.11.2018	Non Complying	Show cause notice issued for non compliance on 28.12.2018. Unit removed deficiencies and submitted reply.
10	M/s Surya Waste Management Co., Sahuwala Road, Vill. Chandiwal, Tehsil & Distt. Sirsa	28.12.2018	Complying	NA
11	M/s Invision Enviro Services, VPO Phulkan, Sirsa	20.12.2018	Complying	NA