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 Sukhna Nallah at Parwanoo, 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

Contents

Report on Prevention and Control of Pollution in River Ghaggar: An Action Plan for Rejuvenation

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 Sukhna Nallah (Ghaggar) its tributaries, activity in the area of Sukhna Nallah (Ghaggar) and its tributaries

(a) The Ghaggar 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 River Kaushalya is the main source of River Ghaggar. Further, Sukhna Nallah, a right tributary of River Ghaggar joins it near chandimandir downstream of Amravati enclave in Panchkula district of Haryana. The main districts of Himachal Pradesh in Ghaggar basin are Solan and Sirmaur.

(b) Sukhna Nallah is a tributary of the River Ghaggar. 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 Indianstate 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.

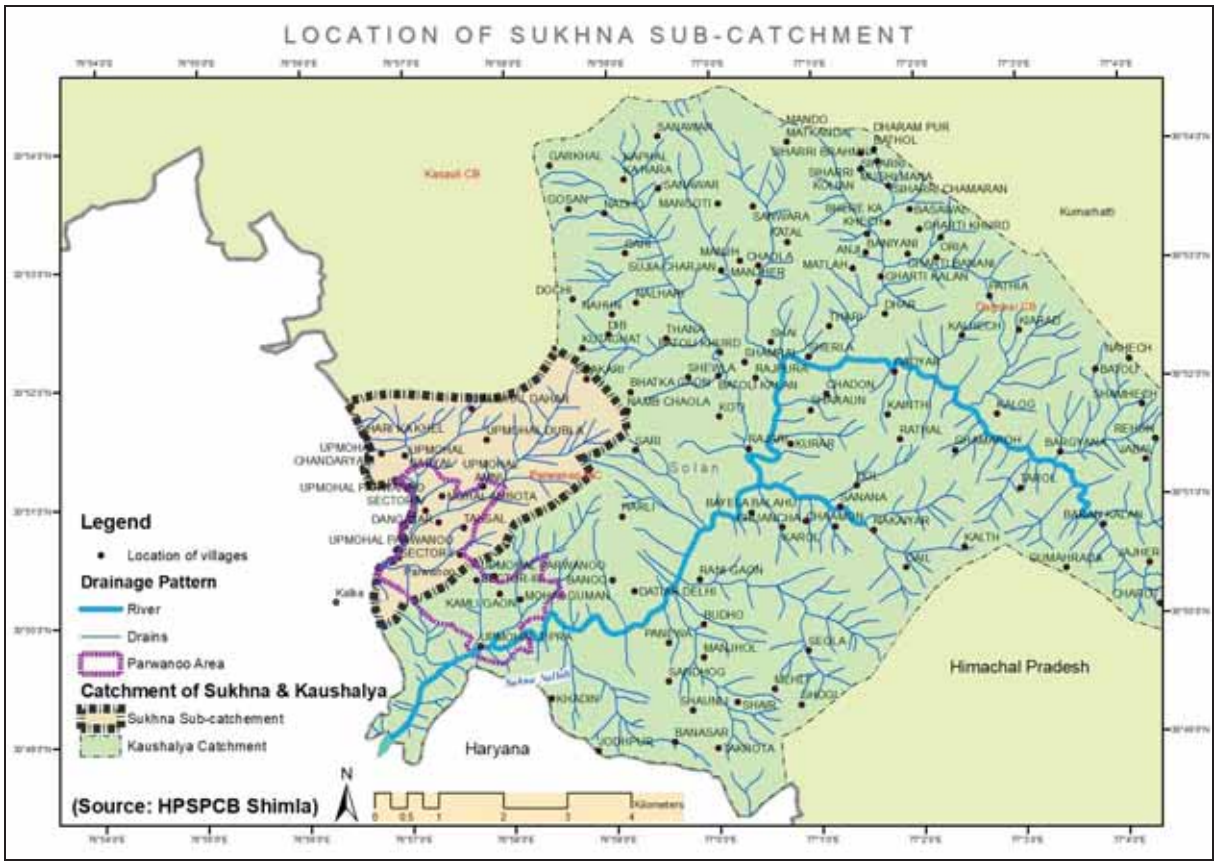

Figure 1: Digital Map showing Catchment Area of Sukhna Nallah along with River Kaushalya

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 Sukhna Nallah in context of its utility as it is non-perennial Nallah. The ultimate goal for beneficial use of Sukhna Nallah will determine the level of actions to be taken for maintaining the water quality. Under the present circumstances, it appears that 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 treated industrial waste water generated from various industries in the catchment of Sukhna Nallah which are ultimately joining and contributing to the pollution load in Sukhna Nallah need to meet the effluent discharge standards on a continuous basis as 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 Sukhna Nallah is 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 20^0C	3mg/l or less
4	Faecal Coliforms	MPN/100ml shall be 500 or less

4.0 Sources of Pollution of Sukhna Nallah (Ghaggar) and its tributaries within the jurisdictions of Himachal Pradesh

As per the information available, inspections of the entire area was 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 factors 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. The sector wise list of water polluting industries along with their estimated effluent discharge has been given in **Table 2**.

Table 2: Waste Water Generating Industries in Parwanoo Area along The Catchment of Sukhna Nallah

	Type of Unit	Number of the units	ETP (KLD)	STP (KLD)	Waste Water Generation in KLD
1	Pharmaceutical Formulation	14	81.3	0.0	31.2
2	Cosmetics	2	15.0	0.0	3
3	Electroplating	6	158.0	20.0	153
4	Phosphating	5	16.0	5.0	10.5
5	Engineering	9	141.0	125.0	221.2
6	Electrical &Electronics	6	0.0	40.0	28.5

	Type of Unit	Number of the units	ETP (KLD)	STP (KLD)	Waste Water Generation in KLD
7	Ink Printing	1	5.0	0.0	3.3
8	Confectionary	1	3.0	10.0	9
9	Pesticide Formulation	1	1.0	0.0	0.1
10	LPG Stoves	1	0.0	8.0	5
11	Fruit Processing	1	1000.0	0.0	15
12	Iron & Steel	1	0	10	0
Total		**48**	**1420.3**	**218.0**	**479.8**
Grand Total			**1638.3**		**479.8**

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.

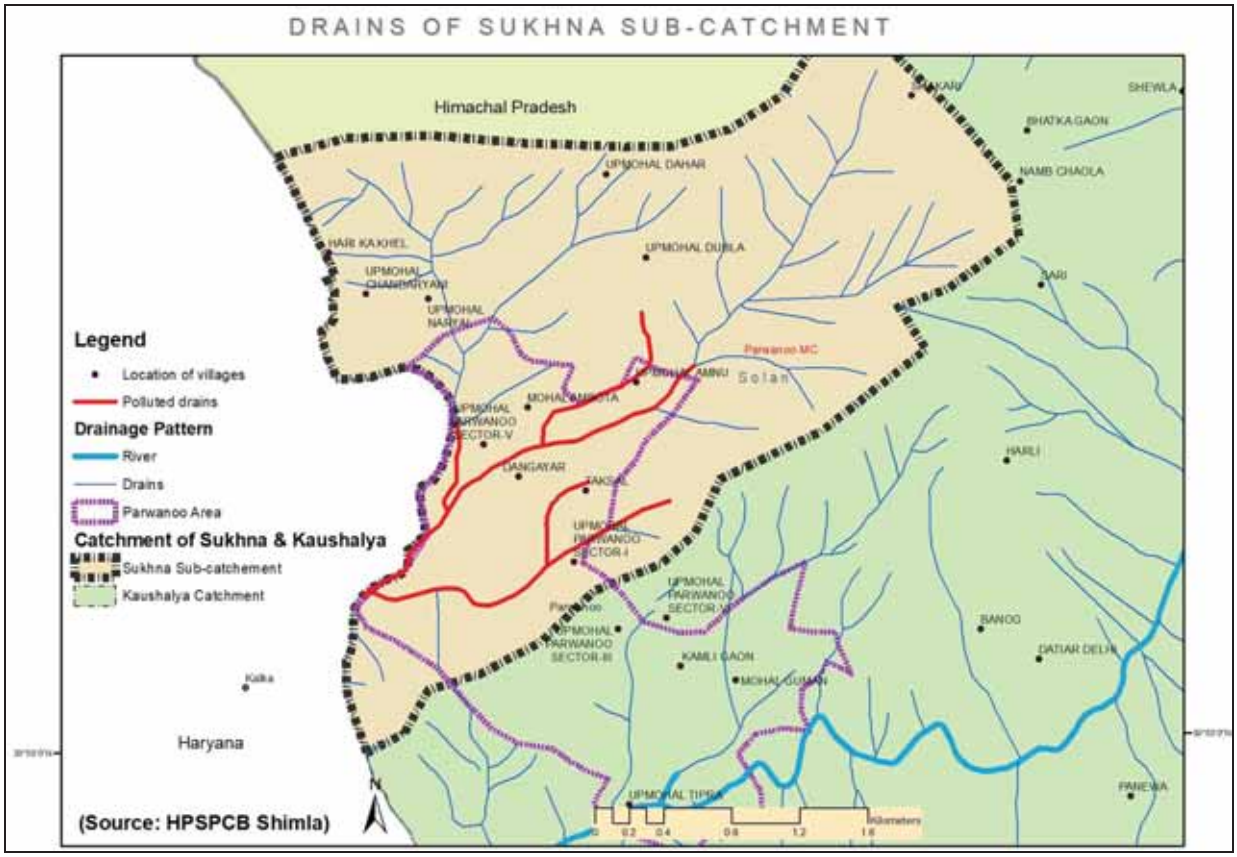

Figure 2: Digital Map showing the locations of Drains of Sukhna Nallah Catchment

5.0 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 (**Annexure- II**).

II. 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 – III**.

III. District Level Special Task Force has conducted **two meetings** to formulate the action plan and to review the progress in the matter on 09.10.2018, 26.11.2018. The minutes of meetings are attached as **Annexure - IV**.

IV. 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 32 no. of water samples have been collected. The samples have been sent to the HPSPCB Regional Laboratory, Parwanoo and results of the 20 industries have been received so far. Out of these 20 industries, results of 18 are within the prescribed limits. 02 results are not conforming to the prescribed limits.

V. Show Cause Notices have been issued to the non-complying units and resampling shall be carried out in a time bound manner and action as prescribed in the State Board notification in case of continuous sample failures shall be initiated against the units.

VI. 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.

VII. Installation of new captive Sewage Treatment Plant or upgradation in the existing one has been initiated in 14 industrial units.

VIII. Further, 06 units have been Challaned under HP Non-Biodegradable Garbage, Act 1995, of Rs 5000/- each for littering of plastic waste.

IX. 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.

X. 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 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.

XI. 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*".

XII. I&PH division Solan has informed that as on date there is no requirement of providing channelization works in the catchment of Sukhna Nallah.

XIII. 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.

XIV. 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.

XV. 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 Sukhna Nallah:

6.1 **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. To address the issue 02 number of cleanliness drives have been organized to Clean Sukhna Nallah on 19.12.2018 and 11.01.2019.

6.2 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 3: 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 4: 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

6.3 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 - V**. 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 5 : 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 3: Digital Map showing the locations of Ground Water Sampling of Handpumps at the catchment of Sukhna Nallah

6.4 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.

6.5 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 6: 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 7: 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 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 Sukhna Nallah(Ghaggar) and Its tributaries within the jurisdiction of Himachal Pradesh.

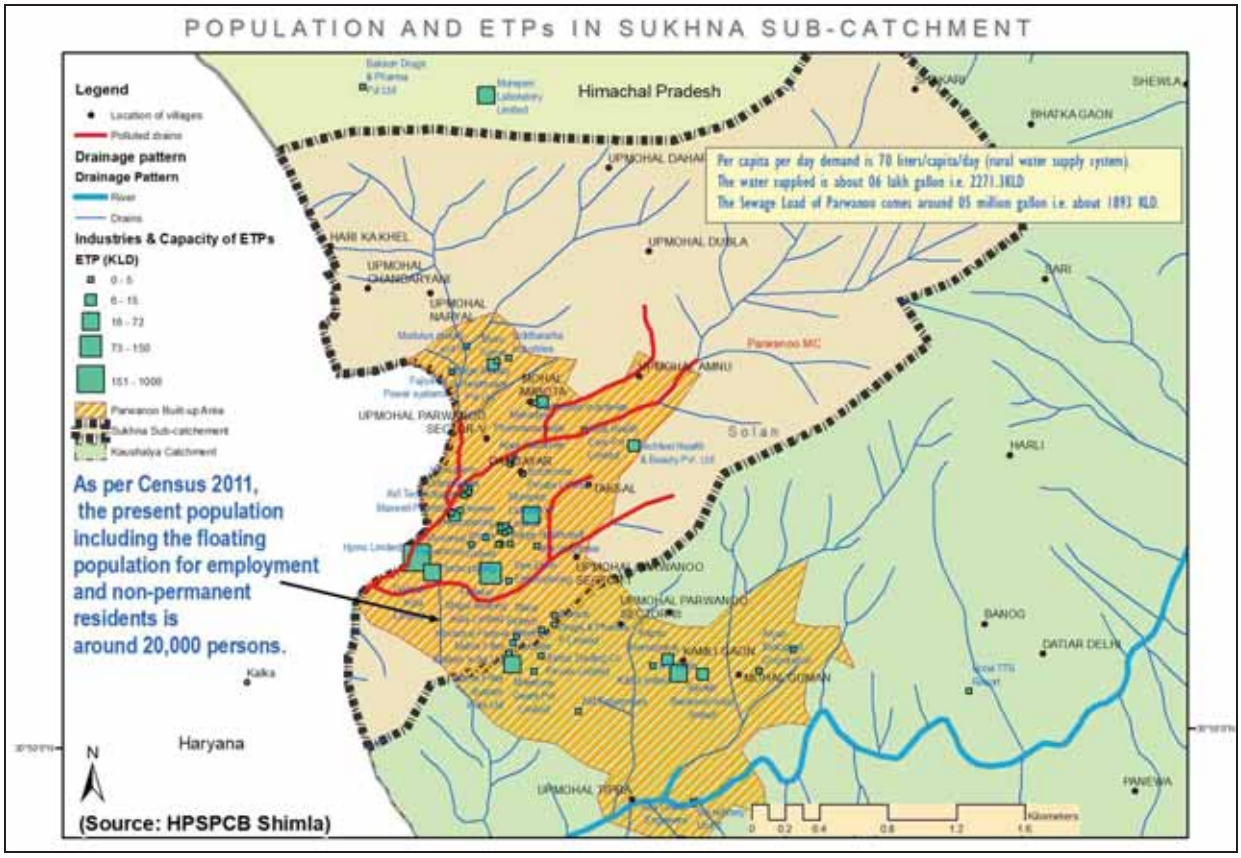

Figure 4: Digital Map showing the Populations, Capacity of ETPs along the stretch of Sukhna Nallah

8.0 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.

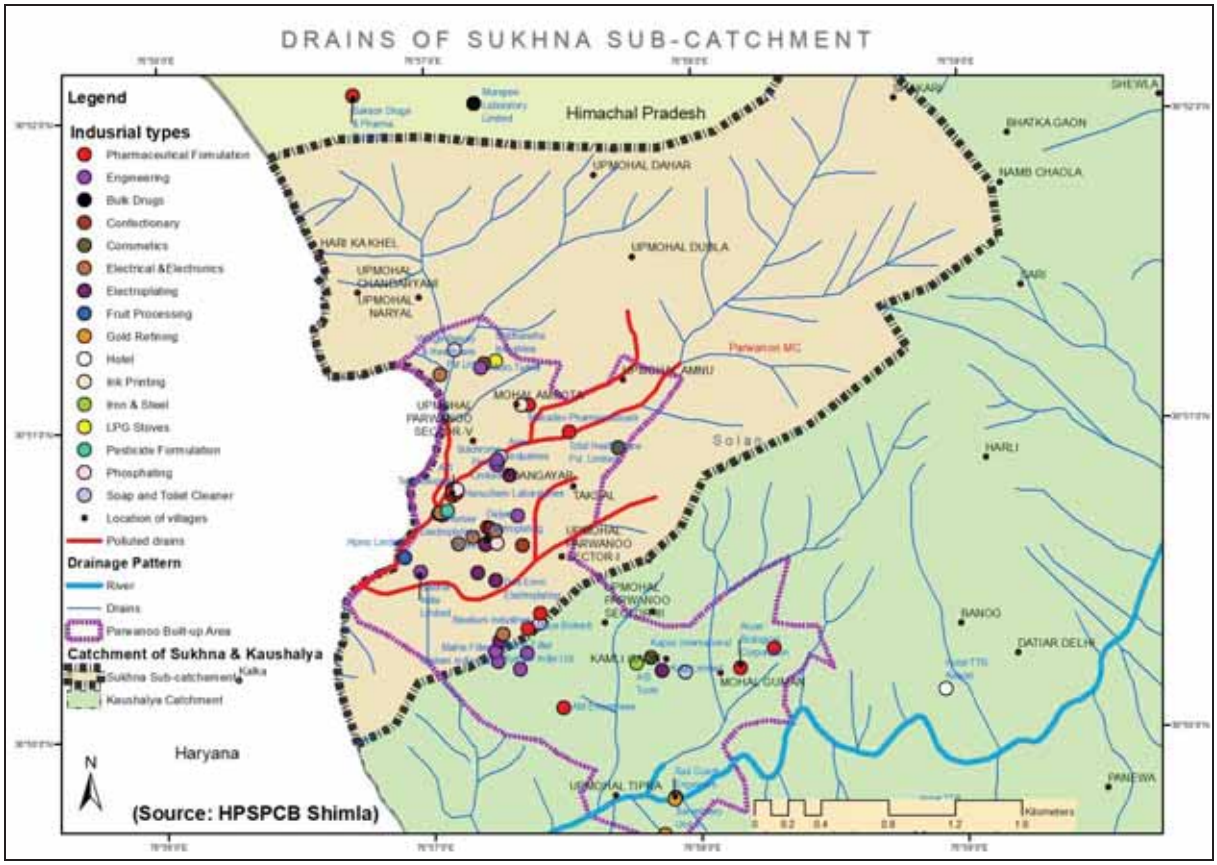

Figure 5: Digital Map showing the sector wise industries along the stretch of Sukhna Nallah

9.0 Observations on Gap Analysis – 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.

9.1 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 - VI .**

Table 8 : Details Of Septic Tanks Along With Design Capacity & GPS Co-ordinates

	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 9: Captive Sewage Treatment Plants in Kaushalya River Catchment

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
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)

Sr. No.	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 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 systems. 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 6.6 above.

The list of industries along with waste water generation & consent details is as per table below **:-**

Table 10: Water Polluting Industries in Parwanoo Area along with compliance of Consent under Water (Prevention and Control Pollution) Act, 1974

	Name and address of Industry	Type	Pollution Control Devices provided		Waste water Generation	Mode of Disposal	Consent Status
			ETP (KLD)	STP (KLD)	KLD		
1	Kddl Limited-Sec -03 ,Town: Parwanoo	Electroplating	30.0	15.0	31.0	Drain	31.03.2021
2	Reckitt Benkiser (India)limited-Sec -3, ,Town: Parwanoo	Soap and Toilet Cleaner	10.0	-	-	Drain	
3	Aryan Biological Corporation-- - ,Town: Parwanoo	Pharmaceutical Fomulation	2.5	-	1.6	Drain	**31.03.2015**
4	Clevus Lifesciences-Apple Terminal Market Nr Sec-6, Parwanoo	Pharmaceutical Fomulation	3.0	-	2.0	Drain	31.03.2023
5	Sai refinery Unit II, Industrial Estate IA Khadeen, Parwanoo	Gold Refining	3.0	-	2.0	Drain	**31.03.2016**
6	Real Care Lifesciences, Orion Complex, Sec -6, Parwanoo	Pharmaceutical Fomulation	3.0	-	2.0	Drain	31.03.2020
7	Hotel TTR Heights	Hotel		100.0	85.0	Drain	31.03.2021
8	Hotel TTR Resort	Hotel		50.0	42.5	Drain	31.03.2021
9	Kapco International	Cosmetics	8	10	12.6	Drain	31.03.2019
10	Sunanda Polymer, IA Khadeen, Parwanoo	Gold Refining	5	-	3.3	Drain	31.03.2020
11	Rail Coach Engineers, Village IA Khadeen, Parwanoo	Gold Refining	1.0	-	0.7	Drain	**31.03.2018**
12	Daljeet Electroplating-Sec 2 - ,Town:Parwanoo	Electroplating	2.0	-	1.3	ZLD	31.03.2021
13	Premier Electroplating Works-Sec 2 -,Town:Parwanoo	Electroplating	1.0	-	0.7	ZLD	31.03.2021

	Name and address of Industry	Type	Pollution Control Devices provided		Waste water Generation	Mode of Disposal	Consent Status
			ETP (KLD)	STP (KLD)	KLD		
14	Solchrome Private Limited-Sec -V, ,Town:Parwanoo	Electroplating	1.0	-	-	ZLD	31.03.2021
15	Mahadev Pharmaceuticals-OLD KAUSALI ROAD OPP. Sec - 4	Pharmaceutical Fomulation	10.0	-	6.5	Drain/Sewer line	31.03.2025
16	Morepen Laboratory Limited 12 B, Sec -2, Parwanoo	Pharmaceutical Fomulation	5	-	3.3	Drain/Sewer line	31.03.2022
17	Huhtemati Industries, Village Ambota, Parwanoo	Ink Printing	5	-	3.3	Drain/Sewer line	31.03.2020
18	Maxwell Pharma- Plot 06, Sec 5, Parwanoo	Pharmaceutical Fomulation	12.0	-	1.4	Drain/Sewer line	**31.03.2018**
19	Total Health Care Pvt. Limited-Sec 5, Vill Amobta -,Town:Parwanoo	Pharmaceutical Fomulation	5.0	-	3.3	Drain/Sewer line	31.03.2022
20	AVI Technologies, Sec -V, Parwanoo	Pharmaceutical Fomulation	3.0	-	0.5	Drain/Sewer line	31.03.2020
21	Hanuchem Laboratories-Sec 5 - ,Town:Parwanoo	Pharmaceutical Fomulation	3	-	0.2	Drain/Sewer line	31.03.2019
22	S.K.Industries-Sec -2 PARWANOO ,Town:PARWANOO	Confectionary	3.0	10.0	9.0	Drain/Sewer line	**31.03.2018**
23	Krishnaav Engineering Limited-Industrial Area, Sec - 5,Town:Parwanoo	Engineering	3.0		2.0	Drain/Sewer line	31.03.2020
24	Visage Beauty & Healthcare Pvt Ltd, VILLAGE NARYAL, Parwanoo	Consmetics	5	-	3	Drain/Sewer line	31.03.2019
25	Mahle Filter System India Ltd, Sec - II, Parwanoo	Engineering	36	-	30.4	Drain/Sewer line	31.03.2018
26	Mahle Filter System India Ltd, Sec - 1, Parwanoo	Engineering	-	55	45.0	Drain/Sewer line	**31.03.2018**
27	Micro Turner, Village Naryal, Prawanoo	Engineering	15	10	20.0	Drain/Sewer line	31.03.2022
28	Gabrial India Limited , Parwanoo	Engineering	45	20	28	Drain/Sewer line	31.03.2021
29	federal Mogul Bearing india Limited	Electroplating	150	20	150	Drain/Sewer line	31.03.2021
30	Milestone Gears Pvt Limited Unit-V,	Engineering	-	10	6	Drain/Sewer line	**31.03.2018**
31	Salico Trading Co. Private Limited, Sec -1, Parwanoo	Engineering	2	10	7.8	Drain/Sewer line	**31.03.2017**
32	Tafe Motors & Tractors Ltd, Parwanoo	Engineering	40	10	50	Drain/Sewer	31.03.2020

	Name and address of Industry	Type	Pollution Control Devices provided		Waste water Generation	Mode of Disposal	Consent Status
			ETP (KLD)	STP (KLD)	KLD		
						line	
33	Legan health care, Sec - 5, Parwanoo	Pharmaceutical Fomulation	3	-	0.7	Drain/Sewer line	31.03.2020
34	Aarge Healthcraft, Plot No. 12A, Sec -2, Parwanoo	Pharmaceutical Fomulation	10	-	7.5	Drain/Sewer line	31.03.2020
35	Fujiyama Power systems	Electrical &Electronics	-	15	10.0	Drain	31.03.2025
36	Balaji Powertronics	Electrical &Electronics	-	5	4.0	Drain/Sewer line	31.03.2019
37	Modulus prefab unit II	Phosphating	5	5	7.5	Drain/Sewer line	31.03.2022
38	Ind-Sphinx Limited	Engineering	-	10	7.0	Drain	31.03.2019
39	Haimi Agro Products, Sec -5, Parwanoo	Pesticide Formulation	1	-	0.1	Drain	31.03.2021
40	Morepen Laboratory Limited 12 C, Sec -2, Parwanoo	Pharmaceutical Fomulation	5	-	3.8	Drain	31.03.2022
41	Siddharatha Industries / Green Chef, Village Naryal, Parwanoo	LPG Stoves	-	8	5	Drain/Sewer line	31.03.2025
42	Hpmc Limited, Fruit Processing Plant,-- -,Town:PARWANOO	Fruit Processing	1000.0	-	15.0	Drain	31.03.2020
43	Mace Biotech, Sec -1, Parwanoo	Pharmaceutical Fomulation	0.3	-	0.2	Drain/Sewer line	31.03.2023
44	Bakson Drugs & Pharma P Limited (Unit Ii), Plot No. 6, Sec -1, Prw	Pharmaceutical Fomulation	2	-	1.8	Drain/Sewer line	**31.03.2016**
45	Universal Powertronic	Electrical &Electronics	-	5	4	Drain/Sewer line	**31.03.2018**
46	Himachal Fastner-Sec -1 Parwanoo,Town:Parwanoo	Electroplating	2.0	-	1.0	Drain/Sewer line	31.03.2021
47	Kamla Fabricator, Sec -5, Parwanoo	Phosphating	5	-	3	Drain/Sewer line	31.03.2019
48	Himachal Power Products, Sec -1, Parwanoo	Electrical &Electronics	-	5	3	Drain/Sewer line	31.03.2022
49	Shivalik Industries, Sec -2, parwanoo	Electrical &Electronics	-	5	4	Drain/Sewer line	31.03.2019
50	Microtek Infosoft Ltd, Sec -5, Parwanoo	Electrical &Electronics	-	5	3.5	Drain/Sewer line	31.03.2022
51	A B Tools, Sec -3, Parwanoo	Iron & Steel	-	10	0.0	u/installation	31.03.2019
52	Dee Emm Electroplating-Sec 2,	Electroplating	2.0	-	-	CLOSED	

	Name and address of Industry	Type	Pollution Control Devices provided		Waste water Generation	Mode of Disposal	Consent Status
			ETP (KLD)	STP (KLD)	KLD		
	Below Gabrial Road, Parwanoo						
53	AM Enterprises, Uncha Parwanoo, Sec -1, Parwanoo	Pharmaceutical Fomulation	5	-	2		31.03.2020
54	Hilton Pricision Pvt. Limited-Sec 2, Parwanoo -,Town:Parwanoo	Phosphating	2.0	-	-	CLOSED	
55	Richfeel Health & Beauty Pvt. Ltd-Vill Taksal -,Town:Parwanoo	Consmetics	10.0	-	-	CLOSED	
56	Coral Healthcare Pvt. Ltd.-Industrial area -,Town:Parwanoo	Pharmaceutical Fomulation	3.0	-	-	CLOSED	
57	Steelium Industries, Plot No. 8, Sec - 1, Parwanoo	Phosphating	1	-	-	CLOSED	
58	Himachal Soap & Detergents Private Limited-- - ,Town:PARWANOO	Pharmaceutical Fomulation	15.0	-	-	CLOSED	
59	Apex Industries, Plot No. 29, Sec - 5, Parwanoo	Phosphating	3	-	-	CLOSED	
60	Morepen Laboratory Limited-Kasauli Road ,Town:Masoolkhana	Bulk Drugs	72.0	20.0	14.3	Drain	31.03.2020
61	Bakson Drugs & Pharma Pvt.Ltd, Shillu Patta Road,Parwanoo	Pharmaceutical Formulation	1.0	-	1.0	Drain	31.03.2017

9.3 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 10**.

Table 11: List of Industries complying/non complying with the Effluent Discharge Standards

Sr. No	Name of the Industrial unit	Sampling Pt	pH	TSS	COD	BOD	O&G	Phenol	Sulphide	T.P	Compliance status
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	
1	Modulus Prefab Solutions Unit 2 Naryal Parwanoo	ETP FO	8.08	7	64	9	Nil	0.14	Nil	0.09	Complying
2	Fujiyama Power Systam Naryal	STP FO	8.69	58	120	25	1.76	**	**	**	Complying

Sr. No	Name of the Industrial unit	Sampling Pt	pH	TSS	COD	BOD	O&G	Phenol	Sulphide	T.P	Compliance status
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	0.05	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	Complying
6	Total Healthcare, Vill Ambota, Sec 05 Parwanoo	ETP FO	7.25	14	160	20	1.96	0.37	Nil	0.32	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	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	Complying
9	Legen Healthcare, Plot no 20 Sec 05 Parwanoo	ETP FO	5.74	33	60	14	0.72	ND	Nil	0.09	Complying
10	Haimi Agro Chemicals, Plot No 08 Sec 05 Parwanoo	ETP FO	8.32	54	104	25	Nil	0.19	Nil	0.11	Complying
11	Maxwell Pharma Plot 06 Sector 05 Parwanoo	ETP FO	7.75	10	52	10	Nil	ND	Nil	0.12	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	0.05	Complying
14	Federal Mogul India, Sec- 02 Parwanoo	ETP FO	8.73	**247**	80	interference	Nil	**	**	**	Non-Complying
15	Federal Mogul India, Sec- 02 Parwanoo	STP FO	6.45	10	32	4.5	Nil	Nil	Nil	0.07	Complying
16	Morepen Laboratories Ltd. Plot no	ETP FO	6.52	11	104	25	2.16	1.16	Nil	0.21	Non-Complying

Sr. No	Name of the Industrial unit	Sampling Pt	pH	TSS	COD	BOD	O&G	Phenol	Sulphide	T.P	Compliance status
	12 C Sec2 Parwanoo										
17	Aaggee Healthcraft, Plot No 12A Sector 02 Parwanoo	STP FO	7.76	2	40	3.5	Nil	ND	Nil	0.06	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	Complying

9.5 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 12: 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

9.5 Modification in existing STPs under Operation and Maintenance of Sewage treatment Plants

Table 13: 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

9.4 E-flow in Sukhna

Flow measurements of Sukhna Nallah& its tributaries – The flow of Sukhna Nallah is approximately 0.03 cubic meters per second. The Nallah is a seasonal intermittent Nallah with almost no flow in summer months.Details of E-flow are as below.

- Sukhna Nallah – 0.03 cum/sec
- Sector 4 nallah approximately 0.001 cum/sec
- Samtel nallah approximately 0.001 cum/sec

The e flow of the Sukhna Nallah along with contributing nallahas vary significantly temporally on daily and seasonal basis as they are mainly fed from flow of waste water either treated or untreated from anthropogenic and industrial activities.

9.5 Solid Waste, Hazardous Waste and Bio-medical Waste Management of Parwanoo Town

9.5.1 Proposal of Solid Waste Management At Parwanoo Town

1. Biodegradable waste will be converted into compost which will be sold to Governmental agencies or farmers at :-
    - Very nominal rates or will be used by MC in their parks.

2. 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.

3. 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.

4. 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.

5. Necessary machinery for material recovery and recycling will be installed by project consultant at his own cost which will include:

9.5.2 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.

9.5.3 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).

9.6 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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10. **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 (River Ghaggar), Parwanoo, 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	Within 15 Days	-
(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	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 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	Within 1 Month	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 Administration	-	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	Within 2 months	. -
II	**Domestic Sewage Management**			
(a)	Area wise estimation of total population, water requirement and sewage generation.	HIMUDA, IPH, Urban Development, Rural Development Department	Within 1 Month	-
(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	Within 6 months.	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	Within 6 months	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	Within 3 years	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	To be completed within 15 Days.	-
(b)	Sampling and analysis of Drinking Water Supply Schemes in and around Parwanoo area.	HIMUDA	To be completed within 15 Days.	-
(C)	Sealing of contaminated hand pumps and found to be unfit for drinking purpose by the public.	I&PH and HP GWA	Within 02 months	-
(d)	Carrying assessment of ground water survey for quality and to identify over exploited and critical areas.	I&PH and HP GWA	Within 2 months	-
(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	Every 15 Days	-
(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	Within 15 Days	-
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	Within 06 Months	-
(e)	Checking Encroachment in FPZ of Sukhna Nallah & Tributaries	District Local Administration	Within 06 Months	-
(f)	Prohibition of disposal of Municipal Plastic and Bio-medical Waste particularly in drains.	District Local Administration MC Parwanoo	Within 02 Month	-

11. **Action Taken Report by District and State Level Surveillance Task Force for Rejuvenation of Sukhna Nallah (River Ghaggar), Parwanoo, 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 61 no's of water Polluting industries** located at the stretch of Sukhna Nallah**.** Out of which **28 number of industries** have been inspected and samples have also been collected as per inspection format provided by the Executing Committee. Results of **20** 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 and providing system for measurement of flow of all the drains presently contributing pollution load in Ghaggar River.	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.
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.

[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

[1] 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.

[2] 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)
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 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 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 $_{3\ days,\ 27^{o}C}$	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:

(i) 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).

(ii) 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.

(iii) 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.

(iv) 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

I. 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.	* * *	*

II. 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 $H=14(Q)^{0.3}$	

1 Omitted by Rule 2 (g) (iv) of the Environment (Protection) Third Amendment Rules, 1993 vide G.S.R. 801(E) dated 31.12.1993.

2 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.

III. 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% 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]

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1 Substituted by Rule 2(ii) of the Environment (Protection) Third Amendment Rules, 2008 notified by G.S.R.344(E), dated 7.5.2008.

2 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 :

(i)	Anode Bake Oven Total Fluoride		0.3 Kg/MT of Aluminium
(ii)	Pot room		
(a)	VSS	-do-	4.7 Kg/MT of Aluminium
(b)	HSS	-do-	6 Kg/MT of Aluminium
(c)	PBSW	-do-	2.5 Kg/MT of Aluminium
(d)	PBCW	-do-	1.0 Kg/MT of Aluminium

Note : VSS = Vertical Stud Soderberg
HSS = Horizontal Stud Soderberg
PBSW = Pre Backed Side Work
PBCW = Pre Backed Centre Work

8. Glass Industry :

(a) Furnace Capacity

(i)	Up in the product draw capacity of 60 MTD/Day	Particulate matter	2 Kg/hr
(ii)	Product draw capacity more than 60 MT/Day	-do-	0.8 Kg/MT of Product drawn

***NOISE STANDARDS - PART-E**

A. Noise Limits for Automobiles (Free Field Distance at 7.5 Metre in dB(A) at the manufacturing Stage

(a) Motorcycle, Scooters & Three Wheelers	80
(b) Passenger Cars	82
(c) Passenger or Commercial vehicles upto 4 MT	85
(d) Passenger or Commercial vehicles above 4 MT and upto 12 MT	89
(e) 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.

(1) 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**		
	Displacement upto 80 cm^3	75	
	Displacement more than 80 cm^3 but upto 175 cm^3	77	1st January,2003
	Displacement more than 175 cm^3	80	
2.	**Three wheeler**		
	Displacement upto 175 cm^3	77	1st January,2003
	Displacement more than 175 cm^3	80	
3.	**Passenger Car**	75	1st January, 2003
4.	**Passenger or Commercial Vehicles**		
	Gross vehicle weight upto 4 tonnes	80	
	Gross vehicle weight more than 4 tonnes but upto 12 tonnes.	83	1st July, 2003
	Gross vehicle weight more than 12 tonnes.	85	

(2)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,-

(i) Himachal Pradesh with effect from 1st October, 2005
(ii) Jammu and Kashmir with effect from 1st October, 2005
(iii) Madhya Pradesh with effect from 1st September, 2005
(iv) Punjab with effect from 1st October, 2005
(v) Rajasthan with effect from 1st June, 2005
(vi) 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.
(vii) Uttranchal with effect from 1st July, 2005.]

B. Domestic appliances and construction equipments at the manufacturing stage to be achieved by 31st December,1993.

(a) Window Air Conditioners of 1 ton to 1.5 ton 68
(b) Air Coolers 60
(c) Refrigerators 46
[2][(d) * * * …… …]
(e) Compactors (rollers),Front Loaders,Concrete mixers,Cranes(moveable),Vibrators and Saws 75

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1 Inserted by the Environment (Protection) Amendment Rules, 2005 notified vide Notification G.S.R.272 (E), dated 5.5.2005.

2 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-I

(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 :

(1) the waste waters and gases are to be treated with the best available technology (BAT) in order to achieve the prescribed standards.

(2) 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.

(3) the industries are to be encouraged for recovery of biogas, energy and reusable materials.

(4) 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.

(5) 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.

(6) All efforts should be made to remove colour and unpleasant odour as far as practicable.

(7) The standards mentioned in the Schedule shall also apply to all other effluents discharged such as industrial mining, and mineral processing activities and sewage.

(8) the limit given for the total concentration of mercury in the final effluent of caustic soda industry, is for the combined effluent from (a) 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,

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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][***…….]

(12) 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.

(13) In case of pesticides :

(a) The limits should be complied with at the end of the treatment plant before dilution.

(b) 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.

(c) 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.

(d) 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].

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1 Omitted by Rule, 2(k) (vii) of the Environment (Protection) Third amendment Rules, 1993 vide G.S.R. 801 (E), dated 31.12.1993.

2 Inserted by rule 2(k) (ix), ibid.

ANNEXURE-II

(For the purpose of Part-D)

The State Boards shall follow the following guidelines in enforcing the standards specified under Schedule VI:

(a) 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.

(b) 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.

(c) 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.

(d) 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.

(e) 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.

(f) In case of asbestos dust, the same shall not exceed 2mg/Nm^3.

(g) 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.

(h) 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.

(i) In case of integrated Iron and Steel Plants, PM emission upto 400 mg/Nm^3 shall be allowed during oxygen lancing.

(j) 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 :

(i) Dust containment cum suppression system for the equipment;

(ii) Construction of wind breaking walls;

(iii) Construction of the metalled roads within the premises;

(iv) Regular cleaning and wetting of the ground within the premises;

(v) Growing of a green belt along with periphery.

(k) 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.

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1 Omitted by Rule 2(i)(iii) of the Environment (Protection) Third Amendment Rules, 1993, vide G.S.R. 801(E) dated 31.12.1993.

2 Substituted by Rule 2(1)(i); Ibid.

3 Added by Rule 2(1)(ii), Ibid.

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 11.9.18 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

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

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:** 31/12/18

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, HPSPCB

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 O 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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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/2018-9250-58 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 authorotties 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 durng 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 Himuda 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 wthout 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 Effiunet 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	[illegible]	[signature]
02.	Sudhir Sharma	EO MC Pwn	94185-56696	mcparwanoo1@yahoo.co.in	[signature]
03.	Er. Rajesh Thakur	A.E. HIMUDA Pwn	9418164061	raajesh.thakur@gmail.com	[signature]
04.	Er. Ramesh Bisht	EE, HIMUDA Parwanoo	9910-[illegible]	[illegible]@gmail.com	[signature]
05.	Er. R.V. Singh	Solan	92186-1111[illegible]	[illegible]@yahoo.com	[signature]
06.	Mohit Bansal	Secretary DLSA, Solan	98053-688[illegible]		[signature]
07.					
08.	Dr. Gaurav Aggarwal	Public Health Consultant	98770 30326	gauravpublichealth@gmail.com	[signature]
09.	SUMIT SOOD.	XenI&H Deptt Solan.	8988107880	[illegible]@gmail.com	[signature]
10.	Atul Parmar	AEE, HPPCB	94130-44333		[signature]
11.					
12.					
13.					
14.					
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16.					
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Annexure - V

Locations	TEST Parameter /Unit	Date of Test	A. PHYSICAL PARAMETER					
			Temperature	Colour	Odour	Test Parameter / Unit	Turbidity	pH
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°C	Colourless	Agreeable	Agreeable	6.70	8.70
	Hand Pump Nr. Parwanoo HRTC	Date of Test: 17-12-2018	16.9°C	Colourless	Agreeable	Agreeable	11.80	7.70
	Hand Pump Upper Nr. Gurudwara Parwanoo	Date of Test: 17-12-2018	16.4°C	Colourless	Agreeable	Agreeable	35.60	7.15
	Hand Pump Nr. Balaka Devi Mandir Taksal	Date of Test: 17-12-2018	13°C	Colourless	Agreeable	Agreeable	18.80	7.83
	Hand Pump Nr. Middle School Taksal	Date of Test: 17-12-2018	17.5°C	Colourless	Agreeable	Agreeable	19.50	7.50
	Hand Pump Nr. Sector- V Parwanoo	Date of Test: 17-12-2018	16.4C	Colourless	Agreeable	Agreeable	7.30	8.50
	Hand Pump Sector-I	Date of Test: 18-12-2018	14.3C	Colourless	Agreeable	Agreeable	0.00	9.39
	Hand Pump Sector-IV Parwanoo	Date of Test: 18-12-2018	14.4°C	Colourless	Agreeable	Agreeable	0.00	8.62
	Hand Pump Nr. HRTC Work Shop Parwanoo	Date of Test: 18-12-2018	14.6°C	Colourless	Agreeable	Agreeable	0.00	9.24
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	14.6°C	Colourless	Agreeable	Agreeable	0.00	7.80
	Hand Pump Nr. Ex MLA Parwanoo	Date of Test: 18-12-2018	14.6°C	Colourless	Agreeable	Agreeable	0.00	7.60
	Hand Pump/ Bore Well Purla Parwanoo	Date of Test: 18-12-2018	14.4°C	Colourless	Agreeable	Agreeable	0.00	8.50
	Spring Source Datyar	Date of Test: 18-12-2018	14.7°C	Colourless	Agreeable	Agreeable	0.00	7.30
	Hand Pump Kamli Nr. Primary School	Date of Test: 20-12-2018	12.9°C	Colourless	Agreeable	Agreeable	5.00	8.84
	Hand Pump/Borewell Papoli	Date of Test: 20-12-2018	13.1°C	Colourless	Agreeable	Agreeable	25.80	7.96
	Hand Pump Sector 4 Nr. Shiv Mandir Parwanoo	Date of Test: 20-12-2018	13.5°C	Colourless	Agreeable	Agreeable	265.60	7.16
	Hand Pump Nr. Village Abhota	Date of Test: 20-12-2018	13.9°C	Colourless	Agreeable	Agreeable	173.00	7.82
	Hand Pump tikkri Nr. Sector-4 Parwanoo	Date of Test: 20-12-2018	14.2°C	Colourless	Agreeable	Agreeable	2.80	7.90
	GWSS Taksal	Date of Test: 20-12-2018	14.2°C	Colourless	Agreeable	Agreeable	0.00	8.21
	GWSS Dhaggar	Date of Test: 20-12-2018	14.1°C	Colourless	Agreeable	Agreeable	0.00	7.80
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
	Hand Pump Chanderyani	Date of Test: 20-12-2018	14.7°C	Colourless	Agreeable	Agreeable	1.00	7.94
	Hand Pump Nr. Kurla School	Date of Test: 20-12-2018	16.0°C	Colourless	Agreeable	Agreeable	0.00	9.20
	Bore Well Dhaggar	Date of Test: 03-05-2018	26.9°C	Colourless	Agreeable	Agreeable	0.00	7.50
	Bore Well Taksal	Date of Test: 03-05-2018	26.9°C	Colourless	Agreeable	Agreeable	0.00	7.60
	LWSS Masool Khanna	Date of Test: 25-05-2018	31.7°C	Colourless	Agreeable	Agreeable	0.00	8.50
	Bore Well Nr. Mangla Mata Mandir Dhaggar	Date of Test: 12-06-2018	30.4°C	Colourless	Agreeable	Agreeable	0.00	7.10
	GWSS Khadeen	Date of Test: 15-06-2018	29.5°C	Colourless	Agreeable	Agreeable	0.00	8.28

Annexure – V

Locations	TEST Parameter /Unit	Date of Test	B. CHEMICAL PARAMETER									
			TDS/Elect. Condavtivity (MG/L)	Total Alkallnity ()Mg/l	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)
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	-	-
	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	-	-
	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	-	-
	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	-	-
	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	-	-
	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	-	-
	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	-	-
	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	-	-
	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	-	-
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	408.5	336	82.36	212.0	44.3	0.17	18.10	0.048	-	-
	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	-	-
	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	-	-
	Spring Source Datyar	Date of Test: 18-12-2018	175.6	208	14.2	116.0	1.3	0.096	13.70	0.0	-	-
	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	-	-
	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	-	-
	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	-	-
	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	-	-
	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	-	-
	GWSS Taksal	Date of Test: 20-12-2018	127	132	11.4	88.0	3.9	0.142	11.20	0.0	-	-
	GWSS Dhaggar	Date of Test: 20-12-2018	115.4	224	17.04	76.0	1.8	0.104	11.80	0.0	-	-
Water Sampling of Borewell/Hand pumps 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	-	-
	Hand Pump Chanderyani	Date of Test: 20-12-2018	130.4	132	14.2	100.0	7.6	0.04	10.32	0.0	-	-
	Hand Pump Nr. Kurla School	Date of Test: 20-12-2018	588	25.56	16.0	1.24	0.304	89	-	0.0	-	-
	Bore Well Dhaggar	Date of Test: 03-05-2018	172	22.72	86	6.4	0.093	10.88	-	-	-	-
	Bore Well Taksal	Date of Test: 03-05-2018	330	19.88	100	4.1	0.081	10.96	-	-	-	-
	LWSS Masool Khanna	Date of Test: 25-05-2018	152	22.72	76	0.148	-	-	-	-	-	-
	Bore Well Nr. Mangla Mata Mandir Dhaggar	Date of Test: 12-06-2018	252	76.68	196	2.5	0.176	71.2	-	-	-	-
	GWSS Khadeen	Date of Test: 15-06-2018	-	160	17.04	76.0	0.0	0.176	10.08	-	-	-

Annexure – V

Locations	TEST Parameter /Unit	D MICRO BILOGICAL	D MICRO BILOGICAL Total Coliforms (Nuber/ Hundered MM)
Water Sampling of Borewell/ Handpumps and Water Supply Schemes Near Parwanoo area	Hand Pump Nr. Shiv Mandir Parwanoo	Nil	After 48 hours incubation period
	Hand Pump Nr. Parwanoo HRTC	Nil	After 48 hours incubation period
	Hand Pump Upper Nr. Gurudwara Parwanoo	Nil	After 48 hours incubation period
	Hand Pump Nr. Balaka Devi Mandir Taksal	Nil	After 48 hours incubation period
	Hand Pump Nr. Middle School Taksal	Nil	After 48 hours incubation period
	Hand Pump Nr. Sector- V Parwanoo	Nil	After 48 hours incubation period
	Hand Pump Sector-I	Nil	After 48 hours incubation period
	Hand Pump Sector-IV Parwanoo	Nil	After 48 hours incubation period
	Hand Pump Nr. HRTC Work Shop Parwanoo	Nil	After 48 hours incubation period
Water Sampling of Borewell/Handpumps and Water Supply Schemes Near Parwanoo area	Hand Pump Nr. House of Sh. Raghu Raj	Nil	After 48 hours incubation period
	Hand Pump Nr. Ex MLA Parwanoo	Nil	After 48 hours incubation period
	Hand Pump/ Bore Well Purla Parwanoo	Nil	After 48 hours incubation period
	Spring Source Datyar	Nil	After 48 hours incubation period
	Hand Pump Kamli Nr. Primary School	Nil	After 48 hours incubation period
	Hand Pump/Borewell Papoli	Nil	After 48 hours incubation period
	Hand Pump Sector 4 Nr. Shiv Mandir	Nil	After 48 hours incubation period
	Hand Pump Nr. Village Abhota	Nil	After 48 hours incubation period
	Hand Pump tikkri Nr. Sector-4 Parwanoo	Nil	After 48 hours incubation period
	GWSS Taksal	Nil	After 48 hours incubation period
	GWSS Dhaggar	Nil	After 48 hours incubation period
Water Sampling of Borewell/Handpumps and Water Supply Schemes Near Parwanoo area	Hand Pump Naryal	Nil	After 48 hours incubation period
	Hand Pump Chanderyani	Nil	After 48 hours incubation period
	Hand Pump Nr. Kurla School	Nil	After 48 hours incubation period
	Bore Well Dhaggar	Nil	After 48 hours incubation period
	Bore Well Taksal	Nil	After 48 hours incubation period
	LWSS Masool Khanna	Nil	After 48 hours incubation period
	Bore Well Nr. Mangla Mata Mandir Dhaggar	Nil	After 48 hours incubation period
	GWSS Khadeen	Nil	After 48 hours incubation period

Annexure – V

Locations	TEST Parameter /Unit	C HEAVY METALS										
		Iron (Mg/l)	Manbganese	Total Arsenic	Copper	Total	Lead	Nikel	Zink	Alumin	Selenium	Silver
Water Sampling of Borewell/ Handpumps and Water Supply Schemes Near Parwanoo area	Hand Pump Nr. Shiv Mandir Parwanoo	0.164	0.0	0.0	-	-	-	-	-	-	-	-
	Hand Pump Nr. Parwanoo HRTC	0.584	0.0	0.0	-	-	-	-	-	-	-	-
	Hand Pump Upper Nr. Gurudwara Parwanoo	1.0	0.118	0.0	-	-	-	-	-	-	-	-
	Hand Pump Nr. Balaka Devi Mandir Taksal	0.484	0.0	0.0	-	-	-	-	-	-	-	-
	Hand Pump Nr. Middle School Taksal	0.452	0.0	0.0	-	-	-	-	-	-	-	-
	Hand Pump Nr. Sector- V Parwanoo	0.38	0.0	0.0	-	-	-	-	-	-	-	-
	Hand Pump Sector-I	0.024	0.0	0.0	-	-	-	-	-	-	-	-
	Hand Pump Sector-IV Parwanoo	0.78	0.0	0.0	-	-	-	-	-	-	-	-
	Hand Pump Nr. HRTC Work Shop Parwanoo	0.148	0.0	0.0	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-
	Hand Pump Nr. Ex MLA Parwanoo	0.744	0.0	0.0	-	-	-	-	-	-	-	-
	Hand Pump/ Bore Well Purla Parwanoo	1.0	0.0	0.0	-	-	-	-	-	-	-	-
	Spring Source Datyar	0.288	0.0	0.0	-	-	-	-	-	-	-	-
	Hand Pump Kamli Nr. Primary School	0.604	0.0	0.0	-	-	-	-	-	-	-	-
	Hand Pump/Borewell Papoli	0.34	0.0	0.0	-	-	-	-	-	-	-	-
	Hand Pump Sector 4 Nr. Shiv Mandir Parwanoo	8.8	0.098	0.0	-	-	-	-	-	-	-	-
	Hand Pump Nr. Village Abhota	9.06	0.2	0.0	-	-	-	-	-	-	-	-
	Hand Pump tikkri Nr. Sector-4 Parwanoo	0.89	0.0	0.0	-	-	-	-	-	-	-	-
	GWSS Taksal	0.872	0.0	0.0	-	-	-	-	-	-	-	-
	GWSS Dhaggar	0.36	0.0	0.0	-	-	-	-	-	-	-	-
Water Sampling of Borewell/Handpumps and Water Supply Schemes Near Parwanoo area	Hand Pump Naryal	0.37	0.0	0.0	-	-	-	-	-	-	-	-
	Hand Pump Chanderyani	0.26	0.0	0.0	-	-	-	-	-	-	-	-
	Hand Pump Nr. Kurla School	0.412	0.0	0.0	-	-	-	-	-	-	-	-
	Bore Well Dhaggar	0.288	0.0	0.0	-	-	-	-	-	-	-	-
	Bore Well Taksal	0.204	0.0	0.0	-	-	-	-	-	-	-	-
	LWSS Masool Khanna	0.314	0.0	0.0	-	-	-	-	-	-	-	-
	Bore Well Nr. Mangla Mata Mandir Dhaggar	0.53	0.0	0.0	-	-	-	-	-	-	-	-
	GWSS Khadeen	0.32	0.0	0.0	-	-	-	-	-	-	-	-

Annexure- V

Locations		TEST Parameter /Unit	E SPECIFIC Parameter	E 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
Water Sampling of Borewell/ Handpumps and Water Supply Schemes Near Parwanoo area	1	Hand Pump Nr. Shiv Mandir Parwanoo		0.0	-	-	-	-
	2	Hand Pump Nr. Parwanoo HRTC		0.0	-	-	-	-
	3	Hand Pump Upper Nr. Gurudwara		0.0	-	-	-	-
	4	Hand Pump Nr. Balaka Devi Mandir		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		0.0	-	-	-	-
Water Sampling of Borewell/Handpumps and Water Supply Schemes Near Parwanoo area	10	Hand Pump Nr. House of Sh. Raghu Raj		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		0.0	-	-	-	-
	17	Hand Pump Nr. Village Abhota		0.0	-	-	-	-
	18	Hand Pump tikkri Nr. Sector-4		0.0	-	-	-	-
	19	GWSS Taksal		0.0	-	-	-	-
	20	GWSS Dhaggar		0.0	-	-	-	-
Water Sampling of Borewell/Handpumps and Water Supply Schemes Near Parwanoo area	21	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		0.0	-	-	-	-
	28	GWSS Khadeen		0.0	-	-	-	-

Annexure – VI

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.**

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