BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

AT PRINCIPAL BENCH, NEW DELHI

(In O.A. No.1325/2024, 1326/2024 & 1327/2024)

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Date: 17-02-2025

Place: Ludhiana

Er. Kapil Dev

(Applicant No. 2)

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

AT PRINCIPAL BENCH, NEW DELHI

(In O.A. No.1325/2024, 1326/2024 & 1327/2024)

In the matter of:

Public Action Committee & ors. …….. Applicants

vs.

Union of India & ors. …….Respondents

Affidavit regarding Submission by the Applicant Kapil Dev in regard with collusion and active connivance of Punjab Government as well as Punjab Pollution Control Board with the SPVs of Polluting CETPs of Dyeing Industries of all three clusters i.e. 50MLD, 40MLD & 15MLD situated at Tajpur Road and Bahadur Ke Road respectively.

Hon'ble sir,

Respectfully sheweth,

The Applicants humbly submit that the EC conditions clearly stipulate Zero Liquid Discharge (ZLD) for 15 MLD Bahadur Ke CETP and "No Discharge into Buddha Nallah" for the 40 MLD Focal Point and 50 MLD Tajpur Road CETPs. The SPVs have been continuously violating these conditions since their inception. The Polluting Project Proponents (SPVs) of impugned CETPs have been discharging their so called treated effluent into Budha Dariya in illegal manner and in active connivance with the PPCB and the important facts related to same for all three CETPs i.e. 15MLD, 40MLD and 50MLD as produced as under:

1. REGARDING 15MLD CETP AT BAHADUR KE

i. That the SPV of this impugned CETP during hearing had claimed that the member units are re-using the treated effluent in their industries whereas the real facts is, entire So Called treated effluent is being discharged directly into the Budha Dariya and thus, the Project Proponent of 15 MLD CETP has tried to mislead this Hon'ble Tribunal by such claim.

ii. That this polluting project proponent had to operate at ZLD condition and was never permitted to discharge a single drop into the Budha Dariya, however, the Polluting Project proponent in active connivance with the PPCB, laid 5km pipeline from CETP to Budha Dariya and has been discharging 100% of treated effluent into Budha Dariya by going against the mandatory Environment Clearance Condition dated 08-12-2014, thus liable to be prosecuted under the provisions of various Environment laws and face hefty penalty as prayed in the Original Application.

iii. That on one hand member secretary PPCB in its reply (Page No. of Appeal No. 48 of 2024) has said that they have given a temporary consent to CETPs to discharge into the Buddha Dariya (Nallah) but on the other hand, the condition number 20 of the general conditions (page 302) of their consent says "The industry shall comply with the conditions imposed by SEIAA / MOEF in the environmental clearance granted to it.". So the consent to operate itself is self-contradictory as the EC conditions disallow discharge into the Buddha Dariya. Such temporary consent given by concerned official/s again and again clearly implies that PPCB is acting as shield for pollution being done by Project Proponents and has acted by going against their competency and authority and

by going against humanity and due to this illegal act of PPCB, millions of citizens & aquatic lives have been forced to consume/live in the contaminated water directly. Further, the contaminated water i.e. So Called treated effluent is being used for irrigation purposes too. Thus, the PPCB officials are liable to be prosecuted for their act against Environment Norms and punished accordingly.

iv. That in Appeal No. 48 of 2024, this Hon'ble Tribunal wide orders dated 09-12-2024 was pleased to direct the PPCB as under:

> ***"EC condition is binding. Hence, by way of interim orders, we direct that till the next date of hearing no coercive steps in pursuance to the impugned order will be taken, subject to compliance with environmental norms and clearance conditions. We clarify that non-adherence to the specific conditions of maintaining Zero Liquid Discharge is non-compliance with the environmental norms".***

However, despite directions of this Hon'ble Tribunal, all the Environment norms and facts, Punjab Government as well as PPCB has failed to implement the EC and has deliberately allowed the project proponent to discharge the So Called Treated Effluent into Budha Dariya.

2. REGARDING SPV OF 40MLD CETP & 50MLD CETPs:

i. That the Polluting Project proponents has been claiming that the treated effluent was to be used for irrigation purposes by the State Government, however it is pertinent to humbly submit here that no such proposal was even finalised by the competent authority i.e. the Chief Engineer of

Respondent No. 7 as per the well settled law, being reproduced as under:

Para 4.2 of the Irrigation Module of Orders (IMO)

No Government Channel should be abandoned or another constructed or extended without the prior approval of the Chief Engineer whatever the financial powers of the Local Officer may be in regard to them.

However, the Project Estimate as produced by the Polluting Project proponents in their respective Appeal No. 40 & 41 of 2024 shows that the documents has been signed by only Canal Officers upto rank of SDO & Executive Engineer. The copy of the estimate prepared & signed by SDOs/EXEN is produced herewith as **Annexure PX-4.**

Further this scheme, **if was to be finalised, was mandatory to be published under the IMO Para No. 4.2 (Running Page 42 of O.A. 1326 of 2024) and implemented under the Canal & Drainage Act 8 of 1873 (Running Page 18 of O.A.), however no such action has been taken by the Irrigation department, thus such grounds on bases of which, the polluting project proponents are taking the shield of failure on part of State Government and discharging the so called treated effluent is liable to be set aside by this Hon'ble Tribunal.**

ii. That as per Environment Clearance condition, the impugned SPV of CETP has never been permitted to discharge the effluent into Budha Dariya but after commencement of CETP in the year 2022, the disposal pipeline was laid in active connivance with PPCB and has continuously discharging the so called effluent into Budha Dariya illegally.

iii. That as per document prepared by SDOs/SEs of Respondent No. 7, it is clearly mentioned at Running Page No. 45 of O.A. No. 1326 of 2024 for 40MLD and Page no. 54 of O.A. No. 1325 of 2024 for 50MLD) as under: **"If the farmers refuse to consume the said said water, the onus of this will be entirely of the department responsible for carrying out operation/supervision of the treatment plants."**

iv. That one very important document reference No. 10/228/2019/STE-5/1594066/1dated 10-10-2019 issued by Department of Science, Technology & Environment, Government of Punjab which the Applicants have come across, is **"DIRECTIONS FOR ABATEMENT OF POLLUTION IN BUDHA NALLAH U/S 5 OF THE ENVIRONMENT PROTECTION ACT, 1986"**. In this document, keeping in view of the directions of Hon'ble Punjab & Haryana High Court in many cases, major recommendations of P. Ram Committee in status reports from February 2007 to March 2010 and recommendations of report of May 2009 by NEERI for ZERO LIQUID DISCHARGE for textile, dyeing and bleaching units in Ludhiana, the Department of Department of Science, Technology & Environment, Government of Punjab had directed the PPCB to prepare detailed mechanism for successful operation of the CETPs and issue necessary direcitons under Water Act 1974.

(the copy of document reference No. 10/228/2019/STE-5/1594066/1dated 10-10-2019 issued by Department of Science, Technology & Environment, Government of Punjab for **Directions For Abatement Of Pollution In Budha Nallah U/S 5 Of The Environment Protection Act, 1986** is produced herewith as **Annexure PX-5**).

v. That the DC Ludhiana in another similar matter before this Hon Tribunal (225 of 2022, Nitin Dhiman vs State of Punjab & Ors) in the submission dated 31-08-2023 has produced “proceedings of the meeting dated 11-08-2023 held under the Chairmanship of the Principal Secretary to Govt. of Punjab, Department of Science, Technology & Environment, to discuss/finalize status report on behalf of Chief Secretary to Govt. of Punjab in NGT case O.A. No. 225 of 2022 titled “Nitin Dhiman vs. State of Punjab & ors. And further reports received on the matter, it is mentioned as under that:

“In regard to above Executive Engineer, Ludhiana Canal & Ground Water Division informed that wide report dated 04-09-2019, it had already been submitted tha project is infeasible due to certain technical aspects”.

Xxx xxx xxx

This proposal was not sanctioned by State or Centre authorities, due to various technical aspects.

Xxx xxx xxx

Point No. 4: Also, the farmers of the villages opposed the construction of this new channel by giving representation as they didn’t want to use the treated water for irrigation.

Xxx xxx xxx

Also in addition to above, the Central Water Commisison (CWC) while considering the proposal has expressed that if the State proceeds with proposal, the State Agricultural Department should certify that contaminant residue will not enter the food chain.

(The copy of relevant pages of submission by DC, Ludhiana before this Hon'ble Tribunal in O.A. 225 of 2022 is produced herewith as **Annexure PX-6).**

vi. That from above submission, it is clear that the proposal was never approved by the competent authorities but instead of handling their own treated effluent as per the report of Irrigation Department, the polluting project proponents in active connivance and collusion with the Punjab Govt. as well as the PPCB officials, laid the pipes illegally directly into Budha Dariya which resulted into unwanted consumption of toxic water by the millions of Citizens residing in Punjab and Rajasthan. Such an act is very SERIOUS OFFENCE AGAINST HUMANITY, ENVIRONMENT AND SUSTAINABLE DEVELOPMENT and thus, the culprits are liable to be prosecuted under the provisions of Water Act of 1974 as well as other Environmental Laws.

vii. That after misinterpretation of orders of this Hon'ble Tribunal by PPCB, this Hon'ble Tribunal vide orders dated 09-12-2024, pleased to direct the PPCB that the Environment Clearance is binding but despite directions of this Hon'ble Tribunal, the PPCB is still misinterpreting the orders and has allowed the Polluting Project Proponents to discharge their so called treated effluent into Budha Dariya illegally. The Environmental Engineer of PPCB in Human Right Commission has submitted as under:

"It is respectfully submitted that the matter relating to the discharge of treated effluent of dyeing industries into Budha Nallah is pending

before the Hon'ble NGT and further action will be taken as per the directions of the NGT.

Thus, the PPCB is still playing dubious role in interpreting the orders of this Hon'ble Tribunal and has not acted as per EC Conditions.

(The copy of submission dated 20-01-2025 submitted to the Registrar of Punjab Human Rights Commission by the Executive Engineer of PPCB is produced herewith as **Annexure PX-7)**

Keeping in view of the above important facts, EC, Water Act of 1974 & various Environmental laws, the Polluting Project proponents in active connivance and collusion with the PPCB, has never abide by the directions of law, continued to disobey the mandatory conditions of EC as well as regulatory authorities and so called treated effluent is still being discharged illegally into Budha Dariya. Their deliberate delay tactics have prioritized profit over environmental i.e. against sustainable development and public health i.e. at the cost of lives of millions of citizens as well as aquatic lives, endangering those consuming this water in South Punjab and Rajasthan, thus such an criminal act needs to be stopped and the Applicants humbly prays this Hon'ble Tribunal to issue directions for stopping the discharge of so called treated effluent into Budha Dariya from impugned CETPs of SPVs and accept our prayer as submitted in the Original Applications.

Date: 17-02-2025 Kapil Dev

Place: Ludhiana (Applicant No. 2)

ANNEXURE PX-4

PART-1 (PAGE NO.1 TO 170)

GOVT. OF PUNJAB

DEPARTMENT OF IRRIGATION

PROJECT ESTIMATE

FOR

THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATEMENT AT S.T.P. THROUGH BUDHA NALLA AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSES.

Estimated Cost

137.67 Crores

MAY.2012

Chief Engineer/ Canals
Irrigation Works/Punjab
Chandigarh

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAHA AND BY CONSTRUCTING NET WORK OF DISTRIBUTARY/WATER COURSE.

INDEX PART. I

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		Layout plan for New proposed STP disty	168	~~99~~, 115, 131 77
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CHECK LIST FOR PREPARATION FOR DETAILED PROJECT REPORT TO BE SUBMITTED FOR LOANS UNDER RIDF

1	**IRRIGATION PROJECTS**	
i	**Name of Project**	PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAHA AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE.
ii	**Districts covered**	Ludhiana, Moga
iii	**Project Outlay (Rs.Crore)**	Rs.137.67 Crores

S.No.	Item	Remarks	Furnished (Yes /No)
1	**Genral**		
i	Whether the project is prioritized by the State Govt.	The Govt. of Punjab has decided to prevent the direct discharge of polluted water of Sewerage System and Industrial discharge into the Rivers passing through the Territory of State.	No
ii	Whether the project submitted through the Nodal Dept.	Through PID	No.
iii	Whether the project included in the State Plan	It is proposed to be funded by the Nabard.	No
2	**Clarence from (Wherever applicable)**		
i	Ministry of welfare (involving rehabilitation & resettlement)	No rehabilitation & resettlement is involved	No
ii	Administrative Approval	Yes, required	No
iii	Technical Sanction	Yes, Required	No
iv	Land Acquistion-Extent,status and time frame	Land required= 82.23 Acre approximately, Land Acquisition process will be started after Technical and financial sanction of the project. This disty. is proposed to be constructed primarily on the surplus abandoned land	Yes (Calculations for land require attached)

		of the Grey Canal System and Budha Nalla along its present alignment. If the land is further required for the smooth running of the channel and to straighten up its alignment at later stage. the same will be assessed and acquired after wards.	
3	**General Profile**		
i	Objectives of the Project	To prevent the direct discharge of polluted water of Sewerage System and Industrial discharge of Ludhiana city into the River Sutlej. The present condition of Budha Nalla is causing acute health problems to the people of Ludhiana city & these districts. Beside this, the water habitation of River Sutlej is being affected to the large extent due to this highly polluted water. Even the density of trees is decreasing alongside the the Budha Nalla due to this highly polluted water. **All these factories have necessitated to treat the highly polluted water of Budha Nalla and utilize this for irrigation purposes for approximately 13543 Ha CCA and to increase the production of State.**	Yes
ii	Salient features of Project Area	• Land Classification:- Based on soil survey- sandy clay. • Topographical features:-Low lying belt in between Budha Nalla and River Sutlej. , • Drainage:- Good , • Soil Characteristics:- Sandy Clay.	Yes
4	**Agro-economic survey**		
i	Demographic and social characteristics	• Population:- Low density • Farm size:- Average • Land use:- Agriculture but not utilized to its full potential due to lack of irrigation facilities. • Land holding pattern/farm size distribution:- Average Size Land holding.	No
ii	Cropping Pattern	Existing and proposed cropping pattern and yields-as per detailed attached in T-9 & T-8	Yes

iii	Agricultural support services	Extension services and supply of inputs, marketing, credit arrangement:- Poor	No
5	**Technical Aspects**		
i	Surface Water Projects		
a	Location and suitability of the project area	This project proposal falling in District Ludhiana and Moga in the low lying belt running parallel to the left side of the River Sutlej. There is lack of irrigation facility for the said area at present as the area does not fall within the irrigation 'Chakk' area of Sirhind canal system.	Yes
b	Source of water	The sewage /effluent of Ludhiana city and Industry after treatment by 4 No. STP /CETP	Yes
c	Catchment Area	152.60 Sq. Miles as per information collected from Drainage Department..	No
d	Rainfall	Data Attached	Yes
e	Hydrology	As per hydrological studies of the three Rivers (Sutlej , Ravi , Beas) conducted prior to the construction of Ropar Head Works, based on the flow series of 1921-60, the average flow in the rivers has been assessed as 34 MAF, which comprises 14 MAF, 13 MAF , 7 MAF for river Sutlej , beas and Ravi respectively.	Yes
f	Design of dam, weir, barrage etc.	N.A.	No
g	Design of main canal ,branch canals, distributaries	Typical drawing attached	Yes
h	Any other relevant detail	Attached at suitable places.	Yes
i	Status of land acquisition	Land required= 82.23 Acre approximately, Land Acquisition process will be started after Technical and financial sanction of the project. This disty. is proposed to be constructed mainly on the surplus abandoned land of the Grey Canal System and Budha Nalla along its present alignment. If the land is further required for the smooth running of the channel and to straighten up its alignment at later stage. the same will be assessed and acquired after wards.	No
j	Submergence area	N.A.	No

	under reservoir and canals/distribution system.		
ii	**Ground water porjects**		
a	Location	N.A.	
b	Geological formation	N.A.	
c	Hydrogeolgy	N.A.	
d	Ground Water avilability	N.A.	
e	Design of wells	N.A.	
f	Specification of Pumping machinaery	N.A.	
g	Available discharge from the	N.A.	
h	Srtructures	N.A.	
i	I command area of structures any other relevant detail.	N.A.	
6	**Financial Aspects**		
i	Schedule of rates adopted (Whether updated to current costs)	The analysis of rates of various items have been prepared and attached. Rates provided are as per common schedule of rates 2010 plus sanctioned zonal premium operative w.e.f. 5.12.2011.	Yes
ii	If, not whether cost proposed will be sufficient to create the assets.	N.A.	No
iii	**Cost Estimate**		
a	Item-wise cost of project	As per detailed attached	Yes
b	Item wise expenditure incurred	Nil	No
c	Item wise cost of balance works	This is a new project and execution of work for this project will be started after receipt of funds.	No
d	Item wise RIDF loan	95% of the project cost	No
e	Item wise State Govt. Contribution year wise phasing of RIDF loan and	Three year phasing schedule.	Yes
f	State Govt.Contribution	5% of the project cost	No
g	Bar/PERT/CPM charts.	N.A.	No

h	Specific justification for high cost of development	The sewage /effluent of Ludhiana city and Industry after treatment by STP /CETP will be utilized for irrigation purpose. To construct the New Disty in the existing abandoned land of the Gray Canal system of the Budha Nalla parallel to River Sutlej in the low lying area. Huge Number of pucca structures e.g bridges, syphon crossing, aqueducts ,escapes, Cross regulator, heavy earth work filling to construct the proposed disty and paralle drains are required to be constructed. Hence high cost involved.	Yes
7	**Benefits and justification**		
	Overall impact of the project need to be assessed and detailed	The project provided to prevent the direct discharge of polluted water of Sewerage System and Industrial discharge into the River Sutlej. At present, the highly polluted water containing many harmful contents due to direct discharge of Sewerage of Ludhiana city and Industrial discharge of dying industry passing through Buddha Nalla is being discharge into River Sutlej at the out skirts of Ludhiana city. Due to usage of River Sutlej water for drinking purposes in the Eastern & Southern part of Punjab including District Bathinda, Ferozepur, Faridkot, Mukatsar Sahib etc., and the present condition of Budha Nalla is causing acute health problems to the people of these districts. Beside this the water habitation of River Sutlej is being affected to the large extent due to this highly polluted water. Even the density of trees is decreasing alongside the the Budha Nalla due to this highly polluted water. All these factors have necessitated the treatment of this highly polluted water of Budha Nalla and utilize this for	Yes

		irrigation purposes for approximately 13543 Ha CCA and to increase the agricultural production of Punjab State. After the completion the project SOCIO-ECOLOGICAL AND ENVIRONMENTAL condition of the people of the State living long side the proposed disty. and Budha Nalla will be improved considerably besides the increase in production of the agricultural land thus improving the financial position of the small farmers of the area.	
8	**Operation and Maintenance**		
	Arrangements for O/M inc.involverment of water user's Association/User Groups,Water charges.	After the construction of disty the operation and maintenance cost to be borne by the PID. Water Charges will be applicable as per Government Policy from time to time.	No
9	**Infrastructure Facilities**		
i	Organizational structure of the implementing Dept.	Attached (Annexure B)	Yes
ii	Capacity and preparedness of the implementing Dept. and status of implementation of earlier sanctioned projects.	The Punjab Irrigation Department is fully equipped with necessary establishment and infrastructure for implementation of the said project.	No
iii	Quality control infrastructure and mechanism	Attached (Annexure C)	Yes
iv	Availability of labour	The work will be executed on the contract basis as per departmental norms and the required labour will be arranged by the contractor. However, the labour is easily available in the said region.	No
v	Budget provision		
a	For contribution to State share	As per State Government Policy	No
b	For subsequent O&M	As per State Government Policy	No
c	For repayment of loans-Principal and interest.	As per State Government Policy	No
10	**Project Risks**		

i	Land acquisition	No problem anticipated at present.	No
ii	Rehabilitation and resettlement	Not required.	No
iii	Forest clearance	Will be obtained, if required at the time of execution.	No
iv	Railway/road crossings	Not involved.	No
v	Construction hazards	No problem anticipated	No
vi	Any other risk.	No.	No
11	**Convergence with any other programme.**	No.	No

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUHDIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAHA AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE.

SALIENT FEATURES

1	Total Cost of the Project	=	Rs. 137.67 Crores
2	Location of the Project Area	=	In the Districts Ludhiana , Moga and Ferozepur
3	Name of the Village Benifited	=	Walipur Kalan, Banjawal, Ghamnewead,Talwandi Nauabad, walipur Khurd, Allwal, Bhundri, Gorsian Kadar Bakhsh Talwara, Shekh Kutab, Bhani Ariyan , Salempura, Sidhwan Bet, Shafipura,Madepura, Abupura, Perjian, Kaniyan , Flusani, Gidder Wirdi, Kekar Partti, Mund Tihera, Munnaberpura, Terf Kotli , Patti, Multani, Shahbazur Kanian Kalan, Chak Kanian Kalan, Kanian Khurd, Chak Fatehpur, Fatehpur, Kanian , Jindra, Thoothgarh , Doburji, Badduwal, Dhamkot.
4	Total Length of Proposed Disty.	=	53.54 KMs.
5	GA to be covered	=	38472 Acres /15755 Ha.
6	CCA to be covered		33454 Acres/ 13544 Ha.
6	Type of Canal	=	Unlined
7	Benefited Area	=	30109 Acres./12190 Ha
8	Benefit Cost Ratio (B.C.Ratio)	=	1.52:1

Sub Divisional officer
Sidhwan Canal Sub Division
Ludhiana.

Sub Divisional officer
Zira Canal Sub Division
Zira

Sub Divisional officer
Moga Canal Sub Division
Moga.

Executive Engineer
Sidhwan Canal Division
Ludhiana.

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUHDIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAHA AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE.

BENEFIT COST RATIO

1	Name of Scheme	=	PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUHDIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAHA AND BY CONSTRUCTING · NET WORK OF DISTRIBUTORY/WATER COURSE.
2	Length of Scheme	=	53.54 Kms
3	Total cost of Project	=	137.67 Crore
4	G.A.	=	15755 Ha
5	CCA	=	13544 Ha
6	Existing Irrigation	=	1354 Ha
	BENEFITTED AREA		
	Additional irrigation potential created (13544-1354) = 12190	=	12190 Ha
	Total	=	12190 Ha

INCOME FOR 100 HA.

Before Project

Value of production (In Lacs)		Cost of Cultivation (In Lacs	Benefit (In Lacs	See Table T-13	
139.67		50.57	89.1		

After Project

Value of production (In Lacs)		Cost of Cultivation (In Lacs	Benefit (In Lacs	See Table T-13	
154.29		50.57	103.72		

Increase in income per 100 Ha

TOTAL INCOME

1.Income in benefit of crops

103.72-89.10=14.62/100 Ha

121.90 x 14.62 = 1782.18

MAINTENANCE COST

	Saving in annual Maintenance cost after Lining			Nil
	As per previous studies @ 39.23% of unlined expenditure			Nil
	Total Benefit per Ha			Rs. 1782.18 Lacs
	EXPENDITURE			
1	PROJECT COST			13767 Lacs
2	Annual interest @ 6.5%			894.86
3	Depreciation charges @2%			275.34
	TOTAL			1170.2
	Economics of the project/benefits cost ratio 1782.18/1170.20			1.52:1
	Required benefit cost ratio			1.5:1

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAH AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE.

MAIN ABSTRACT OF COST

Part-I

	DIRECT CHARGES	AMOUNT IN RS.LACS
A	A-Preliminary	43.00
B	Land	2878.03
C	Works	19.95
D	Regulator	633.40
E	Falls	19.25
F	Cross Drainage Works	1767.00
G	Bridges	942.00
H	Escapes	402.88
I	Navigation works	0.00
K	Building	51.92
L-1	Earth Work	66.50
L-2	Lining	0.00
M	Plantation	0.00
N	Tanks & Reservoirs	0.00
O	Misc.	18.76
P	Maintenance	105.06
Q	Special T& P	1.58
R	Communication	0.00
S	Power Plant & Electrical System	0.00
T	Water supply works	0.00
U	Distributaries, Minors & Sub Minors	0.00
V	Water Courses and field channels	0.00
W	Drainage	0.00
X	Environment & Ecology	0.00
Y	Losses & Stock and Unforeseen	26.26
	Total Direct Charges	6975.59
	Indirect Charges.	207.83
	Total	7183.42
	Say	137.67 Cr.

Executive Engineer
Sidhwan Canal Division
Ludhiana.

Superintending Engineer
Sirhind Canal Cirlce
Ludhiana.

CHAPTER 1

Part-I

INTRODUCTION

i. GENERAL INTRODUCTION

The State of Punjab has sub-tropical climate and is located in the North western Part of India between 29-32 N and 32-31 N latitude and between 73-52' E and 76-55' E Longitude. It is bounded by Jammu & Kashmir in the North, Himachal Pradesh in the north-east, Haryana in the south and Rajasthan in south west and has a long border with Pakistan in the west.

The Punjab State economy is agriculture based with 70% of its population depending upon farming or agriculture based industries. The Irrigation water is the most important input for agriculture sector and in addition to this the improved varieties of seeds and adequate amount of fertilizer for further boosting agriculture production. Since both surface and ground water sources have been fully utilized, Govt. of Punjab recognized that increase of production would depend entirely upon improved efficiency of water use. It is pertinently brought out that Punjab having a geographical area of only 1.5% of the country, contributes more than 50% of the food stock of the central pool owing to untiring efforts of hard working farming community of the state and making the best use of available land and water resources of the state.

The growth in the agriculture sector remained in the vicinity of 2% for the last many years against an overall growth rate of about 8%.The wheat-paddy cropping pattern which is highly water intensive, thrive to a large extent on under ground water resources on account of inadequate availability of surface waters. The ever decreasing levels of water table require pumping of water from comparatively deeper aquifers which require greater consumption of fuel/electricity which is not abundantly available. The sluggish growth rate in agriculture is attributed mainly to increasing cost of agricultural inputs which is putting a tremendous strain on the socio-economic condition of the farmers. Agriculture production is directly linked to availability of water for irrigation and upkeep of its infrastructure. Punjab is the major contributor of wheat and rice to the national kitty and faced with a huge resource-crunch, finds it difficult to fund the schemes.

Punjab is an agrarian economy and most of the people are dependent on agriculture as their source of income. The state has been able to meet substantial food requirement of the country with unprecedented agriculture growth after the green revolution. The total cultivable area of Punjab is 42.90 lac hectare out of which 30.88 lac hectare has been brought under canal command. As such canal network of the state is of prime importance to sustain the agriculture.

Owing to the consecutive lowering of the ground water table with passing time the dependence on canal water for agrarian needs has substantially increased. So the canal system needs extension, improvement & up-gradation. If it is achieved it will help to reduce the pressure on ground water and increase optimal utilization of surface water. The underground water in south western Punjab is alkaline and is not fit for irrigation and drinking purpose. This cause extra stress on demand of canal water.

ii. INTRODUCTION OF PROPOSED DISTRIBUTARY (LUDHIANA CITY STP)

After studying the topography of the area it is found that only the belt of the area falling between the Budha Nalla and the River Sutlej can be irrigated with the treated water of STPs/CETPs, by constructing and open channel connected with the network of water courses at suitable points. Under this scheme, sewage of Ludhiana city and highly polluted water discharge from the industry in general and dying industry in particular will be utilized for irrigation after treatment by STP/CETP plants at Balloke, Jamall pur, Tajpur and Bahadar ke villages . This proposed distributary will be construed by utilizing Govt. land lying surplus due to abandoning of Grey Canal System for the last more than 50 years. At present the capacity of Balloke STP is 152 MLD, which is proposed to be increased by 105 MLD, the total capacity of this STP will be 257MLD (102.80 Cs.), similarly the capacity of Jamallpur STP will be increased from 48 MLD (19.20 Cs.) to 96 MLD ie 40 Cs. Apart from that 112 MLD and 38 MLD discharge of CETP Tajpur and Bhaderke respectably will be treated . The discharge of all STP's & CETP's will be 503 MLD (201 Cs.). The proposed Distributary has been designed for 220 Cs. discharge, keeping in view the present discharge of existing Budha Nallaha at R.D 150000 feet which is off take of the proposed distributary. The total length of proposed Disty. is 175600 feet Approx. out falling into 6-R Disty. at R.D. 2300 feet . The capacity statement has been prepared accordingly. At present the effluent water of STP is directly being discharged through Budha Nallaha into River Sutlej. After construction of proposed distributary, 33454 acres G.A/C.C.A. of 35 nos villages falling under Ludhiana and Moga Distt. will be irrigated .The water allowance has been proposed @ 5.5 Cs per thousand acres. However, during periods of lean/no demand or during flood season the treated effluent will be directly discharged into the river Sutlej. It is pertinent to brought out here that the water for irrigation will be supplied through the treatment plants under the control of Sewerage Board/ Municipal Corporation and the acceptability of the water by the farmers will entirely depend upon the treatment of water as per norms set by the Pollution Control Department/ any other relevant

department for the same. Therefore if the farmers refuse to consume the said water, the onus of this will be entirely of the department responsible for carrying out operation/supervision of the treatment plants. This scheme will be published under the IMO Para No. 4.2 and implemented under the Canal & Drainage Act 8 of 1873.

iii. EFFECTS OF PROPOSED DISTRIBUTARY.

At present, the highly polluted water containing many harmful contents due to direct discharge of Sewerage of Ludhiana city and Industrial discharge of dying factories carried by Buddha Nalla is being discharge into River Sutlej at the out skirts of Ludhiana city. Due to usage of River Sutlej water for drinking purposes in the Southern part of Punjab including District Bathinda, Ferozepur, Faridkot, Mukatsar etc., This present condition of Budha Nalla is causing acute health problems to the people of Ludhiana city & these districts. Beside this the water habitation of River Sutlej is being affected severly due to this highly polluted water. Even the density of trees is decreasing alongside the the Budha Nalla due to this highly polluted water. All these factories have necessitated the treatment of the highly polluted water of Budha Nalla and utilize this for irrigation purposes

iv. SUB HEAD WISE PROVISIONS MADE IN THE PROJECT ESTIMATE ARE DISCUSSED BELOW :-

A-Preliminary

A provision of Rs. 43.50 Lac has been made under this sub-head for the work of leveling, survey, observing X-Sections etc.

B-Land

A provision of 19.28 Acre for Disty, 22.95 acre land for drain, 40 Acre land for compensation for disputed to be required has beem made in the estimate . A total provision of Rs..2878.03 Lac has been made under sub head..

C-Works

Construction of 57 Nos. outlets /Tail Cluster has been made in this project. A provison of Rs. 19.95 Lac has been made under this Sub Head.

D-Regulator

A provison of Head Regulator and Cross Regulator At RD 0 of New proposed Disty and Budha Nalla , in take structure at RD 2300 of 6-R Disty and tail RD 175600 of proposed disty has been made in the estimate . A total provision of Rs.633.40 Lac has been made under this sub-head.

E-Fall

A provision of Construction of 1 No. fall at RD 132200 of proposed disty . A provision of Rs.19.25 Lac has been made under this sub-head.

F-Cross Drainage Works

A provision of construction of 11 Nos Syphon crossing , 3 Nos Syphon aqueduct crossing and 1 No. Syphon crossing cum Bridge has also been made in the Project Estimate. A total provision of Rs.1767.00 Lac has been made in this sub head.

G-Bridges

A provision of construction of 47 Nos. bridges has been made in the Project Estimate. A total provision of Rs.942.40 Lac has been made in this sub head.

H-Escape

A provision of 1 No Escape cum regulator at RD 11000 of proposed disty.has been made in the project estimat. A total provision of 502.88 Lacs has been made under sub head..

I-Navigation Works

No provision has been made under this sub-head.

K-Building

A provision of construction of 6 Residential required for employees has been made in the project estimate. A total provision of Rs. 51.92 Lac has been made in this sub head.

L-(i) Earth Work

Provision of Rs.6650 Lac has been made under this sub head.

L-(ii) Lining

No provision has been made under this sub-head.

M-Plantation

No provision has been made under this sub-head.

N-Tanks & Reservoir

No provision has been made under this sub-head.

O-Miscellaneous

A Provision of running of vehcial, Distance marks and Boundry pills, Sign Boards/Indification boards, inaugural ceremonies, technical reords, photographs and inaugural ceremonies etc. has been made in the project estimate A total provision of Rs. 18.76 Lac has been made under this sub head.

P-Maintenance

A Provision of Rs.105.06 Lac has been made under this sub head.

Q-Special T & P

A Provision of Rs.1.58 Lac has been made under this sub head for purchase of. computers, Fax machines, photostat machines etc.

R-Communication

No provision has been made under this sub-head.

S-Power Plant & Electrical System

No provision has been made under this sub-head.

T - Water Supply Works

No provision has been made under this sub-head.

U - Disty, Minor & Sub Minors

No provision has been made under this sub-head.

V - Water Course & Field Channel

No provision has been made under this sub-head.

W - Drainage

No provision has been made under this sub-head.

X-environment and ecology

No provision has been made under this sub-head.

Y - Losses Stock & Unforeseen

Provision of Rs. 26.26 Lac has been made under this Sub head.

Indirect & Escalation Charges

A provision of Rs.207.82 Lac under the sub head has been made.

The analysis of rates of various items have been prepared and attached. Rates provided are as per common schedule of rates 2010 plus sanctioned zonal premium operative w.e.f. 5.12.2011.

The total cost of this Project Estimate has been worked out to be Rs 137.67 Crores.

Sub Divisional officer
Sidhwan Canal Sub
Division
Ludhiana.

Sub Divisional officer
Moga Canal Sub
Division
Moga

Sub Divisional officer
Zira Canal Sub
Division
Zira.

Executive Engineer
Sidhwan Canal Division
Ludhiana.

Superintending Engineer
Sirhind Canal Circle
Ludhiana.

CHAPTER 2

THE PROJECT AREA

2.1 GENERAL

The project of unlined proposed distributary R.D. 0 to R.D. 175600 is a new peroject. The water allowance of the area falling under this distributary is 5.5 Cusecs per thousand Acres at outlet head. The water used for this project is a treated effluent from 4 No. STP's/CETP's of Ludhiana area.

2.2 TOPOGRAPHY AND SOILS

This project proposal falls in District Ludhiana and Moga in the low lying belt running parallel to the the River Sutlej on its left side. The topography of the area is gently graded having low lying area patches at several places.
The soil in the project area is generally sandy having contents of silt and loam. The soil in general has good drainage characteristics.

2.3 CLIMATE AND RAINFALL

The climate of this area i.e.(of District Ludhiana, Moga and Ferozepur) is of sub-tropical monsoon type having wet hot summers and cold dry winters. Temperature in the area can rise as high as 47^0 C in summer months and as low as 5^0 C in the winters. About 85% rain fall occur during Kharif season. Mean Rainfall, Mean wind speed, Mean Temperature and mean Relative Humidity are given in table T-2

This area is quite suitable for irrigation but due to lack of good irrigation facility the yield per acre is very low. The proposed canal will help in enhancement of yield capacity per acre substantially.

2.4 EXISTING CROPPING PATTERN

There are two crop seasons in Punjab, Kharif season from April to October and Rabi seasons from November to March. Paddy, maize, pulses etc. are grown during Kharif seasons. Wheat rape seed and mustard are the main crop of rabi season. However fodder crops such as jowar during kharif and barseem during rabi season are also grown. Paddy-wheat is the main crop rotation of this area. The existing cropping pattern is given in Table-3.

2.5 HYDROLOGY

As per hydrological studies of the three Rivers (Sutlej , Ravi , Beas) conducted prior to the construction of Ropar Head Works, based on the flow series of 1921-60, the average flow in the rivers has been assessed as 34 MAF, which comprises 14

MAF, 13 MAF , 7 MAF for river Sutlej , beas and Ravi respectively.

2.6 SOCIO- ECOLOGICAL AND ENVIRONMENTAL ASPECTS.

At present, the highly polluted water containing may harmful contents due to direct discharge of Sewerage of Ludhiana city and Industrial discharge of dying industry carried through Buddha Nalla is being discharged into River Sutlej at the out skirts of Ludhiana city. Due to usage of River Sutlej water for drinking purposes in the Southern part of Punjab including Distict Bathinda, Ferozepur, Faridkot, Mukatsar etc., This present condition of Budha Nalla is causing acute health problems to the people of Ludhiana city & these districts. Besides this the water habitation of River Sutlej is being affected severly due to this highly polluted water. Even the density of trees is decreasing alongside the Budha Nalla due to this highly polluted water. All these factors have necessitated the treatment of highly polluted water of Budha Nalla and utilize this for irrigation purposes.

CHAPTER 3

THE PROJECT

3.1 PROJECT OBJECTIVES

The pressure of increasing population has led to the necessity of finding all possible means of increasing the production of food grain. Improved and extensive irrigation facilities are therefore required to meet with the growing demand of irrigators and good crops for increasing production.

The project has been drawn up with the following objectives:-

1. To reduce the pressure on underground water table.
2. To utilize the treated effluent for irrigation purpose.
3. To prevent the direct discharge of polluted effluent of Ludhiana city into the River Sutlej.
4. To increase the production of agriculture in the state.
5. To improve the socio- ecological and environmental condition.

3.2 SURVEYS AND INVESTIGATION

Hydraulic surveys of the proposed new channel shall be undertaken for its proper designing. Full data in regard to the existing structures, foundations and soils shall be observed for detailed designing of works.

3.3 EARTHWORK

The quantities of earthwork of proposed disty. have been estimated from R.D. 0 to 175600 feet, abstract of quantities is as under:-

Sr. No.	Item of Work	Unit	Quantity
1	Earthwork	1000cum	2876.87
2	Compaction of Earthwork	1000cum	1716.52
3	Dressing of Earthwork	1000 sqm	806.42

3.4 DESIGN AND CONSTRUCTION METHOD

The proposed channel shall be constructed as unlined as per methodology adopted for unlined section.

Complete hydraulic survey of the new proposed unlined distributary shall be under taken and Longitudinal Section prepared after double leveling. Cross sections shall be observed at suitable intervals to work out the details of earthwork and L-section shall be prepared after thorough consideration in respect of economy and operational efficiency of every defined reach after proper techno-economic survey. The average lead of 5.0 Km for earthwork have been taken for preparing analysis of rates. Detail estimate shall be prepared for this distributary before the starting of work. This is necessary to have proper control over the execution and expenditure.

DESIGN PARAMETER

This disty. proposed to be constructed as un- lined in the first phase, which will be lined subsequently at later stage. The design section of the unlined disty. is proposed by keeping the berm 2xD, where D is Full Supply Depth of the Distributary (Typical drawing attached), by keeping in view the topography of the field. The banks have been proposed as per C.D.O instructions and site requirements. The value of regeosity coefficient 'N' is 0.0225 for unlined channel. The design calculations for sections of disty. are enclosed. The parallel drains on right/ left side from R.D 10000 feet to 110000 feet and from R.D 140000 feet to R.D 160000 feet respectively have been proposed to maintain the existing drainage system . The alignment of proposed disty. is running parallel to the River Sutlej on its left side, hence siphon crossings have been proposed at suitable interval to safe guard the nearby area and disty. from flood water. The alignment of proposed channel is kept as already existing alignment of old disty. & old Budha Nalah to minimize the requirement of new land acquisition. .

3.5 CONSTRUCTION METHOD

This unlined channel is proposed to be constructed in the land of existing old Budha Nala and old Grey Canal System. As the proposed distributary is a new channel so the work for execution shall be carried out continuously from the start of work.The work will be executed by the 3 No's Sub-Divisions of the Sidhwan Canal Division. The quality of work shall be cross checked by the CTE Patiala and other research wings of the department. The pucca structures shall be constructed after the drawing/ design is approved by the competent authority.

The earthwork shall be executed through labour intensive method. The compaction of earthwork, which is of paramount importance for safety of the channel, shall be got done using a sheep footed rollers. Special compactors driven by compressed air

may also be used to compact the earth in pockets or where sheep footed roller can not work. A dry bulk density of 90% of the maximum dry density of the natural soil shall be attained in each layer of compacted earth (The maximum dry density of soil generally ranges between 1.6-2.7 g/cm^3 for soil and checked at site after compaction of each layer.

The earthwork and structures shall be undertaken through labour intensive method. Machines shall however be used for compaction of earthwork, concrete mixing, dewatering and for transportation of men and material. The work shall be got done through contractor employed through competitive bidding as per departmental codal rules.

CHAPTER 4

COST ESTIMATE

4.1 GENERAL

Cost estimate are in general based on the prevailing Common Schedule of Rates 2010 with Latest prevailing Sanctioned Premium 6/12/2011. The total cost of the project works out to Rs. 137.67 Croroes

4.2 ESTIMATE OF QUANTITIES

The project includes about 53.54 KM length of proposed unlined channel. The quantity of earthwork has been worked out from typical cross-section observed for different reaches at suitable interval.

4.3 RATES

The project cost has been computed as per prevailing rates as per Common Schedule of Rates 2010 with Latest prevailing Sanctioned Premium 5/12/2011. The labour and carriage rates applied are as provided in the departmental schedule of rates + SP (6/12/2011). The rates for most of pucca works has been taken as per estimate of similar type of structures. For the new structures for which similar type estimates are not available, the provision for these are taken on lump sum basis. However, the detailed estimate shall be prepared after proper design and drawing approved by the competent authority before the time of execution.

4.4 COSTS

The costs are worked out at the prevailing rates in 6/12/2011. the total cost of the project works out to be 137.67 Crores. Analyses of rates for various items of work have also been attached as annexures. Detail abstract of cost is depicted in Annexure A-1.

CHAPTER 5

ORGANIZATIONAL SETUP AND NEEDS

The present Sidhwan Canal Division comprising of 3 Sub Divisions is under Sirhind Canal Circle, Ludhiana which is further under the Chief Engineer/Canals, Irrigation works Punjab, Chandigarh. One No. Asstt. Research officer (Together with supporting staff) will attached with the Division for maintaining the quality check. The chart showing the organizational setup is attached.

5.1 IMPLEMENTATION OF THE WORKS SCHEDULE

As the proposed distributary is a new channel so the work for execution shall be carried out continuously from the start of work. The work will be executed by the 3 No's Sub-Divisions of the Sidhwan Canal Division, Ludhiana. The works shall be executed by equally distributing among the 3 No. sub Divisions names Sidhwan Canal Sub Division, Ludhiana, Moga Canal Sub Division Moga and Zira Canal Sub Division, Zira. The Superintending Engineer, Sirhind Canal Circle, Ludhiana & Executive Engineer, Sidhwan Canal Division Ludhiana shall ensure proper control both over quality and quantity and proper implementation of work schedule. In addition to this an independent research cell comprising of 1 No. ARO (Together with supporting staff) will conduct field tests by setting up their own testing laboratory at site.

The initial work like Surveying preparation of estimate and L-Section, Tendering and getting sanctions from the competent authority etc. shall be completed much prior to the actual execution of the work.

5.2 PROCUREMENT OF MATERIAL AND EQUIPMENT

The key material for the said project such as earth, cement, sand, steel, bricks etc. shall procured by the contractor themselves. However proper checks for maintaining the quality of the material shall be applied by the deputed departmental representatives.

5.3 EXECUTION OF CIVIL WORKS

The civil works such as earthwork and pucca structures would be carried out through labour intensive method. The work will be carried out continuously from the start of work throughout the year except for minor interruption during monsson.

The works shall be got executed at competitive rates received against e- tendering bids from registered agencies.

5.4 OPERATION AND MAINTENANCE

The operation and maintenance of this channel will be carried out by the Punjab Irrigation Department. As far as works under the project are involved, their maintenance during construction period will adequately be provided as per norms.

5.5 MONITORING AND EVALUATION

Monitoring and evaluation of irrigation projects completed/ under execution is presently being done by 2 directorates of monitoring and evaluation under chief engineer. Each directorate is headed by on Superintending Engineer who is assisted by executive engineers and assistant engineers.

5.6 QUALITY CONTROL MECHANISM

The quality of the work executed at site is continuously monitored and checked by the J.E. incharge of the site who will be present at site daily. He also records the measurements in Measurement books at site. The measurement book is regularly checked by the Sub Divisional officer In charge and Executive Engineer as per codal rules.

Proper quality control setup already exists in the department and is shown at Annexure 7. In addition to this an independent research cell comprising of 1 No. ARO (Together with supporting staff) will conduct field tests by setting up their own testing laboratory at site.

An independent agency working under the Administrative control of Chief Technical Examiner shall also exercise the various field tests during the construction of the project.

CHAPTER 6

BENEFITS AND ECONOMIC ANALYSIS

6.1 PROJECT BENEFITS

The project derives its main benefits from assured water supply on account of treated water from the 4 STP's/CETP's. The area under the different crops will be as under:-

Paddy	5417 Ha
Wheat	6772 Ha
Oil Seed	1354 Ha
Total	13543 Ha

6.2 INTANGIBLE BENEFITS

The project shall give following intangible benefits:-

1. Reduction in the pressure on underground water table.
2. Utilization of the treated effluent for irrigation purpose.
3. Prevention of the direct discharge of polluted effluent of Ludhiana city into the River Sutlej.
4. Increase the production of agriculture in the state.
5. Improvement in the socio- ecological and environmental condition.

6.3 INCREMENTAL AGRICULTURAL PRODUCTION

The annual incremental production of crops on full development shall be as under :-

The total production of crop (in 100 Ha) without project	:	31956 Qtls.
The total production of crop (in 100 Ha) with project	:	36017 Qtls

The incremental Agricultural Production in 100 Ha = 36017- 31956	:	4061 Qtls
Total incremental Agricultural Production = 4061x (12190/100)	:	495036 Qtls

6.4 CROP BUDGETS

The present day crop yields in respect of irrigated/ unirrigated crops and summary of latest prices of agriculture produce are given in Table T-5

Average crop cultivation costs for irrigated/ un-irrigated crops in Punjab for the year 2011-2012 are indicated in Table T-6 & T-7 respectively. Crop budgets for the amin crops proposed to be raised on incremental irrigated areas and existi9ng un-irrigated areas have been darwn based on the data given in Table T-5, T-6 & T-7 and indicated in Table T-8 and T-9 respectively. net value of the proposed irrigated/ un-irrigated crops per hectare shall be as under :-

A. Irrigated Crops		
Paddy	:	Rs.47801 /Ha
Wheat	:	Rs.47422 /Ha
Oil Seed	:	Rs.32845 /Ha
B. Un-Irrigated Crops		
Paddy	:	Rs. 40591 /Ha
Wheat	:	Rs. 40997 /Ha
Oil Seed	:	Rs. 30420 /Ha

6.5 CROP BENEFITS

The development of net crop benefits from the additional crops are worked out in Table T-4. On full development, net crop benefits shall amount to Rs. 7186.55 lacs per Annum.

The net crop benefits from the existing un-irrigated crops have been worked out in Table T-10 which amounts to Rs. 2916.86 Lacs per annum.

6.7 BENEFITS COST ANALYSIS

Benefit Cost analysis of the project has been worked out as per guidelines of the Central Water Commission, Government of India.

6.8 ASSUMPTIONS FOR B.C. ANALYSIS.

The following set of assumptions have been adopted for calculations of B.C. ratio:

a) Prices for inputs and outputs remained constant.

b) The latest prices of the year 2011-12 are applicable.

c) The crop yields do not improve in future with or without project condition.

d) Interest rate is considered at 6.5 % per annum.

6.9 BENEFIT COST ANALYSIS WITH CWC METHOD

The values of the main produce in the project area, both in the pre-project and post-project stages have been worked out in the standard performa of CWC vide Table T-10 and T-4 and Net values vide Table T-12 and T-11 respectively.

6.10 INCREASE IN RURAL EMPLOYMENT

Farm activities would be increased due to cultivation of additional land in future. It will boost the rural employment on full development of the project. Opportunities for employment of skilled/ semi-skilled personnel on supporting services shall also open up.

Sub Divisional officer Sidhwan Canal Sub Division Ludhiana.	Sub Divisional officer Moga Canal Sub Division Moga	Sub Divisional officer Zira Canal Sub Division Zira.	Executive Engineer Sidhwan Canal Division Ludhiana

IRRIGATION WORKS PUNJA
HEAD OFFICE

To

Superintending Engineers :-

1) Sirhind Canal Circle, Ludhiana
2) U.B.D.C. Circle, Amritsar.
3) Director/Water Cell I.B.H.O. Pb, Chandigarh.

Memo No.2009/( ) ਸਮੇਤ 3-5 Dated 25 /11/09.

Sub:- Cleaning of rivers –laying of Irrigation network from the STP's.

Hon'ble Chief Minister Punjab, took a meeting on 24/11/2009 on the subject. Kindly find enclosed list of towns alongwith the Sewerage Discharge in MLD where Irrigation Schemes are proposed . The concerned Executive Engineer may be directed to contact his counterpart in Water Supply Sewerage Board to know the location of proposed STP and prepare the Irrigation network Scheme alongwith rough cost estimate and submit the same within six days i.e 1//12/2009 . The Hon'ble Chief Minister is very serious about the issue and has directed that the Schemes and rough cost estimate be submitted within seven days . He will hold a review meeting after seven days to consider these schemes. An early action is requested.

Executive Engineer/Canals,
For Chief Engineer, Irrigation Works, Punjab,
Chandigarh.

ਨਿਗਰਾਨ ਇੰਜੀਨੀਅਰ
ਸਤਲੁਜ ਕੈਨਾਲ ਸਰਕਲ ਲੁਧਿਆਣਾ।

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Project: Cleaning of Rivers- laying of Irrigation network from the STP's

List of Towns with sewerage discharge (MLD)

1 cusec= 1MLD/2.5

Sr.No.	Name of Town	District	Discharge as on 2025 (in MLD)
1.	Bholath	Kapurthala	4
2.	Begowal	Kapurthala	2.50
3.	Phagwara	Kapurthala	38
4.	Dhilwan	Kapurthala	2
5.	Sultanpur Lodhi	Kapurthala	2.60
6.	Kapurthala	Kapurthala	25
7.	Nawanshahar	Shaheed Bhagat Singh Nagar	6
8.	Banga	Shaheed Bhagat Singh Nagar	3
9.	Mukerian	Hoshiarpur	5
10.	Dasuya	Hoshiarpur	5
11.	Tanda urmur.	Hoshiarpur	4
12.	Shamchurasi	Hoshiarpur	1
13.	Hoshiarpur.	Hoshiarpur	35
14.	Makhu.	Moga	3
15.	Dharamkot.	Moga	3
16.	Zira	Moga	8
17.	Talwandi Bhai.	Moga	3
18.	Moga.	Moga	27
19.	Machiwara.	Ludhiana	3.5
20.	Balloke.	Ludhiana	257
21.	Bhattian.	Ludhiana	161
22.	Jamalpur.	Ludhiana	48
23.	Jalandhar	Jalandhar	185
24.	Pathankot	Gurdaspur	20
25.	Nangal	Ropar	5
26.	Ropar - Thermal Plant (STP)	Ropar	14.50
27.	Kurali	Ropar	5

Table T

PROJECT COST AND PROPOSED PHASING OF FUCNTIONING

The total cost of the project proposed to be funded out of RIDF- XVIII works out of the Rs 137.67 Crores as per guidelines of NABARD bank. New schemes would be provided loan assitence to the extent 95% of the total financial outlay. whereas the balance 5% of the cost would be state share.

Total Financial Outlay (TFO)		:	Rs .137.67 Crores
Loan From NABARD	(i.e. 95% of TFO under RIDF XVIII	:	Rs. 130.79 Crores
5% States Share of new scheme		:	Rs. 6.88 Crores.
Time required to complete the project		:	3.0 Years (Subjected to availability of funds)

IMPLEMENTATION OF SCHEDULE

The work included in the project will be completed within 3 years from the date of receipt of funds.

The cost of this project works out to Rs. 137.67 Crores. As the work is of Public interest so an early approval of the scheme is requested please.

Table T-1

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAH AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE.

METEROLOGICAL DATA

Average of 10 Years (From 1998-2008)

District	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
MEAN RAINFALL (MM)												
LUDHIANA	30.48	38.66	33.92	17.8	32.17	88.49	99.26	187.3	98.04	23.11	3.49	16.11
MEAN WIND SPEED (KM/HOUR)												
LUDHIANA	3.71	4.1	4.6	4.92	6.08	6.41	5.27	4.41	3.45	2.57	2.48	2.07
MEAN TEMPERATURE (DEGREE CENTIGRADE)												
LUDHIANA	12.68	15.14	19.99	26.88	31.06	31.57	30.05	29.8	28.06	24.5	19.3	13.68
MEAN RELATIVE HUMIDITY (%)												
LUDHIANA	79.18	75.34	66.26	45.09	41.7	58.6	76.7	80.01	75.1	65.3	64.1	75

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Table T-2

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAH AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE.

PUNJAB IRRIGATION PROJECT

CROP CALENDER

S.No.	Name of Crop	Optimum Time for		Days of Maturity
		Sowing	Harvesting	
A	Kharif Crop			
1	Paddy	10-20 Jan	Oct	115
2	Cotton	April-May	Dec	180
3	Maize	May-June	Sept	90
4	Pulses (Moong Mash)	June-July	Oct	90
5	Ground Nuts	25 May-10June	Nov	120
6	Fodder (Jawar)	Mid June-Mid July	Mid Sept-Mid Oct	90
B	Rabi Crops			
1	Wheat	Oct-Nov	15-Apr	145
2	Oilseed	Oct	March	150
3	Grams	10-25 Oct	March End	160
4	Barley	Oct-Nov	March End	130
5	Pulses (Masur)	Oct-Nov	March	155
6	Fodder (Barseem)	15 Sept.	15-May	240
7	Sugar cane	March	Nov-Dec	280

(727)

Table T-3 (P-1)

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAH AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE.

ASTRACT OF CANAL STRUCTURE TO BE CONSTRUCTED

S.No.	Description	Unit	Number of structures
1	Bridges	Nos	47
2	Syphon Crossings	Nos	11
3	Syphon Aquaduct	Nos	4
4	Escape	No.	1
5	Fall	No.	1
6	Head Regulator	Nos	2

Table-3
(P-2)

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAH AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE.

LIST OF PUCCA STRUCTURE

BRDIGES

1	SINGLE V.R. BRIDGE AT RD	=	4492
2	SINGLE V.R. BRIDGE AT RD	=	6692
3	SINGLE V.R. BRIDGE AT RD	=	112545
4	SINGLE V.R. BRIDGE AT RD	=	114530
5	SINGLE V.R. BRIDGE AT RD	=	117650
6	SINGLE V.R. BRIDGE AT RD	=	122244
7	SINGLE V.R. BRIDGE AT RD	=	123989
8	SINGLE V.R. BRIDGE AT RD	=	128105
9	SINGLE V.R. BRIDGE AT RD	=	130655

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10	SINGLE V.R. BRIDGE AT RD	=	132000
11	SINGLE V.R. BRIDGE AT RD	=	134800
12	SINGLE V.R. BRIDGE AT RD	=	135234
13	SINGLE V.R. BRIDGE AT RD	=	138400
14	SINGLE V.R. BRIDGE AT RD	=	164265
15	SINGLE V.R. BRIDGE AT RD	=	166645
16	SINGLE V.R. BRIDGE AT RD	=	173375
17	COMBINED V.R. BRIDGE AT RD	=	14380
18	COMBINED V.R. BRIDGE AT RD	=	17285
19	COMBINED V.R. BRIDGE AT RD	=	19978
20	COMBINED V.R. BRIDGE AT RD	=	22948
21	COMBINED V.R. BRIDGE AT RD	=	34390
22	COMBINED V.R. BRIDGE AT RD	=	35285
23	COMBINED V.R. BRIDGE AT RD	=	37723
24	COMBINED V.R. BRIDGE AT RD	=	41205
25	COMBINED V.R. BRIDGE AT RD	=	45485
26	COMBINED V.R. BRIDGE AT RD	=	47330
27	COMBINED V.R. BRIDGE AT RD	=	52030
28	COMBINED V.R. BRIDGE AT RD	=	53123
29	COMBINED V.R. BRIDGE AT RD	=	54800
30	COMBINED V.R. BRIDGE AT RD	=	58766
31	COMBINED V.R. BRIDGE AT RD	=	60510
32	COMBINED V.R. BRIDGE AT RD	=	63989
33	COMBINED V.R. BRIDGE AT RD	=	66452
34	COMBINED V.R. BRIDGE AT RD	=	69477
35	COMBINED V.R. BRIDGE AT RD	=	73251
36	COMBINED V.R. BRIDGE AT RD	=	80389
37	COMBINED V.R. BRIDGE AT RD	=	85110
38	COMBINED V.R. BRIDGE AT RD	=	86600
39	COMBINED V.R. BRIDGE AT RD	=	89291
40	COMBINED V.R. BRIDGE AT RD	=	93000
41	COMBINED V.R. BRIDGE AT RD	=	97850
42	COMBINED V.R. BRIDGE AT RD	=	98731
43	COMBINED V.R. BRIDGE AT RD	=	104838
44	COMBINED V.R. BRIDGE AT RD	=	145430
45	COMBINED V.R. BRIDGE AT RD	=	148875
46	COMBINED V.R. BRIDGE AT RD	=	151840
47	COMBINED V.R. BRIDGE AT RD	=	152930

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SYPHON CROSSING

1	SYPHON CROSSING AT RD	=	21000
2	SYPHON CROSSING AT RD	=	30000
3	SYPHON CROSSING AT RD	=	40000
4	SYPHON CROSSING AT RD	=	58000
5	SYPHON CROSSING AT RD	=	67500
6	SYPHON CROSSING AT RD	=	70000
7	SYPHON CROSSING AT RD	=	75500
8	SYPHON CROSSING AT RD	=	93300
9	SYPHON CROSSING AT RD	=	102000
10	SYPHON CROSSING AT RD	=	112000
11	SYPHON CROSSING AT RD	=	118000

SYPHON AQUEDUCT CROSSING

1 Syhon Aqwueduet at RD 45285 crossing Pijrian Drain
2 Syhon Aqueduct crossing Jassowal Drain at RD 110000
3 Syhon Aqueduct Cum Bridge at RD 156305 crossing Kishan pura disty
4 Syhon Aqueduct at RD 159750 crossing of Kishan pura Drain.

ESCAPE

1 Escape Regulators at RD 110000 Proposed Disty.

FALLS

1 Fall at RD 132200

HEAD REGULATOR

1 R.D. 150000 oF Budha Nala/ R.D. 0 of Proposed Channel
2 R.D. 2300 of 6-R Distributory/ R.D. 175600 of Proposed Channel

Table T-4

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAH AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE.

ESTIMATED VALUE OF PRODUCE AND COST OF CULTIVATION POST PROJECT AND NET CROP BENEFITS

		PRODUCE				INPUTS VALUE		
Crop	Area Ha	Yield per ha(Qtl)	Total Yield (Qtl)	Rate Rs./Qtl.	Total (Rs. Lac) Col 4 x 5	Rate Rs.Ha refer Table T-15	Total Value Rs.Lac Col.2 x 7	Net Crop benefits (Col 6-8) (In Lac)
1	2	3	4	5	6	7	8	9
Paddy	5417	74	400858.00	1030	4128.8374	28419	1539.45723	2589.38017
Pwheat	6772	57	386004.00	1285	4960.1514	25823	1748.73356	3211.41784
Oil Seeds	1354	21	28434.00	2425	689.5245	18080	244.8032	444.7213
Total	13543		**815296**		0		3532.99399	**6245.51931**
BY PRODUCT								
Paddy	0	0	0	0	0	0	0	0
wheat	6772	54	365688.00	250	914.22			914.22
Oil Seeds	1354	18	24372.00	110	26.8092			26.8092
Total			**390060**		0			**941.0292**
G.Total			1205356		0		3532.99399	7186.54851

(76)

TABLE-T-5

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAHA AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE

LATEST CROP YIELDS IN PUNJAB FOR MAIN CROPS AND THEIR PRICES IN 2018

S.No.	Crop	Type	Crop yield qtls ha.Main Product	Price per Qtl.Rs.
1	Paddy	Irrigated	74	1030
2	Paddy	Un-Irrigated	67	1030
3	Wheat	Irrigated	57	1285
4	Wheat	Un-Irrigated	52	1285
5	Oil Seeds.	Irrigated	21	2425
6	Oil Seeds.	Un-Irrigated	20	2425
7	By product of wheat	Irrigated	54	250
8	By product of wheat	Un-Irrigated	49	250
9	By product of Oil seeds.	Irrigated	18	110
10	By product of Oil seeds.	Un-Irrigated	8	110
11	Pulses	Irrigated	12	2800
12	Pulses	Un-Irrigated	11	2800

Table -6

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAHA AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE

Average Crop cultivation costs per Hectare in Punjab for the Year 2011-12 (Irrigation)

(PRE-Project)

S.No.	Name of crop and type	Seeds	Human labour & bullock charges Rs./Ha	Farm Yard manure & fertillizers Rs./Ha	Chemicals (insecticides & pesticides Rs./Ha)	Other Charges Rs./Ha	Total Charges (Col.3 to 7) Rs./Ha
1	2	3	4	5	6	7	8
1	Paddy	1013	6941	5064	2347	13054	28419
2	Wheat	2099	7682	5940	2099	8003	25823
2	Oil Seeds	840	4792	2519	1210	8719	18080

Table -7

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAHA AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE

Average Crop cultivation costs per Hectare in Punjab for the Year 2011-12 (Irrigation)

(Post-Project)

S.No.	Name of crop and type	Seeds	Human labour & bullock charges Rs./Ha	Farm Yard manure & fertillizers Rs./Ha	Chemicals (insecticides & pesticides Rs./Ha)	Other Charges Rs./Ha	Total Charges (Col.3 to 7) Rs./Ha
1	2	3	4	5	6	7	8
1	Paddy	1013	6941	5064	2347	13054	28419
2	Wheat	2099	7682	5940	2099	8003	25823
2	Oil Seeds	840	4792	2519	1210	8719	18080

Table -8

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAHA AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE

CROP BUDGET FOR IRRIGATED POST PROJECT CROPS

S.No.	Name of crop and type	Yield/hectare in Qtl.	Rate for qtl	Gross Value Rs	Total inputs/ha Refer table 15	Net value col (5-6 Rs.ha
1	2	3	4	5	6	7
1	Paddy	74	1030	76220	28419	47801
2	Wheat	57	1285	73245	25823	47422
2	Oil Seeds	21	2425	50925	18080	32845
BY PRODUCTS						
1	Paddy	0	0	0	0	0
2	Wheat	54	250	13500	0	13500
2	Oil Seeds	18	110	1980	0	1980

Table T-9

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAHA AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE

CROP BUDGET FOR UNIRRIGATED /RAINFED PRE PROJECT CROPS

S.No.	Name of crop and type	Yield/hectare in Qtl.	Rate for qtl	Gross Value Rs	Total inputs/ha Refer table 15	Net value col (5-6 Rs.ha
1	2	3	4	5	6	7
1	Paddy	67	1030	69010	28419	40591
2	Wheat	52	1285	66820	25823	40997
2	Oil Seeds	20	2425	48500	18080	30420
BY PRODUCTS						
1	Paddy	0	0	0	0	0
2	Wheat	25	250	6250	0	6250
2	Oil Seeds	8	110	880	0	880

Table-10

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAH AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE.

ESTIMATED VALUE OF PRODUCE AND COST OF CULTIVATION PRE PROJECT AND NET CROP BENEFIT

			PRODUCE				INPUTS VALUE		
S.No.	Crop	Area(Ha)	Yield per ha (QTL)	Total Yield(QTL)	Rate Rs./QTL	Total (Rs.Lac)	Rate Rs.Ha	Total Value (Rs.Lc)	Net crop benefits (Col.6-8) Rs.Lacs.
	1	2	3	4	5	6	7	8	9
1	Paddy	2708	67	181436	1030	1868.7908	28419	769.58652	1099.204
2	Wheat	3386	52	176072	1285	2262.5252	25823	874.36678	1388.158
2	Oil Seeds	677	20	13540	2425	328.345	18080	122.4016	205.9434
	Total	3385.5	139	371048	4740	4459.661	72322	1766.3549	2693.306
	BY PRODUCT								
1	Paddy	0	0	0	0	0	0	0	0
2	Wheat	3386	25	84650	250	211.625	0	0	211.625
2	Oil Seeds	1354	8	10832	110	11.9152	0	0	11.9152
	Total			95482		223.5402	0	0	223.5402
	G.Total			466530		4683.2012		1766.3549	2916.846

(82)

Table 11

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAHA AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE

POST PROJECT NET VALUE OF FARM PRODUCE
(IRRIGATED)

S.No.	GROSS RECEIPTS (From table T-12)	(Rs.in lac)
i	Gross value of farm produce	9778.51
	Gross value of by products receipt	941.03
	Total receipts	10719.5
ii	**EXPENSES**	
3	Total cost of cultivation	3532.97
4	Depreciation of implements @ 2.70% of Gross value of peroduce.	289.43
5	Share and cash rent @ 5% total gross produce.	535.98
6	Land revenue @ 2% gross value of farm produce	195.57
	Total	4553.95
iii)	NET VALUE OF PRODUCE	

	RECEIPTS		EXPENSES				
	10719.54		4553.97				6165.57

(83)

Table 12

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAHA AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE

PRE PROJECT NET VALUE OF FARM PRODUCE (UN-IRRIGATED)

S.No.	GROSS RECEIPTS (From table T-18)	(Rs.in lac)
i	Gross value of farm produce	4460
	Gross value of by products receipt	223.55
	Total receipts	4683.22
ii	**EXPENSES**	
3	Total cost of cultivation	1766.36
4	Depreciation of implements @ 2.70% of Gross value of peroduce.	126.45
5	Share and cash rent @ 5% total gross produce.	234.16
6	Land revenue @ 2% gross value of farm produce	89.19
	Total	2216.16
iii)	NET VALUE OF PRODUCE	

	RECEIPTS		EXPENSES				
	4683.22		2216.16				2467.06

TABLE-13 (P-1)

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAH AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE.

ECONOMICS IN CROP PRODUCTION (100 Ha MODEL)

S. No.	Crop	Without Project							With Project						
	Kharif	Yield Qtl Ha	Area in Ha	Production in Qtl	Value of Production		Cost of Cultivation		Yield Qtl	Area in Ha	Production in Qtl	Value of Production		Cost of Cultivation	
					Rate	Amount	Rate/Ha	Amount				Rate	Amount	Rate/Ha	Amount
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Paddy	67.00	80.00	5360.00	1030.00	55.21	28419.00	22.74	74.00	80.00	5920.00	1030.00	60.98	28419.00	22.74
2	Fodder	700.00	12.00	8400.00	70.00	5.88	14000.00	1.68	800.00	12.00	9600.00	70.00	6.72	14000.00	1.68
3	Repese ed/Oil Seedds	20.00	1.00	20.00	2425.00	0.49	18080.00	0.18	21.00	1.00	21.00	2425.00	0.51	18080.00	0.18
4	Vegetab les	60.00	0.50	30.00	1000.00	0.30	15000.00	0.08	70.00	0.50	35.00	1000.00	0.35	15000.00	0.08
5	Cotton	28.00	2.50	70.00	2800.00	1.96	32826.00	0.82	31.00	2.50	78.00	2800.00	2.18	32826.00	0.82
6	Sugar Cane	803.00	1.50	1204.50	139.12	1.68	53227.00	0.80	880.00	1.50	1320.00	139.12	1.84	53227.00	0.80
7	Maize	49.00	0.50	24.50	960.00	0.24	15437.00	0.08	54.00	0.50	27.00	960.00	0.26	15437.00	0.08
8	Pulses	11.00	2.00	22.00	2800.00	0.62	19192.00	0.38	12.00	2.00	24.00	2800.00	0.67	19192.00	0.38
	Total	**1738.00**	**100.00**	**15131.00**	**11224.12**	**66.36**	**196181.00**	**26.75**	**1942.00**	**100.00**	**17025.00**	**11224.12**	**73.51**	**196181.00**	**26.75**

TABLE-13 (P-2)

S. No.	Crop	Without Project							With Project						
	Rabi	Yield Qtl Ha	Area in Ha	Production in Qtl	Value of Production		Cost of Cultivation		Yield Qtl	Area in Ha	Production in Qtl	Value of Production		Cost of Cultivation	
					Rate	Amount	Rate/Ha	Amount				Rate	Amount	Rate/Ha	Amount
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Wheat	52.00	84.00	4368.00	1285.00	56.13	25823.00	21.69	57.00	84.00	4788.00	1285.00	61.53	25823.00	21.69
2	Rabi Fodder	690.00	12.00	8280.00	70.00	5.80	14000.00	1.68	800.00	12.00	9600.00	70.00	6.72	14000.00	1.68
3	Rapesseed/Oil Seeds	20.00	1.00	20.00	2425.00	0.49	18080.00	0.18	21.00	1.00	21.00	2425.00	0.51	18080.00	0.18
4	Vegetables	60.00	0.50	30.00	1000.00	0.30	15000.00	0.08	70.00	0.50	35.00	1000.00	0.35	15000.00	0.08
5	Sugar Cane	0.00	1.50	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	0.00	0.00	0.00
6	Pulses	11.00	1.00	11.00	2800.00	0.31	19192.00	0.19	12.00	1.00	12.00	2800.00	0.34	19192.00	0.19
7	By product of wheat	49.00	84.00	4116.00	250.00	10.29	0.00	0.00	54.00	84.00	4536.00	250.00	11.34	0.00	0.00
	Total	882.00	184.00	16825.00	7830.00	73.31	92095.00	23.82	1014.00	184.00	18992.00	7830.00	80.78	92095.00	23.82
	G.Total			31956.00		139.67		50.57			36017.00		154.29		50.57

139.67-5057 = 89.10 Lacs

154.29-50.57 = 103.72 Lacs.

Incremental Agricultural production/100 Ha

36017-31956 = 4061/Qtl

Net Benefit /100 Ha

103.72-89.10 = 14.62/Ha

Table T-14

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAH AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE.

DESCRIPTIVE STATEMENT OF NEW PROPOSED STP DISTY.

Name of Channel	Off taking channel	Off taking RD	Discharge of Channel at Head in cs.	Tail RD	Length in KM	Comminded Area Ha		Benified Area Ha 90% of CCA			Additional Irrigation Potential created in Ha
						GA	CCA	Kharif	Rabi	Avg.	
1	2	3	4	5	6	7	8	9	10	11	12
New propsed STP Disty	Budha Nalla 150000	150000	220 Cs	175600	53.54	15575	13544	12190	12190	12190	12190

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(87)

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAH AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE.

MAIN ABSTRACT OF COST

Part-I

	DIRECT CHARGES	AMOUNT IN RS.LACS
A	A-Preliminary	43.00
B	Land	2878.03
C	Works	19.95
D	Regulator	633.40
E	Falls	19.25
F	Cross Drainage Works	1767.00
G	Bridges	942.00
H	Escapes	402.88
I	Navigation works	0.00
K	Building	51.92
L-1	Earth Work	66.50
L-2	Lining	0.00
M	Plantation	0.00
N	Tanks & Reservoirs	0.00
O	Misc.	18.76
P	Maintenance	105.06
Q	Special T& P	1.58
R	Communication	0.00
S	Power Plant & Electrical System	0.00
T	Water supply works	0.00
U	Distributaries, Minors & Sub Minors	0.00
V	Water Courses and field channels	0.00
W	Drainage	0.00
X	Environment & Ecology	0.00
Y	Losses & Stock and Unforeseen	26.26
	Total Direct Charges	6975.59
	Indirect Charges.	207.83
	Total	7183.42
	Say	137.67 Cr.

Executive Engineer
Sidhwan Canal Division
Ludhiana.

Superintending Engineer
Sirhind Canal Circe
Ludhiana.

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Annexure A1

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAH AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE.

DETAIL ABSTRACT OF COST

S.NO.	DESCRIPTION		AMOUNT (IN Lac)
	DIRECT CHARGES		
	I-WORK		
1	**A-PRELIMINARY**		
	Detailed Surveying,Levelling & observing Cross Section (L.S)	=	5.50
	Prepration & Printing of Project Reports (LS)	=	1.50
	Establishing & Fixing Bench Marks (LS)	=	2.50
	Cosultancy Charges (LS)	=	11.00
	Field Tests & Soil Classification (L.S)	=	2.50
	54 Km Havey Jungle Celearance	=	20.00
	Total	=	**43.00**
2	**B-LAND**		
I)	For straightening the alignement (7000x120/43560) =19.28 Acres		
ii)	For Drain		
	50000 x 20/ 43560 = 22.95 Acre		
	For disputed Land (L.S.) 40 Acre		
	Total Land = 82.23 Acre		
	Cost of 82.23 Acre land @ 25.00 Lac per Acre	=	2055.75
	Add 30% of compulsory Acquistion charges	=	616.72
	Add 5% of Crop Compensation Charges	=	102.78
	Add 5% for compensation of Buildigns	=	102.78
	Total	=	**2878.03**
3	**C-WORKS.**		
	57 No. Constructing outlets/Tail Clusters@ 35000/each.	=	19.95

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(897)

4	**D-REGULATOR**		
i)	Providing Head Regulator and Cross regulator of proposed disty. And cross regulator of proposed disty. And Budha Nala at RD 0 cost of civil works including protection works	=	600.00
	Cost of Gatges and Gearing		
	Gate Sizes (18 x 5.00) = 90 Sqft. @ 6000/per Sqft.		5.40
	Gate Sizes (65 x 5.00) = 325 Sqft. @ 6000/per Sqft.		19.50
ii	Intake Structure at RD 2500 of 6-R Disty and RD 175600 of propsed disty		
	Cost of Civil Works	=	5.50
	Cost of Gates & Gearing	=	3.00
	Total		633.40
5	**E-FALLS at RD**		
	Discharge upto 100 cs. @ 19.25		
	1 Nos Constructing falls at RD 132200		19.25
6	**F-CROSS DRAINAGE WORKS**		
	Syphon crossing at RD		
	11 No.21000, 30000, 40000, 58000, 67500, 70000, 75500, 93300, 102000,112000, 118000		242.00
	@ Rs. 22.00 Lacs each		
	1 No.Syphone Acqueduct at RD 45285 crossing Purain Drain 350/-		350.00
	1 N. Symphon Aqueduct crossing Jaisowal Drain at RD 110000		
	@ 800/- Lac		800.00
	1 N. Symphon Aqueduct cum Bridge at RD 156305 crossing Kishanpura		
	distributory		
	@ Rs.200.00		200.00
	Syphon Aqueduct at RD 159750 crossing Kishanpura Drain		
	@ Rs. 175.00		175.00
	Total		1767.00
7	**G.Bridges.**		
	Discharge above 100 cs.		
	7 No. construction of Single V.R.Bridges at RD 4492,6692,112545,		
	114530,117650,122244,123989,@ 13.15		

(90)

			92.05
	27 Nos Construction of Double V.R.Bridges at RD 14380,17285,19978		
	22948,34390,35285,37723,41205,45485,47330,52030,53123,54800,		
	58766,60510,63989,66452,69477,73251,80389,85110,86600,89291,		710.10
	93000,97850,98731,104838,		
	Rs. 26.30 Lac each		
ii)	Discharge upto 100 cs.		
	9 Nos. Cosnstruction of Single V.R.Bridge at RD 128105,130665,		74.25
	132000,134800,135234,138400,164265,166645,173375,		
	Rs. 8.25		
	4 Nos. construction of Combind disty /drain V.R.Bridges at RD 145430,		
	148875,151840,152980,		
	Rs. 16.50 lac each		66.00
	Total		942.40
8	**H-Escapes**		
	1 No. Escape Regulator At RD 110000 of proposed distributory		
	Cost of Civil Works.		400.00
	Cost of gates & gearing Gate size 16 x 3 = 48 ft. @ 6000 per Sft.		2.88
	Total		402.88
9	**I-NAVIGATION WORKS**		Nil
10	**K-BUILDINGS**		
	6 Nos. (2700Sqft.) Construction of Residential Quarters		
	Required for the employees of Sidhwan Canal Division, Ludhiana.		
	Rs.1923 per Sq.ft of the covered Area.		51.92
11	**L-I EARTH WORK**		
	As per detasils attached.		6650
	L-II LINING		

(91)

	GRAND TOTAL OF E/W & LINING		
12	**M-PLANTATION**		Nil
13	**N-TANKS AND RESERVOIRS**		Nil
14	**O-MISCELLANEOUS**		
	28800 Km (24 x 1200) running of Vehicles for inspection purpose during implementation of the project @ 13.70/K.M.		3.95
ii)	351 Nos. (175600/500) Fixing of Distance Marks & Boundary Pillars.Rs. 2680/-each (For cost refer Page No.		9.41
iii)	70 Nos. (175600/2500) Sign Boards/indentification Boards @ Rs.3000/each (M.R.)		2.10
iv	Visit of Dignitaries (L.S.)		1.10
v)	Technical Records/Photographic Records (LS)		1.10
vi)	Inaugural Ceremonies (L.S.)		1.10
	Total		18.76
15	**P-MAINTENANCE**		
	1% of the cost of I-works except the cost of A-Preliminary B-Land ,		105.06
	Q Special T& P		
	1% of (19.95 +633.40+19.25+1767+942.40+402.88+51.92+6650+18.76) 10505.56		
16	**Q-SPECIAL T & P**		
I)	1 No. purchase of computer with printer		0.38
	Rs. 37700/each (M.R.)		
ii)	1 No. purchase of Fax. Machine		0.10
	Rs. 10000/- each (M.R.)		
iii)	1 No. purchase of Photostate Machine		1.10
	rs. 55000/-		
	Total		1.58
17	**R-Communication**		
18	**S-POWER PLANT & ELECT. SYSTEM.**		
19	**T-WATER SUPPLY WORKS**		
20	**U-DISTY, MINORS & SUB MINORS.**		
21	**V-WATER COURSES & FIELD CHARGES.**		

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22	W-DRAINAGE		
23	X-ENVIRONMENT AND ECOLOCY		
24	Y-LOSSES ON STOCK AND UNFORESSEN ITEMS		
	0.25 % of the cost of 1-works except the cost of A-preliminary, B-land		
	Q-Special		
	0.25% of 10505.56	=	26.26
25	ESTABLISHMENT CHARGES		
	TOTAL DIRECT CHARGES	=	13559.49
	INDIRECT CHARGES		
	Capitalization of abutment of Land revenue & 5% of 2055.75 lacs.	=	102.78
	Audit & Account Charges @ 1% on 10Works 10505.56	=	105.05
	TOTAL INDIRECT CHARGES	=	207.83
	TOTAL INDIRECT AND DIRECT CHARGES.	=	13767.32
	Total Cost in Crores	=	137.67

Sub Divisional officer
Sidhwan Canal Sub Division
Ludhiana.

Sub Divisional officer
Moga Canal Sub Division
Moga.

Sub Divisional officer
Zira Canal Sub Division
Zira

Executive Engineer
Sidhwan Canal Division
Ludhiana.

Annexure-A2 (93)

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAH AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE.

ABSTRACT OF COST FOR L-I EARTH WORK

Qty.	Unit	Description	AMOUNT IN LACS
266850	cum	Earth work undressed combind lead 45 Meter including breaking of clods @ (39.77 +4 x 1.66) +12% = 51.98	138.71
1716521	cum	Earth work undressed for combind with avg. lead 5 KM including Ist Km and Last 2 Km Katcha including loading and unloading Complete in all respects. @ (142.50 + 20% 75 +20% 32.25)+15% 4.33 +4.15 +36.50 +12% +15.22 +15% = 256.11	4396.18
827187	cum	Earth work undressed with Avg. lead 5 KM including Ist KM and Last 2 KM Katcha including Loading and unloading Complete in all respects @ 142.50+20% of 75 +20% 32.25+15% 15.22 +15% = 205.74	1701.85
743250	sqm	Dressing of Earth work. @ 0.50 +12% = 0.56/Sqm	4.16
		Add 5% for water charges and contingency	6240.9
		Add cost as per detail attached	312.04
		G.Total	6552.84

Sub Divisional officer
Sidhwan Canal Sub Division
Ludhiana.

Sub Divisional officer
Zira Canal Sub Division
Zira

Sub Divisional officer
Moga Canal Sub Division
Moga.

Executive Engineer
Sidhwan Canal Division
Ludhiana.

(94)

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAH AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE.

ABSTRACT OF COST FOR L-I EARTH WORK

Qty.	Unit	Description	AMOUNT IN LACS
28853	cum	Earth work undressed combind lead 45 Meter including breaking of clods @ (39.77 +4 x 1.66) +12% = 51.98	15.00
37468	cum	Earth work undressed for combind with avg. lead 5 KM including Ist Km and Last 2 Km Katcha including loading and unloading Complete in all respects. @ (142.50 + 20% 75 +20% 32.25)+15% 4.33 +4.15 +36.50 +12% +15.22 +10% = 256.11	77.09
63172	Sqm	Dressing of Earth work @ 0.50 +12% = 0.56/ Sqm	0.35
			92.44
		Add 5% for water charges and contingency	4.62
		G.Total	97.06

Sub Divisional officer
Sidhwan Canal Sub Division
Ludhiana.

Sub Divisional officer
Zira Canal Sub Division
Zira

Sub Divisional officer
Moga Canal Sub Division
Moga.

Executive Engineer
Sidhwan Canal Division
Ludhiana.

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAH AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE.

EARTH WORK STATEMENT RD 0-60000

S.No	X-Section RD	Length	Earth work Excavation			Earth work Puddling			Earth work Dressed		
			Area	Mean Area	Contents	Area	Mean Area	Contents	Area	Mean Area	Contents
1	2	3	4	5	6	7	8	9	10	11	12
1	150	150	0	0	0	123.22	61.61	9242	45.43	0	0
2	10000	9850	86.25	43.12	424732	295.13	209.18	2060423	42.74	44.08	434188
3	20000	10000	58.96	72.6	726000	158.32	226.72	2267200	41.02	41.88	418800
4	30000	10000	33.04	46	460000	319.76	240.04	2400400	40.37	40.69	406900
5	40000	10000	50.7	41.87	418700	0	341.47	3414700	43.47	41.92	419200
6	50000	10000	135.04	92.87	928700	370.95	365.86	3658600	42.24	42.86	428600
7	60000	10000	116.77	125.9	1259000	327.14	348.85	3488500	44.42	43.33	433300
8	70000	10000	87.03	101.9	1019000	399.63	363.38	3633800	41.75	43.08	430800
9	80000	10000	88	84.51	845100	393.59	396.61	3966100	43.16	42.45	424500

10	90000	10000	148.69	118.34	1183400	86.65	240.12	2401200	33.83	38.5	385000
11	100000	10000	25.59	87.14	871400	378.78	232.71	2327100	45.52	39.67	396700
12	110000/109850	10000	0	12.79	127900	657.99	518.38	5183800	53.63	49.57	495700
13	120000	10000	0	0	0	321.1	489.55	4895500	48.8	51.21	512100
14	130000	10000	0	0	0	446.82	383.96	3839600	52.43	50.6	506000
15	140500	10500	28	7.85	82425	450.76	448.79	4712295	52.43	52.43	550515
16	150000	9500	0	32.15	305425	401.95	426.355	4050372.5	51.39	51.91	493145
17	159750	9750	56	46.155	450011	306.25	354.1	3452475	48.95	50.17	489157.5
18	175600	15850	0	28	443800	301.82	304.05	4819192.5	48.47	48.71	772053.5
					9545593.25			60580499.5			7996659 Sft.
				Or	268856 cum			1716521 cum			743250 Sft.

1. Earth work undressed combind lead 45 Metre
2. Earth work undressed for combind lead 5 KM
3. Earth work Dressed with Avg. Lead 5 KM

= 268856 cum
= 1716521 cum
= 743250 Sft

Sub Divisional officer Sidhwan Canal Sub Division Ludhiana.	Sub Divisional officer Moga Canal Sub Division Moga.	Sub Divisional officer Zira Canal Sub Division Zira	Executive Engineer Sidhwan Canal Division Ludhiana.

PROJECT ESTIMATE FOR THE DOMESTIC SEWERAGE OF LUDHIANA CITY AFTER TREATMENT AT STP THROUGH BUDHA NALLAH AND BY CONSTRUCTING NET WORK OF DISTRIBUTORY/WATER COURSE.

EARTH WORK STATEMENT RD 140000-150000

S.No	X-Section RD	Length	Earth work Excavation			Earth work Puddling			Earth work Dressed		
			Area	Mean Area	Contents	Area	Mean Area	Contents	Area	Mean Area	Contents
1	2	3	4	5	6	7	8	9	10	11	12
1.	140000-150000	10000	101.88	0	1018800	234.18	0	2341800	0	0	0
					1018800 cft			2341800 cft			
				or							

1. Earth work Long lead 5 KM 66321 - 28853 = 37468
2. Earth work Local available = 28853
3. Earth work Dressed (2x25+2x5x1.80) x 10000 = 680000 Sft = 63172 Sqm

Sub Divisional officer Sidhwan Canal Sub Division Ludhiana.	Sub Divisional officer Moga Canal Sub Division Moga.	Sub Divisional officer Zira Canal Sub Division Zira	Executive Engineer Sidhwan Canal Division Ludhiana.

ANNEXURE PX-5

Government of Punjab
Department of Science, Technology & Environment
(STE Branch)

No. 10/228/2019/STE-5/1594066/1 Dated, Chandigarh the 10th October, 2019

Directions for Abatement of Pollution in Buddha Nallah u/s 5 of the Environment Protection Act, 1986

1. WHEREAS, Hon'ble Punjab & Haryana High Court in CWP No. 7036 of 2005 along with four other writ petitions No. 13881 of 2006, 14744 of 2007, 4472 of 2009 and 8970 of 2009 dealt in detail on various issues to make Budha Nullah and Ludhiana pollution-free and ensure public hygiene so that the contaminated water passing through Budha Nullah, which ultimately merges in the river Sutlej, does not become a source of health hazard and cause epidemic.

2. And whereas, during the course of hearing of the case by Hon'ble P&H High Court, the Government of Punjab vide order dated 11.10.2006 appointed Shri P.Ram, IAS, Principal Secretary Technical Education & Industrial Training as Project Coordinator for Cleaning of Budha Nallah and constituted Technical Committee comprising of officers from various departments to assist the Project Coordinator for evolving a long term strategy for its execution. Further, Punjab State Council for Science and Technology (PSCST) was asked to provide all the required secretarial/ technical support to the Project Coordinator.

3. And whereas, P. Ram Committee filed 10 Status Reports in the Hon'ble Punjab & Haryana High Court from February, 2007 to March, 2010. The major recommendations made by P.Ram Committee regarding treatment of industrial effluents and domestic wastewater are as under:

(i) Industrial Effluents must be segregated from the domestic sewage

(ii) No effluents or sewage, whether treated or untreated shall be allowed to be discharged into Budha Nallah or river Sutlej

(iii) Assessment of wastewater generation from the city of Ludhiana

(iv) All the textile dyeing & bleaching units in Ludhiana to set up treatment plants individually or collectively to achieve zero liquid discharge

(v) All electroplating units in Ludhiana to achieve zero liquid discharge

(vi) Industry to install, "Online Monitoring System" for ensuring regular & un-interrupted operation & maintenance of ETPs & CETPs

(vii) The treated sewage of all the STPs in Ludhiana be used for irrigation.

(viii) Setting up of power plants based on cow dung being generated from the city

(ix) De-silting of all the sewers by using latest technology

(x) Connecting all drains with main sewers and laying of sewers in un-sewered areas

(xi) PPCB should strengthen its scientific staff to monitor the industry in Ludhiana to ensure 100% compliance

(xii) Release of 500 cusec of water into Budha Nallah

4. And whereas, during the pendency of the case in the Hon'ble High Court, Punjab Pollution Control Board engaged the services of National Environmental Engineering Research Institute (NEERI), Nagpur in March, 2008 for conducting an in-depth study for effective wastewater management in textile dyeing and electroplating industries in Ludhiana. NEERI submitted its report in May, 2009. The major recommendations are as under:

(i) The Budha Nallah has no assimilative capacity to sustain any waste water discharges, as there is no surface water flow available in the nallah except during peak monsoon. Therefore, direct discharge of domestic sewage or industrial effluent including washings from cattle sheds into Budha Nallah must not be allowed for protection of natural water resources used for drinking and agriculture purposes.

(ii) Considering the fact that no dilution water is available in Budha Nallah due to non-availability of surface water and lean flow in river Sutlej during critical season, the waste water generated from textile dyeing and electroplating industries must aim at zero liquid effluent discharge facilitating recycling/reuse for industrial uses and other purposes.

(iii) Zero Liquid Effluent Discharge (ZLD) treatment scheme recommended for large scale Textile Dyeing Units which would require an implementation period of 6 - 8 months.

(iv) The small and medium scale textile dyeing units should set up common effluent treatment plant (CETP) based on zero liquid effluent discharge. The implementation period for CETPs would be around 18 - 24 months.

(v) The textile dyeing units discharging directly onto land also need to implement treatment facility based on zero liquid effluent discharge including reject management.

(vi) In case of scattered units, either these units must install their own ETPs aiming at zero liquid effluent discharge including reject management or shift to some suitable locations to avail the facility of CETP.

(vii) The large and medium scale electroplating industries at individual level also need to upgrade their ETPs aiming at zero liquid effluent discharge including reject management.

(viii) All the small-scale electroplating units with individual ETP to join the CETP for ensuring effective treatment of toxic effluents and the CETP must be upgraded through implementation of advance treatment system including reject management aiming at zero liquid effluent discharge.

(ix) The industrial effluents and washing from cattle sheds be segregated from domestic sewage. The STPs must therefore treat only domestic sewage for which the plants have been basically designed.

(x) The STPs must be taken up for capacity expansion and upgraded through implementation of appropriate technology at secondary stage to meet the inland surface water discharge norms including disinfection and minimum DO concentration of safe level for sustainability of biological life in the aquatic system.

(xi) The treated effluent from STPs meeting the discharge norms for inland surface water must be reused for irrigation purpose as against the existing practice of discharging into surface water bodies. This will not only lead to protection of natural water resources but also facilitate conservation of water.

(xii) In future, for any proposal on industrial development projects in and around Ludhiana (within 15 km radius from the periphery of Budha Nallah) the endeavour of the Regulatory Authorities must be to ensure appropriate wastewater management aiming at zero liquid effluent discharge including reject management. This will facilitate recycle/reuse of the renovated water leading to conservation of natural resource in the area vis-à-vis improvement in the quality of surface and ground water.

5. And whereas, Hon'ble Punjab & Haryana High Court passed various orders during the pendency of the case towards implementing a series of steps to control pollution in Budha Nallah/River Sutlej. The High Court vide order dated 14.11.11 disposed of CWP No. 7036 of 2005 along with other civil writ petitions concerning the matter by directing that the High Powered Committee already constituted under the chairmanship of Chief Secretary concerning Budha Nullah shall continue to meet periodically and shall also monitor actively, protection and preservation of Budha Nullah, its environment and ecology and that of Ludhiana city.

6. And whereas, Hon'ble High Court in its final order disposing of the petitions also observed that

"So far as the writ petitions filed by Tajpur Road Dyeing and Industries Associations and Dyeing Effluent Treatment Society i.e. CWP No. 4472 of 2009 and CWP No.8970 of 2009 respectively are concerned, we are of the view that no direction as prayed for can be issued as industry for its profits and gains cannot show its back to responsibilities and demands, towards betterment of the community. The industry cannot turn blind towards its social role. Let industry at first instance install CETP or achieve zero liquid discharge as prescribed by expert bodies. Thereafter, it may raise claim before the appropriate forum for disbursal of subsidy. As and when the same is done, we are of the view that the State Government shall take a pragmatic view and consider the demands of the industry raised in these two writ petitions, while balancing the legitimate concerns of all classes or sections of people."

7. And whereas, NGT is hearing OA 916 of 2018 (earlier OA no. 101 of 2014) regarding pollution in river Sutlej. NGT has vide order dated 24/07/2018 constituted a Monitoring Committee to closely monitor the status of pollution and steps being taken to control the pollution in river Sutlej. Based on the report of the Committee, NGT vide order dated 14.11.2018 imposed a penalty of Rs. 50 crores on State of Punjab.

8. And whereas, NGT vide order dated 28/02/2019 expanded the Monitoring Committee and made Justice Pritam Pal, Former Judge Punjab and Haryana High Court as Chairman and included Sh. Subodh Agrawal, ex-Chief Secretary as Senior Member and Sh. Babu Ram, ex-Member Secretary as Member. The expanded monitoring committee has held 5 meetings so far and has reviewed various matters connected with pollution in rivers/ Budha Nallah and passed various directions as follows:

(i) Prepare Comprehensive Plan to address the problem of pollution in Budha Nallah

(ii) Mapping of all the industries, conveyance systems and other related details

(iii) Strengthening of inspections by including senior officers and third-party inspections

(iv) Sealing of the Bypass mechanism of Sewage Treatment Plants

(v) O&M manual for Sewage Treatment Plants

(vi) Levy of penalties on the Operators of STPs

(vii) Fixing the responsibility of supervisory officers

(viii) Composite sampling for quality of effluents at STPs

(ix) Levy of environmental compensation on non-compliant units

(x) Legal framework for working of CETPs

(xi) Handling of Dairy Waste

9. And whereas, NGT has taken note of the news item published regarding polluted stretches of various rivers in the country. NGT vide order dated 20/09/2018 in O.A. No. 673/2018 directed all the States/ UTs to frame action plans to restore the polluted stretches to the prescribed standards. Further, NGT has also constituted River Rejuvenation Committees for preparation and subsequent monitoring of the implementation of the Action Plans. NGT has also directed Chief Secretary to personally monitor the progress. Accordingly, State Apex Committee has been set up under Chief Secretary.

10. And whereas, NGT vide order dated 07/03/2019 in O.A. No. 606/2018 has directed the Chief Secretary to monitor various environment protection plans at personal level and submit quarterly report to NGT. NGT has also directed personal appearance of Chief Secretary.

11. And whereas, Ludhiana city is currently under critically polluted industrial cluster as per the assessment of CPCB and Ministry of Environment & Forests, Government of India. No new or expansion of existing water polluting industry is allowed causing a setback to the industrial growth of the city. Concerted efforts are required to bring the city out of critically polluted industrial cluster.

12. And whereas, the State Government has also set up Steering Committee under Chief Secretary for monitoring of various initiatives for abatement of pollution in Budha Nallah.

13. And whereas, the Government has considered all the aspects of the matter including various recommendations and decisions of the High Court, NGT and Other Committees, the Government is satisfied that directions are required to be issued u/s 5 of Environment (Protection) Act 1986 for ensuring abatement of pollution in Budha Nallah/River Sutlej.

14. And therefore, the Government has decided to issue following directions u/s 5 of the Environment (Protection) Act 1986:

Segregation of Industrial effluents

(i) Industrial effluents and dairy waste whether treated/ partially treated or untreated shall not be discharged into municipal sewer.

Measures to be taken by PPCB

(ii) PPCB to be nodal agency to ensure setting up of CETPs and segregation of Industrial effluents

PPCB has the requisite legal and administrative powers under Water (Control and Prevention of Pollution) Act, 1974 to direct, supervise and secure execution of CETPs and segregation of industrial effluents. PPCB shall accordingly be the nodal agency to ensure setting up of CETPs and segregation of effluents as per the Action Plan.

(iii) Setting up of CETP for Industrial Area-A Units

PPCB shall facilitate setting up of CETP to cater to industrial units located in Industrial Area cluster. Necessary action shall be taken by PPCB under Water Act, 1974.

(iv) Connecting Scattered Units

As per GIS mapping, several small-scale scattered units fall within one or two km distance from the conveyance system of 3 CETPs. PPCB shall ensure that these units are mandatorily made to join CETPs.

(v) Stringent Standards for remaining scattered units

In order to ensure segregation of industrial effluents from the domestic waste water as per the recommendations of P Ram Committee and NEERI, the remaining scattered units shall either relocate to the catchment area of CETPs being set up or upgrade their treatment systems to ZLD so that these units don't discharge into Municipal Sewer.

(vi) Legally binding mechanism for CETPs

PPCB shall prepare detailed mechanism for successful operation of the CETPs and issue necessary directions under Water Act, 1974.

(vii) CETPs to be made operational as per time schedule

All CETPs to be made operational as per time schedule given in Action Plans, failing which PPCB shall take action against industry including levying of Environmental Compensation.

(viii) No new consent or enhancement of existing consent by PPCB

No new consent or enhancement of existing consent to discharge industrial effluents into municipal sewer shall be given by PPCB.

(ix) Dairies shall also be brought under regulatory regime by PPCB

Measures to be taken by Municipal Corporation, Ludhiana

(x) Disconnection from Municipal Sewer

MC Ludhiana shall disconnect the connection to municipal seweronce connection to CETP conveyance system is established, which shall carry industrial effluents as well any domestic waste from the industrial unit

(xi) No new connection or enhancement of existing connection by MC Ludhiana

MC Ludhiana shall not grant any new connection or enhancement of existing connection to municipal sewer for discharging industrial effluents.

(xii) Design of Sewage Treatment Plants

Municipal Corporation, Ludhiana shall design the Sewage Treatment Plant by taking into account the current discharges and not on the basis of per capita norms. Further, all the uncovered areas whether authorized or unauthorized, should be taken into account for estimating the discharge for setting up of STPs to ensure that no outlet is directly discharging into Budha Nallah.

(xiii) Installation of Flow Meter, CCTV and OCEMS on STPs

MC Ludhiana shall install ultrasonic flow meters, CCTVs and OCEMS on all the existing and proposed STPs for their effective monitoring. The data captured should be uploaded on the website of PPCB, DECC and CPCB.

(xiv) Reuse of treated waste water for irrigation

MC Ludhiana shall reuse the treated waste water for irrigation, construction, thermal power plants, horticulture, green belts, etc.

(xv) Management of Dairy Waste

MC Ludhiana shall set up Effluent Treatment Plants and Bio Gas Plants of adequate capacity for the management of Dairy Waste being generated from Tajpur and Haibowal Dairy Complex to ensure that no outlet is directly discharging into Budha Nallah.

Measures to be taken by Punjab State Council for Science and Technology (PSCST)

(xvi) Setting up of Project Management Unit

PSCST shall set up Project Management Unit to provide technical and managerial support and assist the Department of Environment, Chief Secretary and NGT Committee in monitoring the progress of activities assigned to PPCB and MCL.

(xvii) Real time and online monitoring systems

PSCST shall setup real time monitoring of industrial effluents and domestic waste water for Directorate of Environment and Climate Change and PPCB. All the online systems installed by the industries and sewage treatment plants shall be connected

on single dashboard for effective monitoring of the industrial effluents and domestic waste water.

(xviii) Monitoring of River Water Quality

PSCST shall collaborate with IIT Ropar for River Sutlej Water Quality Modelling to analyse the data being captured by the Real Time Water Quality Monitoring Stations installed on it.

15. In case of failure to comply with the aforementioned directions, action in accordance with the provisions of the Environment (Protection) Act 1986 shall be taken.

Place: Chandigarh

Date: 9th October 2019

R.K.VERMA, IAS
Principal Secretary Science, Technology
& Environment, Punjab

Endst. No. 10/228/2019/STE-5/1594066/2-3 Dated, Chandigarh the 10th October 2019

A copy is forwarded to the following for information please.

(i) Chief Secretary, Government of Punjab
(ii) Chief Principal Secretary to Chief Minister, Punjab

Superintendent

Endst. No. 10/228/2019/STE-5/1594066/4-13 Dated, Chandigarh the 10th October 2019

A copy is forwarded to the following for information and necessary action.

(i) Administrative Secretary, Local Government, Punjab
(ii) Administrative Secretary, Housing & Urban Development, Punjab
(iii) Administrative Secretary, Water Supply & Sanitation, Punjab
(iv) Administrative Secretary, Industries & Commerce, Punjab
(v) Chief Executive Officer, Punjab Municipal Infrastructure Development Company
(vi) Chief Executive Officer, Punjab Water Supply and Sewerage Board
(vii) Deputy Commissioner, Ludhiana
(viii) Commissioner, MC, Ludhiana
(ix) Chairman, PPCB
(x) Member Secretary, PPCB

Superintendent

ANNEXURE PX-6

Proceedings of Meeting dated 11.08.2023 held under the chairmanship of Principal Secretary to Govt. of Punjab, Department of Science Technology & Environment to discuss/finalize status report on behalf of chief Secretary to Govt. of Punjab in NGT Case O.A No. 225 of 2022 titled 'Nitin Dhiman Vs State of Punjab & Ors' and Further Reports received on the matter.

Brief Background & Context:

Original Application No. 225 of 2022 was filed in the NGT by Mr. Nitin Dhiman Resident of 1203, Princeton Tower, Omaxe, Pakhowal Road, Ludhiana where in the petitioner raised questions regarding discharge of industrial effluent by about 400 dyeing units operating in Ludhiana in alleged violation of environmental norms.

In subsequent hearings, Respondents No. 3 & 4 (i.e. Municipal Corporation, Ludhiana and District Magistrate, Ludhiana) were directed to file additional replies on specific points:-

i. ***compliance status of all the three CETPs,***
ii. ***compliance status of all the dyeing units connected with the CETPs,***
iii. ***compliance status of all the 54 dyeing units which are not connected with the CETPs,***
iv. ***present status of the dyeing industries connected with CETPs which were previously found to have connected their dyeing units with main sewer of the Municipal Corporation, Ludhiana,***
v. ***number of dyeing units which are connected with sewer of the Municipal Corporation, Ludhiana and***
vi. ***where the industrial effluent after treatment by CETPs is discharged.***

In Compliance, Respondent no. 4 (i.e. District Magistrate, Ludhiana) filed a detailed tabular reply on 24.05.2023 **(Annexure- R4/1)** after taking reports from Municipal Corporation Ludhiana and Punjab Pollution Control Board Ludhiana on all above mentioned points. **(Annexure- R4/2)**

As per Reply filed additionally by Respondents No. 7 & 8 on 24.05.2023 (i.e. M/s Punjab Dyers Association which is running 50 MLD CETP and M/s Bahadurke Textiles & Knitwear Association which is running 15 MLD CETPs) who had been impleaded as per NGT orders dated 20.04.2023(**Annexure- R4/3),** Reference was made to a Project prepared by Govt. of Punjab for use of Treated water Discharge from CETPs & STPs of Ludhiana into Buddha Nallah for irrigation of agricultural land.

NGT vide order dated 26.05.2023, directed Respondent No. 1 & 4 (i.e. Chief Secretary, Punjab & District Magistrate Ludhiana) to file affidavits giving the present status of the above- mentioned project of Govt. of Punjab. **(Annexure- R4/4)**

Subsequently, Worthy Chief Secretary, Govt. of Punjab submitted an affidavit to NGT on 04.08.2023 requesting for a further time period of 2 months to submit status report as directed vide NGT order dated 26.05.2023 after checking the case in detail and has directed Hon'ble Secretary, Department of Science Technology & Environment, Govt. of Punjab to do the needful in this matter expeditiously.

In compliance of the above, meeting under the chairmanship of Hon'ble Secretary to Department of Science Technology & Environment, Govt. of Punjab was held on 01.08.2023 with Officials of District Administration, Ludhiana, Department of Water Resources, Department of Soil Conservation, Municipal Corporation, Ludhiana and Punjab Pollution Control Board.

The project under reference was prepared in May 2012 at an estimated cost of ₹137.67crores which was explained in detail by officers posted currently & officials posted

during preparation of above mentioned project of Department of Water Resources and Department of Soil Conservation, Govt. of Punjab and it pertains to the use of treated domestic sewage of Ludhiana city through Buddha Nallah by constructing network of Distributary/Water Resources channels.

In Regard to above Executive Engineer, Ludhiana Canal & Ground Water Division informed that vide report dated 04.09.2019, it had already been submitted that project is infeasible due to certain technical aspects. It was directed by Hon'ble Secretary, Department of Science Technology & Environment, Govt. of Punjab to obtain the technical reasons and report in writing so that a detailed status report could be placed before worthy Chief Secretary, Punjab.

Consequently, reports received from the Office of Executive Engineer, Ludhiana Canal & Ground Water Division, Ludhiana vide its letter No. 9374-75/1-STP dated 17.08.2023 is produced below**(Annexure- R4/5)**:

Details of Report:-

"With reference to above, the project proposal is explored with aim to provide treated water for the irrigation through Lower Buddha Nallah. To provide the drainage facilitation to the Ludhiana city and adjoining villages, Upper Buddha Nallah provides safe passage for the drainage of excess water during rainy season.

Similarly Lower Buddha Nallah flowing along the Sutlej River also acts as drain for the disposal of rainy water and Lower Buddha Nallah's catchment area lies in the villages along the Lower Buddha Nallah. It is also pertinent to mention here that the lower Buddha Nallah lies very near to river Sutlej (from 1000 m to 3500 m approx.) and remains flooded during the flood season as shown in site plan attached.

A proposal was prepared to provide irrigation facility to adjoining areas of lower Buddha Nallah by converting lower Buddha Nallah into a distributary, in case the water of Buddha Nallah is treated by STPs. The proposed channel (distributary) for providing irrigation (in place of Lower Buddha Nallah) off takes at RD 150000 of the Upper Buddha Nallah. This proposal was not sanctioned by State or Centre authorities due to various technical aspects. The various observations are as below:-

1. *The lower Buddha Nallah act as drain and its Bed level/FSL lies below the NSL. The bed level of proposed distributary on the lower Buddha Nallah is likely to be raised above the NSL to feed the adjoining area under gravity. With raising of bed level/Full supply level of the proposed distributary, it will act as sheet flow barrier. The natural sheet flow on Left Side of the distributary will get obstructed after the construction of this new channel and will cause a huge loss of property and life to the area falling on the left side of lower Buddha Nallah, thus disturbing the whole natural drainage system of the area. It is pertinent to mention here that lower Buddha Nallah outfalls into Sutlej River near Sidhwan Bet catering to almost 25 Km long stretch of drainage requirements of the areas adjoining it.*
2. *Sewerage treatment plant located at Jamalpur, Balloke falls in the city limits and is surrounded by thickly populated area and industrial areas. The treated water from these plants cannot be utilized near the plant for irrigation purposes. Buddha Nallah needs to be channelized from Balloke to Walipur village (approximately 15.24 Km) before constructing the proposed channel from RD 150000 of Buddha Nallah onwards.*
3. *The new proposed channel is to be constructed on the land of lower Buddha Nallah. Lower Buddha Nallah flows in a zig-zag/ (meandering) manner and proper alignment is necessary for channelization of the new proposed channel.*
4. *Also, the farmers of the villages opposed the construction of this new channel by giving representation as they did not want to use the treated water for irrigation.*

5. *In this area, the water requirements for irrigation purposes is mainly during Kharif period only and water demand is less during Rabi season.*
6. *The proposal was also sent to the Technical Advisor to Hon'ble Chief Minister Punjab for vetting. As per the observation of Technical Advisor to Hon'ble Chief Minister Punjab, the proposal of new channel can be considered only after the proper measurement of discharge available in Buddha Nallah after channelization, which is to be done by MC, Ludhiana.*
7. *It is informed further that the treated water from the STPs, if discharged directly into river Sutlej, will not go waste as it is already being utilized for irrigation purposes in the canal systems downstream at Harike Headworks.*

Also, in addition to above, the Central Water Commission (CWC) while considering the proposal has expressed that if the state proceeds with the proposal, the State Agriculture Department should certify that contaminant residue will not enter the food chain.

So, it is concluded that project is not feasible due to number of technical aspects explained above".

Further, an additional Report was received from the Office of Executive Engineer, Drainage-cum-Mining & Geology Division, WRD Punjab vide its letter No. 5439/94-4 dated 22.08.2023 following report was submitted**(Annexure- R4/6)**:

- *Lower Buddha Nallah also receives discharge from 6 No. of small drains. So, raised bed level will cause the head up (Daaf) of water thus resulting in backflow into these drains.*
- *Also, During 1988 Floods, Satluj river changed its course which pushed the Dhussi Bandh of the river thus encroaching the Lower Buddha Nallah in some of its reach. If it is proposed to realign this drain in this encroached reach along Dhussi Bandh, it would involve the tedious process of land acquisition.*
- *Another matter of discussion was that whether the farmers will use the treated water for the purpose of irrigation.*

The above reports are sent herewith for further necessary action.

Deputy Commissioner
Ludhiana

Endst No :- 15085-94/M.A Dated: 31/08/2023

A Copy is forwarded to following for information and necessary action please:-

1. Secretary to Govt. of Punjab, Department of Science Technology & Environment.
2. Administrative Secretary, Department of Soil & Water Conservation, Govt. of Punjab.
3. Administrative Secretary, Department of Water Resource, Govt. of Punjab.
4. Chairman, Punjab Pollution Control Board.
5. Commissioner, Municipal Corporation Ludhiana.
6. Superintendent Engineer, Punjab Pollution Control Board.
7. Superintendent Engineer, Department of Water Resource (Drainage Divison)
8. Superintendent Engineer, Department of Water Resource (Canal Division).
9. Superintendent Engineer, Department of Soil & Water Conservation.

Deputy Commissioner
Ludhiana

ANNEXURE PX-7

ਪੰਜਾਬ ਪ੍ਰਦੂਸ਼ਣ ਰੋਕਥਾਮ ਬੋਰਡ
PUNJAB POLLUTION CONTROL BOARD

LiFE Lifestyle for Environment

Regional Office-III, 3rd Floor, Savitri Complex-I, Dholewal Chowk, Ludhiana.

PPCB/RO-III/No. 925 Dated: 20/01/25

To

PUNJAB STATE HUMAN RIGHTS COMMISSION CHANDIGARH
21 JAN 2025
2125
Diary No. 1611/201

The Registrar,
Punjab State Human Rights Commission,
SCO no. 220-221, Sector 34-A,
Chandigarh -160034.s

Sub: **Compliant no. 7456/10/2024 filed by Sh. Sarvjit Singh, Advocate.**

Ref: **Hon'ble Commission's order dated 22.10.2024.**

The Hon'ble Punjab State Human Rights Commission has taken cognizance of the subject cited complaint and was pleased to pass an order dated 22.10.2024, the relevant extract of which is reproduced below for kind perusal and reference:

> "The present complaint dated 09.10.2024 has been sent through email id assingh75@gmail.com by Sarvjit Singh, advocate of Ludhiana, alleging, therein that Government authorities of Punjab are playing with the lives of residents of Punjab and Rajasthan. They are neither lodging FIR nor complying orders of Punjab Pollution Control Board and other concerned authorities to prevent further huge water pollution in two states which is polluting water of two states from approximately 5 decades starts from polluting Buddha Dariya and Sutlej Dariya in Ludhiana.
>
> The Commission takes cognizance of the matter. Accordingly, let the matter be put up before the Chairman, Punjab Pollution Control Board, Patiala, Punjab to submit his report before the next date of hearing.
>
> A copy of the order, along with a copy of the complaint be sent to the Chairman, Punjab Pollution Control Board, Patiala, Punjab through E-mail and by post for compliance.
>
> List on 27.01.2025."

2) That incompliance to the orders dated 22.10.2024 passed by the Hon'ble Commission, it is submitted that the Ludhiana city is a textile hub and about 265 dyeing industries are situated in the city. Industries located in three industrial clusters of the city are connected with the 03 Common Effluent Treatment Plants (CETPs) installed specifically for the treatment of effluent generated from the Dyeing industries. The details are given in tabular form here in below:

S. No.	Dyeing Cluster of Ludhiana City	Capacity of CETP (MLD)	Site of installation	Based of Technology	Existing Member units	Disposal of treated wastewater
1	Bahadur Ke Road	15	Bahadurke Road	SBR	36	Buddha Nallah
2	Tajpur Road	50	Tajpur Road	SBR	108	Buddha Nallah
3	Focal Point	40	Tajpur Road	SBR	67	Buddha Nallah
Total	03	105	-	-	211	

3) That, only few dyeing industries not connected with the CETPs due to geographical reasons are categorized as scattered dyeing units. These scattereti industries have installed their captive Effluent Treatment Plants (ETP) for the treatment of effluent generated from their premises. No dyeing industry has been allowed to discharge its treated or untreated waste water (effluent) into the Buddha Nallah.

4) The Central Pollution Control Board and Punjab Pollution Control Board being the regulatory bodies are regularly monitoring the water pollution control devices installed by the industries as well as CETPs.

5) The Central Pollution Control Board in compliance to the orders passed by the Hon'ble National Green Tribunal, New Delhi in O.A. no. 546 of 2024 which relates to discharge of 54 scattered dyeing industries into sewer line of MCL and is still pending before the Hon'ble NGT, had monitored all the 04 CETPs of Ludhiana City in the month of April 2024. Based on the observations noted during monitoring, the Central Pollution Control Board vide letter no. CPCB/IPC-VII/CETP-Ludhiana/3471 dated 12.08.2024 has issued directions u/s 18 (1) (b) of the Water (Prevention & Control of Pollution) Act, 1974 to PPCB, the relevant part of which is reproduced below:

a) To take appropriate action imposing Environmental Compensation.

b) Operation/ augmentation of the treatment system, appropriately, so as to meet the prescribed discharge standards and to comply with the disposal conditions mentioned in the Environmental Clearance by MoEF & CC dated 03.05.2013 and 08.12.2014 in the aforesaid 40 MLD, 50 MLD & 15 MLD CETPs. Further, to stop discharging of treated effluent into Buddha Nallah from 50 MLD, 40 MLD & 15 MLD CETPs.

Further, PPCB is also hereby directed:

a) To prescribe disposal condition to respective CETPs in accordance with the Environmental Clearance by MoEF &CC dated 03.05.2013 & 08.12.2014.

b) To prescribe inlet standards for CETP in accordance to the CETP notification dated 01.01.2016.

c) To regularly undertake verification of member industries of the CETP for ensuring proper operation of PETP/ETP by individual member industry.

A copy of letter no. CPCB/IPC-VII/CETP-Ludhiana/3471 dated 12.08.2024 is enclosed as **Annexure-A**.

6) That it is relevant to mention here that according to the provisions of section 18 (1) (b) of the Water (Prevention and Control of Pollution) Act, 1974, the State Pollution Control Board is bound to comply with the directions issued by the Central Pollution Control Board. Accordingly, the Punjab Pollution Control Board had issued directions to the SPVs of all 03 CETPs as under:

1. The SPV shall ensure that the operation/ augmentation of treatment system of CETP is appropriately made, so as to meet with the prescribed discharge standards and to comply with the disposal conditions mentioned in the Environmental Clearance granted by the Ministry of Environment, Forest and Climate Change dated 08.12.2024.

2. The SPV shall immediately stop the discharge of effluent from the CETP of 50 MLD capacity into Buddha Nallah or any other surface water body.

7) Thereafter, all SPVs of three CETPs have filed appeals bearing no: 40 of 2024, 41 of 2024 & 48 of 2024 before the Hon'ble National Green Tribunal against the directions issued by the Punjab Pollution Control Board u/s 33-A of the Water (Prevention & Control of Pollution) Act, 1974. Appeal no: 40 of 2024 & 41 of 2024 were heard by the Hon'ble National Green Tribunal on 04.11.2024 and passed the order dated 04.11.2024 as under:

"Pressing the prayer for interim relief Learned Counsel for the appellant has submitted that impugned orders will result in shutting down all the industries connected with the CETP in question. Considering the circumstances of the case we direct that till the next date of hearing no coercive steps in pursuant to the impugned order will be taken subject to compliance of environmental norms and clearance conditions."

8) The Hon'ble NGT has heard all 03 appeals i.e. appeal no. 40 of 2024, 41 of 2024 & 48 of 2024 on 23.12.2024 and the following orders (relevant extract) were passed:

"9. The interim order passed earlier to continue.

10. List on 20.02.2025."

9) It is respectfully submitted that the matter relating to the discharge of treated effluent of dyeing industries into Buddha Nallah is pending before the Hon'ble NGT and further action in the case will be taken as per the directions of the NGT.

10) In view of the above, it is prayed that the complaint filed by the complainant may kindly be disposed off by passing the suitable orders as matter is already pending before the Hon'ble NGT.

20/01/2025

Environmental Engineer

IN THE HON'BLE NATIONAL GREEN TRIBUNAL

AT PRINCIPAL BENCH, NEW DELHI

(in O.A. No. 1325 of 2024, O.A. No. 1326 of 2024, O.A. No. 1327 of 2024)

Public Action Committee Vs Union of India & ors.

Affidavit of Er. Kapil Dev (aged 48 years) s/o Sh. Jagdish Chander r/o 186-E, BRS Nagar, Ludhiana regarding submission in O.A. No. 1325 of 2024, O.A. No. 1326 of 2024 and O.A. No. 1327 of 2024.

RESPECTFULLY SHOWETH:

I, the above mentioned deponent do hereby solemnly affirm and declare as under:-

1. That the deponent, who is Applicant (in person) in O.A. No. 1325 of 2024, O.A. No. 1326 of 2024 & O.A. No. 1327 of 2024 filed before this Hon'ble National Green Tribunal and all three O.A. have been clubbed for hearing by this Hon'ble Tribunal.

2. That the petitioners is filing submission from Para No. 1 to 2 (vii) regarding important facts related to issue involved in all three Applications for kind consideration by this Hon'ble Tribunal.

NOTARY PUBLIC Anjana Sharma Regd. No. 2287 LUDHIANA. GOVT. OF INDIA

Place: Ludhiana
Dated: 17.02.2025

Verified that the affidavit has been readover & explained to the deponent who seemed directly understand at some at the time making there of

DEPONENT

Verification:

Verified that the contents of para 1 to 2 of this affidavit are true and correct. No part of it is false, and nothing material has been kept concealed therefrom.

ATTESTED AS IDENTIFIED

Place: Ludhiana
Dated: 17.02.2025

Notary Public, Ludhiana (Pb.)

DEPONENT

17 FEB 2025

Gmail PAC MattewaraSutlej <mattewarasutlejpac@gmail.com>

Service of documents - in O.A. No. 1325 of 2024, O.A. 1326 of 2024 and O.A. No. 1327 of 2024

PAC MattewaraSutlej <mattewarasutlejpac@gmail.com> Mon, Feb 17, 2025 at 9:14 PM

To: secy-moef@nic.in, mscb.cpcb@nic.in, msppcb@punjab.gov.in, punjabdyerasso@gmail.com, ppcbzo1ldh@gmail.com, secy.te@punjab.gov.in, xensidhwancanal@gmail.com, pdafocalpoint@gmail.com, adinathdyeing@yahoo.co.in, prince@artlo.in, artakkar@artlo.in, kapilalK@yahoo.co.in

Dear sirs,

Submission by Applicants in O.A. No. 1325 of 2024, 1326 of 2024 and 1327 of 2024.pdf

PFA copy of submission dated 17-02-2025 as service of document by Applicants in O.A. No. 1325 of 2024, O.A. 1326 of 2024 and O.A. No. 1327 of 2024 subjudiced before the Hon'ble NGT - hearing scheduled to be held on 20-02-2025 as per previous orders.

Regards

Er. Kapil Dev
Applicant no. 2
in O.A. No. 1325 of 2024, O.A. 1326 of 2024
and O.A. No. 1327 of 2024
(clubbed with Appeal No. 40 of 2024, Appeal 41 of 2024
and Appeal 48 of 2024)
Mobile: 9872007872