

**BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE BENCH, CHENNAI
ORIGINAL APPLICATION NO. 191/2024**

IN THE MATTER OF:

Yelahanka - Puttenahalli Lake and
Bird Conservation Trust (Regd)

...Applicant

versus

State of Karnataka and Others

...Respondents

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New Delhi

Filled By: -



Date: - 28/08/2024

(Mr. DARPAN KM Adv.)
Advocate for the Respondent No.
Kar/1053/2009.
Office K-6, LGF, Lajpat Nagar-3,
New Delhi - 110024
Mob. 9899125060/9968638862

**BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE BENCH, CHENNAI
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State of Karnataka and Others

...Respondents

REPORT ON BEHALF OF RESPONDENT NO. 6 (BWSSB)

MOST RESPECTFULLY SHOWETH:

1. That this application has been filed seeking a direction against Respondent No. 2/BBMP to not carry out any activities regarding laying of pipeline around the Yelahanka – Puttenahalli lake, situated in Bangalore (***‘the said lake’***).
2. It is submitted that vide order dated 18.06.2024 *inter alia* stated as follows:

“14. In the meanwhile, in view of the sustainable development and precautionary principles embodied in Section 20 of the National Green Tribunal Act, 2010, respondents no.2 and/or 6 are restrained from carrying out any further activity of digging up of earth and laying of pipeline including hume pipes within the reserved area without obtaining permissions from the concerned authorities and they are also directed to take requisite remedial measures to prevent discharge of sewage into the lake. ...”
3. Following the said order, an application was made by the answering Respondent with the PCCF (Chief Wildlife Warden) seeking permission for laying the above pipelines.
4. It was *inter alia* pointed out by the answering Respondent to the PCCF as follows:

5. That currently, there is tremendous growth of population in and around the Puttenahalli catchment areas. Due to this substantial growth of the locality and to cater the needs of this population, infrastructure like water supply and sewage networks are essential.
6. That BWSSB had taken up the work of laying laterals under the assistance of GoK and BWSSB funds, as per the GFC drawings the laterals in the Ananthapura village coming under 110 village limits of BBMP were laid excluding few newly developed and missed out areas. Further, the missed out areas of UGD laterals works would be taken up in phase 2 project under the assistance of World Bank.
7. That major part of Puttenahalli lake catchment comes under CMC limit & the sewage generated in these catchments are conveyed & treated in the existing 7 MLD Puttenahalli WwTP (Waste water Treatment Plant) now (Functioning at its maximum capacity). The 2 MLD sewage from the Ananthapura Village coming under 110 village will be conveyed through the ISPS located in the premises of existing Puttenahalli WwTP to the already functioning 10 MLD Allalassandra WwTP.
8. That in the original scope of the said project, sewage from the remaining portion of Ananthapura Village (110 Village) area is proposed to lead off through the lateral UGD pipelines already laid in the catchment area which in-turn connects to the proposed Sub-Mains in the Attur lake bund along the buffer zone of storm water drain (SWD) up to Century Commanders Vista apartment and thereby providing Lifting Machine hole (Man hole) at the Cross Road junction of Century Commanders Vista Apartment towards newly established machine hole near Duo Marvel Layout in the

Ananthapura Main Road connecting to the proposed 6 MLD Yelahanka Kere WwTP.

9. That during the recent heavy rainfall in the month of May-2024, it was observed that an increased amount of surface water runoff mixed with the sewage from un-sewered /missed out areas of Ananthapura village, Ramagondanahalli Village coming under Panchayath limit and its surrounding areas overflowing into Puttenahalli Lake as the storm water drain work is partially completed and is discontinued towards northern portion of Puttenahalli lake from Attur lake. Further, the sewage from village Panchayath flowing in an open drain is entering the lake during rainy season and from the un-sewered /missed out network in the 110 villages areas to the proposed under construction Yelahanka Kere WwTP which shall be taken up in Phase-2 missing bits project under World Bank assistance.
10. That on 20.05.2024 Hon'ble Deputy Chief Minister GoK, Chief Commissioner BBMP, Additional Chief Secretary (Forest, Ecology and Environment Department), GoK, Zonal and Joint Commissioners of Yelahanka, BBMP, BWSSB and other concerned inspected the spot of flooding and enquired about the preventive measures. Later, BBMP officials informed about the feasible alignment along the existing walking way of Puttenahalli Lake bund. Hon'ble DCM, GoK directed the officials to take up the same immediately and to complete the works at the earliest in the interest of public.
11. That in view of the directions of Hon'ble DCM, GoK, BBMP planned to lay 1600 diameter RCC pipeline along the walkway of

Puttenahalli lake bund to continue the SWD. If this work is executed, only then would BWSSB be able to lay the 700 mm dia RCC trunk sewer of about 600 rmt running parallel along the same alignment up to the proposed under-construction Yelahanka Kere WwTP to cater the sewage from the future development in the upstream areas under Village Panchayath limits else as per the original scope, the sewage will be carried to Yelahanka Kere 6 MLD WwTP with the provision of lifting machine hole in the buffer zone of SWD next to Century Commanders Vista Main Gate will suffice the present requirement.

12. The petitioner during the joint inspection on 22.07.2024 along with the Conservator of the Forests, Bengaluru Circle, BBMP officials proposed considering alternative alignments for managing the sewage network, specifically suggesting routing it along the south side of Lake to connect with the existing network of the Puttenahalli WwTP, which is having a treatment capacity of 7 MLD. However, according to the flow report for the Month of June & July-2024 it clearly illustrates that the average inflow for June 2024 was 5.48 MLD (78.28% of capacity) and 5.75 MLD (8.14%) up to 23.07.2024 in July, with a peak inflow of 7.008 MLD on 30.06.2024. Thus, it can be determined that the Puttenahalli WwTP is already running at or near its capacity and cannot accommodate additional sewage loads for treatment.

13. The flow and diameter calculation of the 700 mm dia RCC pipeline is as detailed Table 1 below:

SI No.	Year	Projected Population	Flow in MLD
1	2011 (as Per Census)	7049	0.85
2	2021	21000	2.52
3	2031	41580	4.99
4	2041	63202	7.58
5	2051	78312	9.40

14. That the calculation placed before the PCCF (CWLW) clearly showed that 700 mm diameter of sewer pipeline will suffice the sewage generated by the year of 2051 for the population of 78312 nos. Additionally, significant developmental activities are occurring upstream, beyond the jurisdiction of BWSSB limits. As a result, the sewage load projected above by BWSSB does not account for these developing areas. Therefore, as these areas are developed, it is essential to establish a proper underground drainage (UGD) network and treatment facilities. Without these provisions, the proposed network may not be adequate to handle future sewage loads. Therefore, it is crucial that, the BDA and panchayat authorities are required to submit their future action plans regarding their sewage network and WwTP.
15. That the proposed 700 mm diameter RCC sewage pipe would cater the sewage generated from the Ramanashree California gated community and the North Wood Villas, provided these areas are handed over to BWSSB in accordance with prevailing/future norms and the sewage generated from these areas approximately 1.5-2 MLD will be conveyed to the Yelahanka Kere WwTP (Total sewage

generating from Anathapura village catchment area around 5MLD for 2031 refer table 1 above). Balance Anathapura village catchment generates sewage about 2 MLD sewage pumping to 10 MLD WwTP at Allalassandra as mentioned above and 1.0 MLD sewage will be conveyed to under construction Yelahanka Kere WwTP.

16. In view of the above submissions, it was pointed out that, if permitted by Forest Department to lay the 700 mm dia RCC trunk sewer of about 600 rmt will be laid else as per the original scope, the sewage will be carried to YelahankaKere6 MLD WwTP with the provision of lifting machine hole in the buffer zone of SWD next to Century Commanders Vista Main Gate will suffice the present requirement.
17. True Copy of Application made by BWSSB to the PCCF (CWLW) is annexed herewith as **Annexure R-1**.
18. It is submitted that vide order dated 26.07.2024, Principal Chief Conservator of Forest (Wildlife) and Chief Wildlife Warden, Karnataka has accorded the permission for laying down of the said pipeline. True Copy of order dated 26.07.2024 passed by the Principal Chief Conservator of Forest (Wildlife) and Chief Wildlife Warden, Karnataka is annexed herewith as **Annexure R-2**.
19. It is further submitted that as per the Zoning Regulation contained in BBMP Revised Master Plan, 2015, activities related to STPs are exempted from buffer zone regulations. Relevant part of the zoning regulations are as follows:

4.12.2) Regulations

...

ii) Valley/ drain

Within the demarcated buffer for the valley the following uses are allowed:

i. Sewerage Treatment Plants and Water treatment plants

ii. Roads, pathways, formation of drains, culverts, bridges, etc which will not obstruct the water course, run offs, channels.

iii. In case of water bodies a 30.0 m buffer of 'no development zone' is to be maintained around the lake (as per revenue records) with exception of activities associated with lake and this buffer may be taken into account for reservation of park while sanctioning plans.

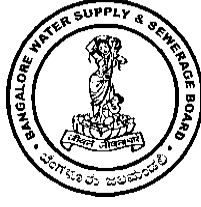
20. It is submitted that STPs are exempted from the applicability of buffer zone regulations. True Copy of sketch of Catchment area of Puttenhalli Lake is annexed herewith as **Annexure R-3**.
21. True Copy of sketch pertaining to proposed pipeline is annexed herewith as **Annexure R-4**.
22. It is hence pointed out that the activity being taken up by the answering Respondent is for the purpose of preventing entry of sewage into the lake, in order to ensure that the lake is free of pollution. If the same is not allowed to go through, the lake will be put at the risk of pollution by way of entry of sewage, as was seen during the inspection in May, 2024.
23. In light of the above stated facts and circumstances, it is humbly prayed that this Hon'ble Tribunal may be pleased to dismiss the present Original Application.

Date: 28/08/2024.


For Respondent No. 6
(BWSSB)
 Chief Engineer (P)
 Bangalore Water Supply
 and Sewerage Board
 Bangalore 560 009

Grams : "Water Sup" Bangalore
Email: ceproject@bwssb.gov.in

Phone: 080 - 22945108



Annexure-R-1

ಬೆಂಗಳೂರು ನೀರು ಸರಬರಾಜು ಮತ್ತು ಒಳಚರಂಡಿ ಮಂಡಳಿ

BANGALORE WATER SUPPLY AND SEWERAGE BOARD

Office of the Chief Engineer (Project),

Cauvery Bhavan, 3rd Floor, K G Road, Bangalore-560009

No. BWSSB/ CE(Project)/ACE(P)-1/TA/	/ 2024-25	Date :	/	/ 2024
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To,

**The Principal Chief Conservator of Forests,
& Head of Forest Force, Karnataka Forest Department,
4th Floor, Aranya Bhavan, 18th Cross, Malleshwaram,
Bengaluru-560065**

Sir,

Sub: Bengaluru Water Supply and Sewerage Project (Phase 3) Contract package CP-25 i.e. Design, Engineering, Construction and Commissioning of Sewage Treatment Plants and Intermediate Sewage Pumping Stations with Operation & Maintenance thereof for Seven Years [Works -A] and Procurement and Construction of Main Sewers including Manholes in Byatarayanapura Zones (Hebbal Valley Catchment) [Works-B] under JICA Loan ID -P266- **Reg: Requesting permission for laying Trunk Sewer near the Puttenahalli Lake bund till designated Yelahanka kere WwTP.**

Ref: 1. Contract Agreement No:BWSSPIII/CP-25/03/2021-22 Dated :07-07-2021
2. LOC No: BWSSB/CEKTE/TA11/04/2020/765/2021-22 Dated: 07-07-2021
3. No. BWSSB/CE (Project)/ACE(P)-1/TA/578/2024-25, Dated: 28-06-2024

The major part of Puttenahalli Lake catchment area comes under CMC limits and remaining portion is in 110 village limit of BBMP, Ramagondanahalli Village & its catchment (coming under Panchayath limit) and Shivaram Karanth (BDA) Layout.

Currently, there is tremendous growth of population in and around the Puttenahalli catchment areas. Due to this substantial growth of the locality and to cater the needs of this population, infrastructure like water supply and sewage networks are essential.

BWSSB had taken up the work of laying laterals under the assistance of GoK and BWSSB funds, as per the GFC drawings the laterals in the Ananthapura village coming under 110 village limits of BBMP were laid excluding few newly developed and missed out areas. Further, the missed out areas of UGD laterals works will be taken up in phase 2 project under the assistance of World Bank.

In addition to this, under the assistance of JICA(Japan International Cooperation Agency), BWSSB has already taken up construction of 7 MLD WwTP and laying Sub mains and trunk sewers in upstream catchment of Attur lake which is under progress & helps in convey of sewage for treatment at the Attur WwTP under construction located in the downstream catchment.

Major Part of Puttenahalli lake catchment comes under CMC limit & the sewage generated in these catchments are conveyed & treated in the existing 7 MLD Puttenahalli WwTP now (Functioning at its maximum capacity refer Annexure 1). The 2 MLD (refer table 1 below) sewage from the Ananthapura Village coming under 110 village will be conveyed through the ISPS located in the premises of existing Puttenahalli WwTP to the already functioning 10 MLD Allalasandra WwTP.

In the original scope of the said project, sewage from the remaining portion of Ananthapura Village (110 Village) area is proposed to lead off through the lateral UGD pipelines already laid in the catchment area which in-turn connecting to the proposed Sub-Mains in the Attur lake bund along the buffer zone of storm water drain (SWD) up to Century Commanders Vista apartment and thereby providing Lifting Machine hole (Man hole) at the Cross Road junction of Century Commanders Vista Apartment towards newly established machine hole near Duo Marvel Layout in the Ananthapura Main Road connecting to the proposed 6 MLD Yelahankakere WwTP.

The Ramagondanahalli Village (under Panchayat Limits) beyond 110 village limits and the Shivaramkaranth Layout (developed by BDA) does not come under the Jurisdiction of BWSSB as per the BWSS Act 1964 Section 15 (1) (copy enclosed as Annexure 2), wherein it states that *“The Board shall be charged with the general duty of providing a supply and improving the existing supply of water in the Bangalore Metropolitan Area and of*

making adequate provision for the sewerage and the disposal of the sewage in the Bangalore Metropolitan Area and for the efficient discharge of such duty the Board shall exercise such powers and perform such functions as are conferred or imposed by or under this Act”.

Hence, the water supply, sewerage and disposal of sewage generated under Panchayath and BDA developed areas are the responsibility of the respective Authorities.

The Ramanashree California layout and North Wood Villas adjacent to Puttenahalli Lake is a private layout (Gated community) wherein the layout association needs to establish their own Water supply and UGD network since the layout is not handed over to BWSSB and the layout also need to establish the WwTP as per the GO. FEE 43 EPC 2022, Dtd: 12.03.2024 (enclosed copy as Annexure 3) for handling the sewage generated in the Layout.

During the recent heavy rainfall in the month of May-2024, it was observed that an increased amount of surface water runoff mixed with the sewage from un-sewered/missed out areas of Ananthapura village, Ramagondanahalli Village coming under Panchayath limit and its surrounding areas overflowing into Puttenahalli Lake as the storm water drain work is partially completed and is discontinued towards northern portion of Puttenahalli lake from Attur lake. Further, the sewage from village Panchayath flowing in an open drain is entering the lake during rainy season and from the un-sewered/missed out network in the 110 villages areas to the proposed under construction Yelahanka kere WwTP which shall be taken up in Phase-2 missing bits project under World Bank assistance.

On 20.05.2024 Hon'ble Deputy Chief Minister GoK, Chief Commissioner BBMP, Additional Chief Secretary (Forest, Ecology and Environment Department), GoK, Zonal and Joint Commissioners of Yelahanka, BBMP, BWSSB and other concerned inspected the spot of flooding and enquired about the preventive measures. Later, BBMP officials informed about the feasible alignment along the existing walking way of Puttenahalli Lake bund. Hon'ble DCM, GoK directed the officials to take up the same immediately and to complete the works at the earliest in the interest of public.

In view of the directions of Hon'ble DCM, GoK, BBMP is planning to lay 1600 dia RCC pipeline along the walkway of Puttenahalli lake bund to continue the SWD, if this work is executed then only BWSSB would be able to lay the 700 mm dia RCC trunk sewer of about 600 rmt running parallel along the same alignment up to the proposed under-

construction Yelahanka kere WwTP (drawing enclosed for kind reference as Annexure 4) to cater the sewage from the future development in the upstream areas under Village Panchayath limits else as per the original scope, the sewage will be carried to Yelahanka kere 6 MLD WwTP with the provision of lifting machine hole in the buffer zone of SWD next to Century Commanders Vista Main Gate will suffice the present requirement.

The petitioner during the joint inspection on 22.07.2024 along with the Conservator of the Forests, Bengaluru Circle, BBMP officials proposed considering alternative alignments for managing the sewage network, specifically suggesting routing it along the south side of Lake to connect with the existing network of the Puttenahalli WwTP, which is having a treatment capacity of 7 MLD. However, according to the flow report for the Month of June & July-2024 attached as Annexure-1 it clearly illustrates that the average inflow for June 2024 was 5.48 MLD (78.28% of capacity) and 5.75 MLD (8.14%) up to 23.07.2024 in July, with a peak inflow of 7.008 MLD on 30.06.2024. Thus, it can be determined that the Puttenahalli WwTP is already running at or near its capacity and cannot accommodate additional sewage loads for treatment.

The flow and diameter calculation of the 700 mm dia RCC pipeline is as detailed Table 1 below:

Table 1

SI No.	Year	Projected Population	Flow in MLD
1	2011 (as Per Census)	7049	0.85
2	2021	21000	2.52
3	2031	41580	4.99
4	2041	63202	7.58
5	2051	78312	9.40

Mannings

Formula

$$V = 1/n \times R^{2/3} S^{1/2}$$

$$Q = A \times V$$

$$Q = m^3/sec$$

$$V = m/sec$$

Table 2

Dia in mm	Dia in m	n	S	V	MLD
300	0.3	0.012	200	0.967	5.9
400	0.4	0.012	250	1.048	11.4
500	0.5	0.012	350	1.028	17.4
600	0.6	0.012	400	1.086	26.5
700	0.7	0.012	550	0.983	34.1

So from the above calculation it clearly shows that 700 mm diameter of sewer pipeline will suffice the sewage generated by the year of 2051 for the population of 78312 nos. Additionally, significant developmental activities are occurring upstream, beyond the jurisdiction of BWSSB limits. As a result, the sewage load projected above by BWSSB does not account for these developing areas. Therefore, as these areas are developed, it is essential to establish a proper underground drainage (UGD) network and treatment facilities. Without these provisions, the proposed network may not be adequate to handle future sewage loads. Therefore, it is crucial that, the BDA and panchayat authorities are required to submit their future action plans regarding their sewage network and WwTP.

If permitted to lay 700 mm diameter RCC sewage pipe, it would cater the sewage generated from the Ramanashree California gated community and the North Wood Villas, provided these areas are handed over to BWSSB in accordance with prevailing/future norms and the sewage generated from these areas approximately 1.5-2 MLD will be conveyed to the Yelahanka Kere WwTP (Total sewage generating from Anathapura village catchment area around 5MLD for 2031 refer table 1 above). Balance Anathapura village catchment generating sewage about 2 MLD sewage pumping to 10 MLD WwTP at Allalassandra as mentioned above and 1.0 MLD sewage will be conveyed to under construction Yelahanka Kere WwTP.

Under the above circumstances, if permitted by Forest Department to lay the 700 mm dia RCC trunk sewer of about 600 rmt will be laid else as per the original scope, the sewage will be carried to Yelahanka kere 6 MLD WwTP with the provision of lifting machine hole in the buffer zone of SWD next to Century Commanders Vista Main Gate will suffice the present requirement. Further, it is hereby submitted that the sewage from the Panchayath Limit and the BDA developed layouts areas are the responsibility of the respective

Authorities and also the sewage from the Ramanashree California (Gated Community) & North Wood Villas to be treated in the WwTP of Gated Community and the monitoring body is KSPCB.

Thanking you,

Yours faithfully,

**Chief Engineer (Project),
BWSSB**

1. Copy submitted to Chief Commissioner, BBMP, NR Square, Bengaluru- 560002 for kind information.
2. Copy to Hon'ble Chairman, BWSSB for kind information.
3. Copy submitted to Principal Secretary (Forests), Forest, Ecology and Environment Department, Karnataka Government Secretariat, Room No. 442, Gate No. 2, M. S. Building, Bengaluru-560001 for kind information
4. Copy submitted to Additional Principal Chief Conservator of Forests (Wildlife), Aranya Bhavan, 18th Cross, Malleshwaram, Bengaluru-560055 for kind information.
5. Copy submitted to Chief Conservator of Forests, Bengaluru Circle, Aranya Bhavan, 18th Cross, Malleshwaram, Bengaluru-560055 for kind information.
6. Copy submitted to Deputy Conservator of Forests, Bengaluru Urban Division, Aranya Bhavan, 18th Cross, Malleshwaram, Bengaluru-560055 for kind information.
7. Copy to Chief Engineer (SWD), BBMP, NR Square, Bengaluru- 560002 for information.
8. Copy to ACE (Project)-01, BWSSB, for information & necessary action.
9. Copy to Executive Engineer (SWD), BBMP, Yelahanka Zone, Mini Vidhana Soudha, 3rd Floor, NES Circle, BBMP for information.
10. Copy to Executive Engineer (Project)-2, BWSSB, for information and necessary action.
11. Copy to Assistant Conservator of Forests, Bengaluru North Sub-Division, 18th Cross, Malleshwaram, CJF Road, Bengaluru-560055 for information.
12. Copy to Range Forest Officer, Yelahanka Range, Puttenahalli, Doddaballapura Main Road, Yelahanka, Bengaluru-560064 for information.
13. Copy to AEE (Project)-2-1, BWSSB, for information and necessary action.

14. Copy to M/s. Passavant Energy & Environment India Pvt Ltd, Shree Beereshwara Swamy Complex, Site #28 /1, 2nd floor, 15th main 1st Cross, E block, Sahakar Nagara, Bangalore-560092 for information and necessary action.
15. Office Copy.

Annexure-R-2

No: PCCF(WL)/D/CR- 01/2014-15

E-Office No: 1415312



Principal Chief Conservator of Forests
(Wildlife) & Chief Wildlife Warden,
Karnataka Office : 080-23341993, 080-
23346389

E-mail: pccfwl@gmail.com
Malleswaram, Bangalore

Date: 26-07-2024

: Official Memorandum:

Sub: Request for permission to carry out laying pipe line in Puttenahalli Bird Conservation Reserve.

Ref: This office even number letter dated: 29.05.2024.

1

Hon'ble NGT Order on 18.06.2023 in OA No. 191 of 2024 (SZ) & IA No.71 of 2024(SZ)

2

Letter No. BWSSB/CE(Project)ACE(P)-/TA/578/2024-25 of the Chief Engineer (Project), BWSSB, Bengaluru.

3

Letter No. BBMP/EIC/PR/560/2024-25 of the Engineer in Chief, BBMP, Bengaluru.

4

Letter No.KFD-BNGCOA6(WL)/8/2024 Dated:

5

24.07.2024 of the Conservator of Forests, Bengaluru Circle, Bengaluru

Preamble: -

Adverting to the above subject, the State Government declared Puttenahalli lake as "Puttenahalli Bird Conservation Reserve" under the Wildlife (Conservation) Act, 1972 on 29.04.2015 for the conservation of local and Migratory bird Spices in Puttenahalli lake.

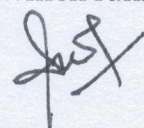
In recent times, the layouts constructed around the Puttenahalli Bird Conservation Reserve do not have a proper drainage system, so sewage/contaminated water is being discharged into the Puttenahalli lake. Hence, vide this office letter cited under ref. (1) addressed to the Chief Commissioner, BBMP informing him that the provisions of Sections 27, 30, 32 and 33 of the Wildlife (Conservation) Act, 1972 are applicable to Conservation Reserves. Further, Section 32 of the Wildlife (Protection) Act, 1972 states "*Ban on use of injurious substances. -No person shall use, in a sanctuary, chemicals, explosives or any other substances which may cause injury to or endanger, any wild life in*

such sanctuary” and as such discharge of sewage/contaminated water inside the Puttenahalli Bird Sanctuary is a violation of Section 32 of the Wildlife (Protection) Act, 1972, the Chief Commissioner, BBMP has been requested to take appropriate action to prevent sewage/contaminated water from entering the Puttenahalli Bird Conservation Reserve and also to submit a report to this office on the action taken.

The Hon`ble NGT Order on 18.06.2024 in OA No. 191 of 2024 (SZ) & IA No.71 of 2024(SZ) directed as “as in view of the sustainable development and precautionary principles embodied in Section 20 of the National Green Tribunal Act, 2010, respondents no.2 and/or 6 are restrained from carrying out any further activity of digging up of earth and laying of pipeline including hume pipes within the reserved area without obtaining permissions from the concerned authorities and they are also directed to take requisite remedial measures to prevent discharge of sewage into the lake. Activity of digging up of earth and laying of pipeline including hume pipes within the reserved area already carried out by respondents no.2- BBMP and/or respondent no.6-BWSSB will also be subject to further orders to be passed by this Tribunal after hearing the concerned/aggrieved parties”.

The Chief Engineer (Project), BWSSB, Bengaluru, in the letter referenced under (3), has detailed that BBMP is planning to lay a 1600 mm diameter RCC pipeline along the walkway of Puttenahalli Lake bund to continue the Storm Water Drainage (SWD) system. It is essential that this BBMP pipeline is installed first, as only then will BWSSB be able to lay a 700 mm diameter RCC trunk sewer, approximately 600 meters in length, running parallel along the same alignment to the proposed under-construction Yelahanka Kere Wastewater Treatment Plant (WwTP). This trunk sewer is needed to manage sewage from future developments in the upstream areas under the various Village Panchayath limits, else the pipe laid in the on-going work with the provision of lifting machine hole will suffice the present requirement. Explaining the above facts, the Chief Engineer (Project), BWSSB, Bengaluru has requested to accord permission to lay the same in the said alignment coming under the Bird conservation Reserve along with the work of BBMP.

The Engineer in Chief, BBMP, Bengaluru, in the letter referenced under (4), has reported that the storm water drain identified as BP-135, which runs from




Attur Lake upstream to Puttenahalli Lake downstream, is being contaminated by sewage. To prevent this contaminated storm water from entering Puttenahalli Lake, a compound wall was constructed to obstruct the flow. However, upon detailed inspection, it was found that the northern areas of Puttenahalli Lake are not connected to an outgoing sewer line, causing all sewage to enter the storm water drain. As a result, the storm water drain, which was originally designed to handle storm water, has become a repository for sewage. This sewage accumulates in the drain, leading to evaporation and leaving behind sludge.

On 20.05.2024 there was a heavy rain and these rains entered the storm water drain but could not go out due to the blockage created to the natural flow by compound wall. The Public Representatives and Senior Officers of BBMP, BWSSB and Forest Department visited the place and instructed that, a diversion channel should be constructed by BBMP for emergency purpose and also BWSSB should put up a connecting sewer line from the adjoining area to the main trunk line on Doddaballapura main road or to the nearest Intermediate Sewage Pumping Station (ISPS).

Also, the engineers of BWSSB and BBMP has reported that the whole topography of the area was inspected and found that, there is no place to take the diversion channel on gravity basis, except the pathway space available inside the lake premises. The alignment on the pathway would also ensure that, only 02 coconut trees removal is required.

Therefore, a joint plan was drawn between BBMP and BWSSB to construct diversion channel using Hume Pipe so as to ensure pathway can be rebuilt over the pipeline without causing any damage to the physical nature of the pathway.

The stream (SWD) in question, BP-135, discharges 22.0 Cumecs into Puttenahalli Lake. To prevent contaminated storm water from entering Puttenahalli Lake, a diversion channel is proposed to direct storm water to the waste weir point. It is estimated that during flooding, the contaminated storm water with sewage constitutes 1/6 of the total flow, while the remaining 5/6 is fresh storm water. Therefore, the diversion channel needs to handle 1/6 of 22.0 Cumecs, which amounts to 3.67 Cumecs. The proposed diversion will utilize a 1.6-meter diameter pipe with a cross-sectional area of 2.01 square meters, capable



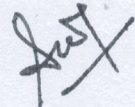
of accommodating up to 4.00 Cumecs of water and accordingly proposals were submitted by BBMP and BWSSB to this office to accord permission for carrying out the above said works.

Accordingly, a meeting was conducted with the stakeholders and Forest Officers on 10.07.2024 and after detailed deliberations, the Conservator of Forests, Bengaluru Circle, Bengaluru was directed to inspect the spot along with BBMP and BWSSB engineers and submit the technical feasibility report on the proposal submitted by the BBMP and BWSSB.

The Conservator of Forests, Bengaluru Circle, Bengaluru, submitted a report via letter referenced under (5), indicating that a joint meeting and inspection were conducted on 22.07.2024 at the Puttenahalli Lake premises. The meeting involved representatives from Respondent No. 2 (BBMP), Respondent No. 6 (BWSSB), and the petitioner. During this meeting, a comprehensive discussion was held on the technical aspects of the project.

The report notes that the primary source of sewage entering Puttenahalli Lake is the discharge from upstream areas into the Storm Water Drain (SWD), attributable to incomplete sewer lines in the lake's catchment areas. Following detailed discussions and a joint inspection on 22.07.2024, it was concluded that the issue of sewage entering Puttenahalli Lake can only be resolved through the implementation of a comprehensive sewage network and SWD across the entire catchment area of the lake (14 sq. km, as depicted in the map). This infrastructure would ensure that sewage is directed to the wastewater treatment plant (WwTP) while allowing rainwater runoff to flow into Puttenahalli Lake.

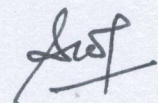
According to the report submitted by the Conservator of Forests, Bengaluru Circle, the catchment area map provided by BBMP and BWSSB indicates that a significant portion of the area falls under the jurisdiction of the Panchayats and Bangalore Development Authority (BDA). Therefore, the establishment of a comprehensive sewage network and wastewater treatment plant (WwTP) in these areas will need to be managed by these authorities, as BBMP and BWSSB do not have jurisdiction over these regions. Consequently, it is required that the BDA and Panchayat authorities submit their action plans concerning the development of their sewage network and WwTP.



During the joint inspection, the petitioner proposed considering alternative alignments for managing the sewage network, specifically suggesting routing it along the south side of Puttenahalli Lake to connect with the existing network of the Puttenahalli WwTP, which has a treatment capacity of 7 MLD. However, according to the information provided by the User Agency, the average inflow for June 2024 was 5.48 MLD (78.28% of capacity), and 5.75 MLD (82.14%) up to 23.07.2024 in July, with a peak inflow of 7.008 MLD recorded on 30.06.2024. Given these figures, BWSSB and BBMP engineers have determined that the Puttenahalli WwTP is already operating at or near its capacity and cannot accommodate additional sewage treatment loads.

According to the authorities of BWSSB, there is currently no need to lay a 700 mm diameter RCC pipeline, as the existing pipeline network, which was designed according to the original scope, is sufficient to handle the generated sewage. Should the installation of a 700 mm diameter RCC sewage pipeline be authorized, it would be used to accommodate sewage from the Ramanashree California gated community and the North Wood Villas, provided that these areas are formally handed over to BWSSB in compliance with future regulations. The Ramanashree California layout and North Wood Villas, situated adjacent to Puttenahalli Lake, are private gated communities. The responsibility for establishing a water supply and underground drainage (UGD) network falls on the layout association, as these areas have not yet been transferred to BWSSB. Furthermore, as reported by the officials of BWSSB and BBMP, in accordance with Government Order FEE 43 EPC 2022 dated 12.03.2024, the layout must also establish its own wastewater treatment plant (WWTP) to manage the sewage generated within the community.

According to the report submitted by BBMP and as per the field inspection report of the Conservator of Forests, Bengaluru Circle, Bengaluru, it has been determined that the 1600 mm diameter RCC pipeline proposed by BBMP, as a replacement for the open SWD, is necessary to address the gap in the SWD system. This proposed pipeline acts as a diversion channel which is crucial for carrying surface runoff mixed with sewage downstream from Puttenahalli Lake without contaminating the lake. Given the limited available width and the fact that the proposed land falls within the Puttenahalli Bird Conservation Reserve, the proposal has been designed to divert only 4.20 cumecs (approximately 1/4th



of the total flow) through a 1.60 m (1600 mm) diameter Hume pipe as per the details below.

Sl. No	Particulars	Existing section	Proposed section
1	Flood carrying capacity in Cumes	15.15 Cumes	4.20 Cumes
2	Required width in m	3.00 m	1.60m dia pipe
3	Required Depth in m	2.40 m	
4	Velocity generated in m/seconds	2.81 M/seconds	2.10 M/seconds
5	Bed fall	1 in 300	1 in 550

The report also indicates that during peak rainfall events, the proposed 1600 mm diameter pipeline may be insufficient to manage the excess floodwater conveyed through the SWD. Consequently, there is a risk of overflow, with water potentially still entering Puttenahalli Lake. Additionally, this proposed intervention may reduce necessary inflows to the lake. Had the sewer line been properly installed upstream, the issue of sewage entering the lake could have been avoided. Therefore, the BBMP engineers have to ensure that necessary engineering structures shall be put in place to prevent the sewage entry and also to facilitate the excess flood water ingress to the lake.

Further, the report submitted by the BWSSB along with the report of CF, Bengaluru Circle gives the details of the flow and diameter calculation for the RCC pipeline as below;

SL NO	Year	Projected population	Flow in MLD
1.	2011 (as per census)	7049	0.85
2.	2021	21000	2.52
3.	2031	41580	4.99
4.	2041	63202	7.58
5.	2051	78312	9.40

Mannings formula :

$$V = \frac{1}{n} R^{2/3} S^{1/2}$$

$$Q = A * V$$

$$Q = m^3/sec$$

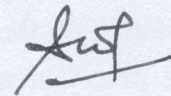
$$V = m/sec$$

Dia in mm	Dia in m	n	S	V	MLD
300	0.3	0.012	200	0.967	5.9
400	0.4	0.012	250	1.048	11.4
500	0.5	0.012	350	1.028	17.4
600	0.6	0.012	400	1.086	26.5
700	0.7	0.012	550	0.983	34.1

So, from the above calculation it clearly shows that 700 mm diameter of sewer pipeline will suffice the sewage generated by the year of 2051 for the population of 78312 nos. Additionally, significant developmental activities are occurring upstream, beyond the jurisdiction of BWSSB and BBMP. As a result, the sewage load projected above by BWSSB does not account for these developing areas. Therefore, as these areas are developed, it is essential to establish a proper underground drainage (UGD) network and treatment facilities. Without these provisions, the proposed network may not be adequate to handle future sewage loads. Therefore, it is crucial for BWSSB to immediately implement the proposed sewage network plan in the upstream catchment areas of Puttenahalli Lake to ensure the lake's long-term survival. Also, the BDA and panchayat authorities are required to submit their future action plans regarding their sewage network and WwTP.

Whereas the Central Government Guidelines dated 21.07.2022 states that *“as per the revised Guidelines dated 21st July, 2022 (copy enclosed), projects/activities proposed to be located within Conservation Reserves notified under the Wild Life (Protection) Act, 1972 do not require consideration by the Standing Committee of National Board for Wild Life”* and vide the above mentioned facts, as there is no alternative route for laying the proposed 1600 mm dia pipeline for diversion of Storm water and laying of 700 mm dia trunk sewer pipeline other than the walkway of Puttenahalli lake bund to have continuous SWD and as the discharge of sewage/contaminated water inside the Puttenahalli Bird Conservation Reserve is a violation of Section 32 of the Wildlife (Protection) Act, 1972 and as such it is necessary to prevent sewage/contaminated water from entering the Puttenahalli Bird Conservation Reserve so as to support the local avifauna, it is necessary to permit the said work with certain conditions.

Hence, the following order,

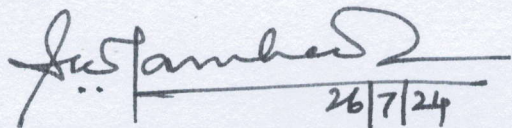


: Order:

As per the circumstances explained in the preamble and in exercise of powers under Section 33 (c) read with Section 36A (2) of the Wildlife (Protection) Act 1972, permission is hereby accorded to lay the proposed 1600 mm storm water hume pipeline and 700 mm dia trunk sewer pipeline along with necessary structures so as to prevent the entry of sewage/contaminated water in Puttenahalli Bird Conservation Reserve in the interest of the long term conservation of the said reserve and the dependent bird population with the following conditions.

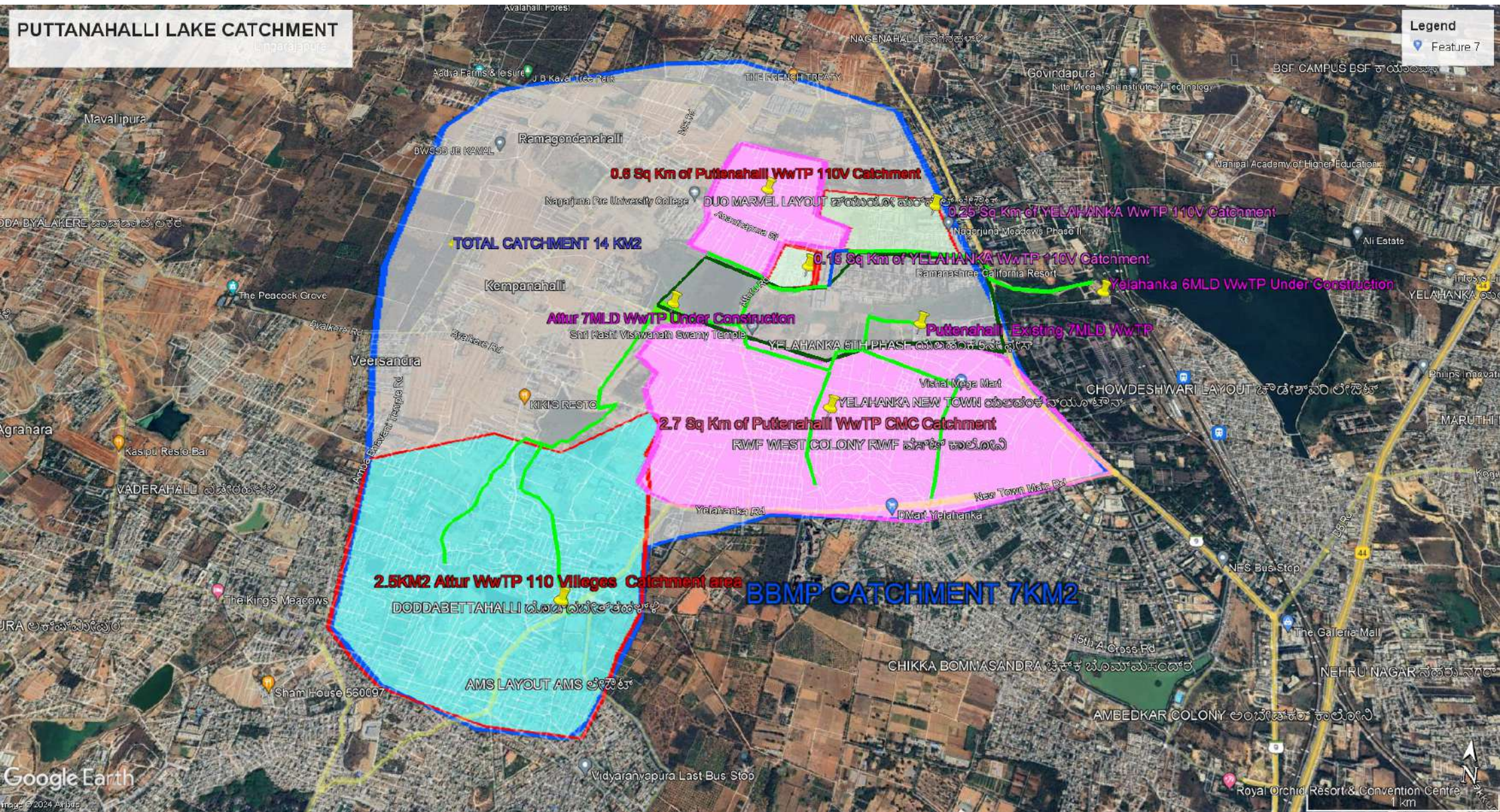
Conditions: -

1. Care should be taken not to disturb the wildlife species and their habitat during construction activities.
2. The user agency and project personnel will comply with the provisions of the Karnataka Forest Act & Rules, Wildlife (Protection) Act, 1972 and Environment (Protection) Act, 1986.
3. The muck generated during the project implementation shall be taken out of the Conservation Reserve area without endangering the flora and fauna.
4. The work shall be taken up only under the close supervision of the jurisdictional officers & staff, to avoid any damage to the flora and fauna.
5. The implementing agency shall abide by the conditions laid down by the forest officials in charge of the project area in the interest of protecting and minimizing disturbance to wildlife during construction phase and after completion of the project.
6. After the compilation of the work by BBMP and BWSSB the area shall be restored its original nature at their own cost.
7. Agencies like BWSSB, BBMP, BDA, Karnataka State Pollution Control Board and Village Panchayats should draw a long-term plan for the catchment to ensure that sewage does not enter the lake through any source and does not harm the habitat of birds in the Conservation Reserve.
8. Necessary financial allocation shall be made by the BBMP and BWSSB for any additional habitat improvement works as proposed in consultation with local Forest Department officials.


26/7/24

**Principal Chief Conservator of Forests
(Wildlife) and Chief Wildlife Warden
Karnataka**

Annexure-R-3

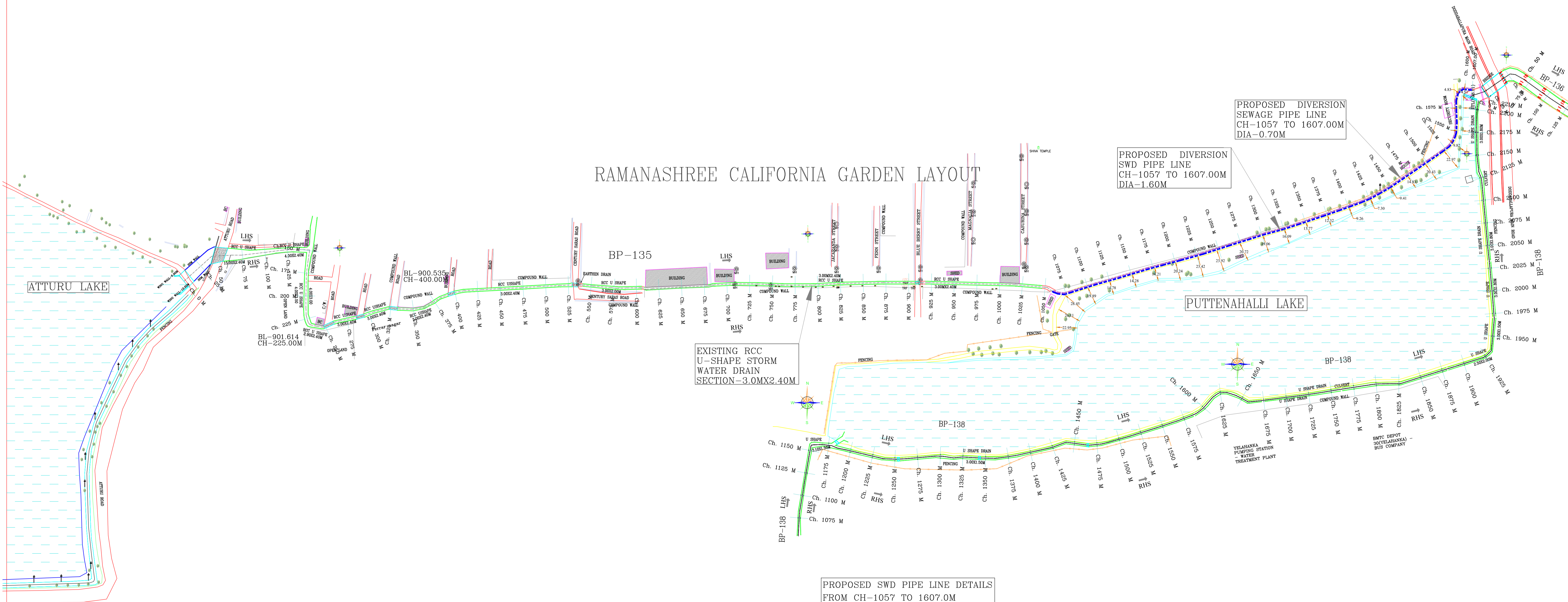
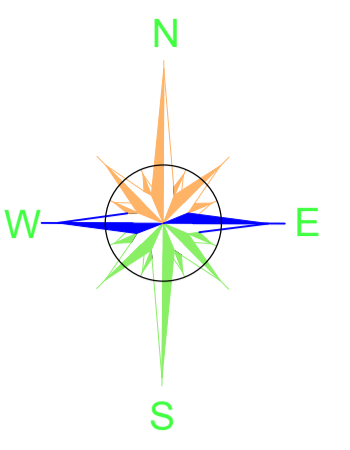


Annexure-R-4

BBMP SWD YELAHANKA ZONE

ATTUR LAKE TO PUTTENAHALLI LAKE
SWD-ID-BP-135

KEY MAP



LEGENDS

PROPOSED DIVERSION SWD PIPELINE	---	----
EXISTING SWD CHANNEL	---	----
BWSB SEWAGE PIPE LINE	---	----
PUTTENAHALLI LAKE BOUNDARY	---	----
DEVELOPED SWD RCC U-SHAPE	---	----