

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,
WESTERN ZONE BENCH, PUNE
APPEAL NO. 05 / 2025

Sarang Yadwadkar & Anr. ... Appellants

v.

Union of India & Ors. ... Respondents

REPLY AFFIDAVIT BY RESPONDENT NO. 2,
STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY

| Sr. No. | Annexure | Particulars | Page Nos. |
|---------|----------|--|-----------|
| 1. | | Reply by Respondent No.2 SEIAA | |
| 2 | 1 | Copy of letter dated 11.01.2023, by SEIAA to PMC. | |
| 3. | 2 | Copy of Order dated 04.01.2023 in EA No. 13/2022. | |
| 4. | 3 | Copy of the Order dated 20.08.2024 in OA No. 79/2024. | |
| 5. | 4 | Copy of CWPRS letter dated 26.12.2017. | |
| 6. | 5 | Copy of CWPRS letter dated 05.04.2021. | |
| 7. | 6 | Copy of 174 th SEAC MoM held between 12th to 14th June, 2023. | |
| 8. | 7 | Copy of PMC compliances to the SEAC points and the SEIAA 270th MoM dated 07.11.2023. | |

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|-----|----|--|--|
| 9. | 8 | Copy of PMC letter dated 19.01.2024 to CWPRS. | |
| 10. | 9 | Copy of CWPRS letter to PMC dated 25.01 .2024. | |
| 11. | 10 | Copy of PMC letter dated 23rd March 2023 along with the Application form. | |
| 12. | 11 | Copy of the report submitted by Mr. Avinash Surve, former Secretary, Water Resources Department. | |

Pune

Date : 08-08-2025



Adv. Aniruddha S Kulkarni

Standing Counsel

Environment and Climate Change Department

Government of Maharashtra



**BEFORE THE HON'BLE NATIONAL GREEN
TRIBUNAL,
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APPEAL NO. 05 / 2025**

Sarang Yadwadkar & Anr.

... Appellants

V/s.

Union of India & Ors.

... Respondents

**REPLY AFFIDAVIT BY RESPONDENT NO. 2,
STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT
AUTHORITY**

I, Dattatray Suryakant Bhalerao, working as Scientist I & Deputy Secretary, Environment and Climate Change Department, Government of Maharashtra do hereby state on solemn affirmation as under –

I am well conversant with the facts of the present case and I am competent to swear this Affidavit based upon the records available with this office.

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1. It is submitted that at the very outset this respondent denies each averment made in the present appeal which is contrary to and inconsistent with the averments made and the facts stated in the present reply. It is submitted that nothing stated in the appeal may be deemed to have been admitted by this respondent unless and until the same has been admitted by the respondent.
2. The Present Appeal seeks to challenge the Environment Clearance dated 12th November, 2024 granted by SEIAA to PMC for Pune River Rejuvenation Project for Three Rivers: Mula River: Mumbai-Pune Bypass to Sangam Bridge (22.2 Km), Mutha River: Mumbai-Pune Bypass to Mula-Mutha Sangam (10.4 Km), Mula-Mutha River: Mula-Mutha Sangam to Kharadi (11.8 Km).
3. The Project had a valid EC dated 16th November, 2019 which was challenged by the present Appellant by preferring an Appeal No. 12/2020 which came to be decided on 29th November, 2022. This Hon'ble Tribunal observed:
"49. ... As this is public interest project, the PP has carried out all required studies, and SEAC/SEIAA have duly apprised the proposal before recommending/granting EC, we do not find it necessary to set aside the EC, however, we hereby direct the PP to approach SEIAA for amendment of EC both in the terms of project scope and additional EC conditions to be stipulated, if any, before proceeding to start any construction activity."
4. SEIAA had filed its detailed reply in Appeal No. 12/2020. It has to be noted over here that the earlier EC has not been quashed



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and set aside. As per the above directions, SEIAA has granted the present impugned amended EC.

5. Consequently, the Chief Engineer PMC vide letter dated 28th December, 2022 made an Application to SEIAA for amendment in EC dated 16th November, 2019. SEIAA on 11th January, 2023 communicated to PMC that MoEF&CC has made it mandatory to use PARIVESH Portal for grant of Environment Clearance / Amendment. Hence, they were informed to apply online on the PARIVESH Portal under amendment category. Copy of letter dated 11th January, 2023 is annexed as ANNEXURE-1.
6. In the meanwhile, the present Appellant filed an Execution Application No. 13/2022 for direction to be issued to PMC to immediately stop all construction activities undertaken by them for River Front Development Project of Mula, Mutha and Mula-Mutha rivers. Further relief was also sought to impose a penalty on PMC for willful violation of the judgment dated 29.11.2022 passed by this Hon'ble Tribunal in Appeal No.12 of 2020. That Application was disposed off on 4th January, 2023 with a direction to PMC and SEIAA to complete the proceedings, on their respective part, for issuing the amended EC. Copy of Hon'ble Tribunal Order dated 4th January 2023 in EA No. 13/2022 is annexed as ANNEXURE-2.

Para-wise Reply to the Present Appeal is as follows:

7. In reply to Appeal para no. 1 and 2, no comments are necessary.
8. In reply to para 3 to 7, it is submitted that the Appellant had filed an OA No. 79 of 2024, with the prayers that a direction be issued to the PMC to make compliance of the conditions, imposed by



the SEIAA, in its Meeting dated 07.11.2023, on the entire stretch of the RFD project; and seeking a further direction to stop the construction work at the project site, in the light of the conditions imposed by the SEIAA in the said Meeting. The said OA came to be dismissed as infructuous, on 19th September, 2024. SEIAA through their Standing Counsel Advocate Aniruddha Kulkarni vide email dated 19-11-2024 communicated to this Hon'ble Tribunal as well as all the parties to that case, the SEIAA MoM dated 13th August, 2024 wherein it recommended grant of EC to PMC. Copy of EC was also placed on record.

9. Bringing on record the SEIAA Minutes and copy of the EC was in compliance with the directions passed by the Hon'ble Tribunal dated 20-08-2024. Copy of the Order dated 20-08-2024 in OA No. 79/2024 is attached as **ANNEXURE-3**.
10. Once the EC is uploaded on the PARIVESH portal, a digital cover letter is auto generated which bears the date of issuing of the EC. The said EC did not bear a date because it was yet to be uploaded on PARIVESH Portal. There was no intent on part of SEIAA to produce an undated EC on record. The procedure of uploading the EC on PARIVESH portal and the formal grant of EC was under process, however, as the Hon'ble Tribunal had directed SEIAA on 20-08-2024 to take a decision in the matter hence, vide email dated 19-09-2024 the MoM as well as copy of undated EC was brought on record.
11. Considering an application during the meeting, taking a decision over the application, in case of recommendation for grant of EC and its formal communication by issuing a EC, and uploading



the same EC on PARIVESH portal are procedural formalities which take time. Considering the heavy workload in the department's office, it took time to upload the impugned EC on the PARIVESH portal and there is no lack of judiciousness and there is no lackadaisical approach on part of SEIAA.

12. In reply to para 8 of the present Appeal, it is submitted that detailed explanation on each of the aspects as alleged by the Appellant in reply to the relevant paragraphs is being given in detail below.
13. Contents of para 9 to 11 are a matter of record and no comments necessary from this respondent.
14. Contents of para 12 to 18 are a matter of record, they will be answered suitably by PMC and no comments are necessary from this respondent.
15. Contents of para 19 are a matter of record and no comments are necessary from this respondent.
16. In reply to contents of para 20, it is stated that there is compliance of the conditions imposed by SEAC and SEIAA while granting the impugned EC has followed the procedure as given in the EIA Notification, various OMs and circulars issued by the MoEF&CC from time to time.
17. In reply to ground raised in para 21 to 23, pertain to PMC which may be answered by them.
18. In response to para 24 to 31, on the aspect of the Central Water and Power Research Station (CWPRS), Khadakwasla, Pune it is stated that, the CWPRS had cleared the report on Hydrology and Hydraulics as regards the Mula-Mutha RFD Project undertaken



by Respondent No. 4, PMC vide their letter dated 26th December 2017. SEIAA had advised the PMC to obtain expert opinion from Irrigation Department, CWPRS, etc., on the issue of water carrying capacity of the river after the commencement of the project, hydraulics and hydrology and accordingly PMC has obtained the said expert opinion from CWPRS. The said opinion was noted by SEAC and SEIAA and accordingly that aspect has been taken into consideration by grant of EC. Copy of CWPRS letter dated 26-12-2017 is marked as **ANNEXURE-4**.

19. It seems that the Appellant addressed letters dated 25th February, 2021 and 22nd March, 2021 to the CWPRS on the subject of Impact of Proposed River Front Development Project on Flood Levels in Pune City. The CWPRS has replied to the Appellant on 5th April, 2021, out of which, the Appellant is conveniently relying upon only on the part information replied by the CWPRS which is, *CWPRS did not conduct any study for RFD of PMC but suggested to take care of some issues in the matter. Moreover, CWPRS is not clearing authority in the matter as indicated in your letter. As CWPRS has not conducted or undertook the study for RFD work of PMC, there is no way it can ask PMC to review the study that it did not conduct at the first instance. PMC may take decision in this regard, if it finds it necessary or warranting, detailed study in this regard may be referred to CWPRS. In view of the same your concerns may be addressed to PMC at appropriate level.*

20. The complete contents of the letter are as follows:



Central Water and Power Research Station undertakes various studies based on the facts in the form of data submitted by the project authorities or in some cases collected from local and central agencies (Viz. IMD). Studies suggest / recommend practically feasible, economically optimal and environmentally friendly solutions to the problem. The input data given or submitted, define the river during the study. The study results are unbiased and based only on the facts in the form of input data needed for the studies. If some project is delayed and input conditions change over the period, CWPRS may not be able to change its recommendations on its own as the facts may not have come to the knowledge of CWPRS. Moreover, the completed studies in respect of the same cannot again be reopened by CWPRS. The working pattern of CWPRS is as per the guidelines issued by the MoJS, DoWR, New Delhi. The concerned project authorities have to approach CWPRS for reassessment in such cases where there is a major variation over the time in the input facts / data and when they suspect the optimal solution could be different from the one suggested due to old data.

Copy of CWPRS letter dated 5th April, 2021 is marked and annexed as ANNEXURE-5.



21. In response to para 32 to 35, no comments are necessary from this respondent.
22. In response to non consideration of the TERI report as mentioned in the para 36 to 38, it is submitted that the study conducted by TERI is based on general hypothesis in the development of climate projections **for the State as a unit** and is not based on

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the rainfall pattern affecting the Mula Mutha river basin specifically.

23. The Appellant in para 39 to 50 has alleged that the EC has been granted on the old baseline data of the year 2017. The Appellant further alleges that this is violation of the Office Memorandum dated 8th June, 2022 issued by the MoEF&CC: *Standardizing the validity of baseline data and public consultation reports for submission of proposal within the validity period of Terms of Reference (ToR) under the provisions of EIA Notification, 2006.*
24. In reply it is submitted that the earlier EC dated 16th November, 2019 has not been quashed and set aside by this Hon'ble Tribunal. The Hon'ble Tribunal directed the PMC to approach SEIAA for amendment of EC and therefore, the earlier baseline data from 2nd October, 2017 to 30th December, 2017 has been considered by SEAC.
25. The Appellant in para 51 to 56 alleges that SEAC considered the opinion rendered by Mr. Avinash Surve, Former Secretary, Water Resource Department, Government of Maharashtra, based on which SEAC appraised the project of PMC. Further, he alleges that Mr. Surve has taken a contradictory stand in a public function in Pune city. The Appellant further alleges that SEAC did not consider the representations made by the Appellant while appraisal of the project.
26. In reply to the above allegations it is submitted that Mr. Avinash Surve being a former bureaucrat of the State Government has a long experience in Hydrology and Hydraulics and therefore SEAC invited him to give his expert opinion on the Pune RFD



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Project. Upon invitation, Mr. Surve attended the SEAC meeting and gave his expert opinion which was considered by SEAC, which forms part of the official record of proceedings of the SEAC meeting. Therefore, his opinion in the form of a report is attached as an annexure to the SEAC minutes as referred above. SEAC and SEIAA take decisions based on the material which is provided to them and which is treated as official record. They do not get themselves influenced by other extraneous considerations. What Mr. Surve would have spoken otherwise cannot be commented upon by the SEAC and SEIAA and it won't have any bearing on the decision making process of SEAC and SEIAA. SEAC in its meeting has considered the letter dated 31st January, 2023 and 18th April, 2023 by the Appellant.

27. The Appellant has further alleged from para 57 to 62 that there is non-compliance with material conditions imposed by SEAC.

28. In reply it is submitted that SEAC asked PMC to submit information on 18 various points and subject to compliance recommended the Proposal to SEIAA for grant of prior EC. Copy of SEAC MoM held between 12th to 14th June, 2023 is annexed as ANNEXURE-6.

29. SEIAA conducted their meeting on 7th November 2023 and observed the compliances submitted by PMC to the 18 points as raised by SEAC. During the meeting, SEIAA observed:

- a. As most of the above points (SEAC Compliances) are highly technical in nature they will require detailed evaluation. PP to submit compliance of the 18 listed requirements.



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- b. Hydraulic and Hydrology study/report is thoroughly vetted/analyzed by CWPRS and CWPRS should specifically comment on -
- a. whether after channelization would there be rise in river flooding events in Pune city as well as Pluvial floods beyond both the banks of the rivers.
 - b. whether after channelization at the confluence of Mula Mutha river would there be rise in river flooding events.
 - c. whether 100 years floods data has been considered while computing the flood levels.
 - d. as one of the foremost objectives of the project is to, "Reduce the risk of flooding". Specific clarification on this should be given including phase wise targets and likely milestones.
 - e. conformation to Indian Standards Codes for all works including embankments.
 - f. whether GoI climate change scenarios and particularly conclusions of TERI that there would be 37.5% rise in annual rainfall with reduced number of rainy days i.e., more frequent cloud bursts is considered.
- c. Detailed component for "Cleaning of Mula Mutha River" to be included.
- d. Detailed IOD of Pune Municipal Corporation, Irrigation Department NOC, Storm Water Drain NOC, SWM NOC, Sewerage Department NOC, and Fire NOC to the project.



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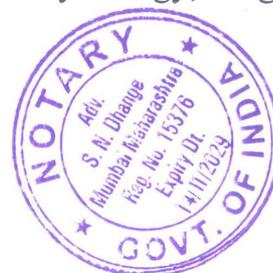
PMC IOD shall include all existing structures to be retained or demolished (Bridges and road, Ghats etc.), detailed built up area as well as construction area to include all elements of construction i.e. retaining walls, other retaining structures bunds barrages etc. and allied service structures.

SEIAA after deliberation decided to defer the compliance of the above points. Copy of PMC compliances to the SEAC points and the SEIAA 270th MoM dated 07.11.2023 are collectively annexed as ANNEXURE-7.

30. SEIAA further considered the Proposal in their meeting held on 13th August 2024 and noted the compliances submitted by the PMC. SEIAA also considered the certified compliance report for the present project which was submitted by the Regional Office of MoEF&CC, Nagpur.

31. PP further submitted that, the current sewage generation is approximately 1036 MLD against which 974 MLD will be treated by existing STP of PMC and JICA's proposed STP. For treatment of the remaining approximately 62 MLD, there are 330 Nos of private STP's of varying capacities functioning across Pune City. SEIAA noted the same and asked PP not to rely on Private STPs and to install additional STPs. SEIAA asked PP to submit an undertaking to that effect. PP submitted the same dated 14.08.2024.

32. Considering the complicated nature of the project, SEIAA asked PP to appoint experts in the field of hydrology, irrigation and



trees and submit the status report on a monthly basis to them. PP agreed to the same.

33. SEIAA also asked PP to submit undertaking regarding accepting and implementing the conditions of SEAC. PP submitted the same dated 30.07.2024.

34. SEIAA also observed that, PP has proposed the total BUA of 8664 m² i.e. non FSI.

35. After detailed deliberation, SEIAA decided to grant Environment Clearance to the proposal subject to compliance of following conditions –

- a. PP to install additional STPs to treat the additional sewage remaining after treatment in the existing STP of PMC and JICA's STPs. PP not to rely on private STPs.
- b. PP to appoint experts in the field of hydrology, irrigation and tree and submit the status report on a monthly basis to them.
- c. PP to strictly follow all the conditions of SEAC.

36. Accordingly, SEIAA decided to grant the impugned EC to PMC.

37. The Appellant further alleges in para 63 to 67 that the additional conditions imposed by SEIAA vide meeting dated 07.11.2023 are not complied. In response it is submitted that with regard to the SEAC compliances, the explanation is already given above, CWPRS opinion and their decision has already been explained above in para 19 to 20, and with regards to the aspect of Hydrology and Hydraulics, opinion of Mr. Avinash Surve has been discussed below. In response to non compliance of SEIAA conditions in the meeting dated 07.11.2023 it is submitted that as



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far as the observations in para 2 of the SEIAA deliberations, SEIAA opined that CWPRS has to comment upon the 6 points (a to f). The PMC on 19.01.2024 requested CWPRS to give clarification on the aspect of Hydrology and Hydraulics. CWPRS replied to PMC 25.01.2024 and conveyed their views to the PMC. Further, CWPRS has nominated an expert vide their letter dated 10.02.2025 to the PMC and the PMC has appointed the said expert. Copy of PMC letter dated 19.01.2024 to CWPRS is attached as ANNEXURE-8 and copy of CWPRS letter to PMC dated 25.01.2024 is attached as ANNEXURE-9.

38. The PMC applied to SEAC-3 on 23rd March 2023 for grant of amended EC in reference to the reply dated 11th January 2023 given by SEIAA to PMC. Copy of PMC letter dated 23rd March 2023 alongwith the Application form is collectively annexed as ANNEXURE-10.

39. SEAC-3 considered the proposal of PMC in their meeting held between 12th to 14th June 2023 and observed that the application for prior Environmental Clearance (For Area Development) for proposed Pune River Rejuvenation Project with total plot area of 8200000 sq.mt, FSI area of Not Applicable, Non FSI area of 8664 sq.mt., project category 8 (b) – B1 Category As per Schedule of EIA Notification, 2006.

40. The Committee noted the concerns raised regarding the project through following:

- a. Letter received to SEAC and SEIAA by Mr Sarang Yadwadkar, on 31st January, 2023 and 18th April, 2023.



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- b. Judgment of Hon'ble National Green Tribunal (WZ) dated 29.11.2022 in the Appeal No. 12/2020.
- c. Original Application filed by Mr Sarang Yadwadkar raising the issue of felling trees by Pune Municipal Corporation (Respondent No. 1) for the Mula, Mutha, Mula- Mutha Riverfront Development Project in Pune.

41. The committee noted that following stretches of two rivers (i.e. Mula and Mutha) are involved in the proposal under consideration:

- a. Mula River: Mumbai-Pune Bypass to Sangam Bridge (22.2 Km).
- b. Mutha River: Mumbai-Pune Bypass to Mula-Mutha Sangam (10.4 Km).
- c. Mula-Mutha Sangam to Kharadi (11.8 Km).

42. In order to comply with the Judgment of Hon'ble NGT and to cover the aspects of irrigation / water resources and hydrology in the aforementioned points, **Mr Avinash Surve, Ex - Secretary, Water Resources Dept, Govt. of Maharashtra** was invited as an expert for the meeting during appraisal of the aforesaid proposal. Mr Avinash Surve attended the meeting and had sought time of 10 days which was granted by the Committee.

43. His observations related to Hydrology and River Channel Hydraulics study are as follows -

- a. For the hydraulics analysis, HEC-RAS program developed by the Hydrologic Engineering Center, U.S. Army Corps of Engineers is used which is worldwide accepted for River Hydraulics. HEC-RAS is a



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mathematical modeling computer program for water surface profile for open channels in project reach.

- b. Every year during floods of any magnitude, whenever River water level rises above outfall levels of Natural nallas or storm water drains or drainage pipes, due to backwater effect of fluvial floods (floods in Rivers) the same water level will be achieved in Nallas and pipes, which will create inundation in urban areas. It is suggested to plan flood protection works such as critical confluences as a part of the RFD project.
- c. Effects of dismantling of suggested bridges and cross weirs and streamlining of river profiles shall definitely help in lowering Fluvial flood levels and shall help in reducing inundation caused due to back water if any.
- d. During high floods, River Gauge periodic observations at every specified stations along the entire length of the river within the project area shall be recorded every year.
- e. Considering those observations, the River channel hydraulic characteristics shall be reviewed and any modification if required shall be incorporated in the project subsequently.
- f. The riprap or pitching work shall be designed to envisage velocity and design discharge thereby ensuring 'n' values considered in the design.
- g. There will be further improvement in 'n' value in proposed scenario considering streamlined and well profile surface of embankments which will further decrease the present



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estimated HFL. However the encroachments in river cross-sections shall be minimal and surface transitions, slope transitions be planned instead of attempting same cross sections in a stretch, this will help in accommodating flood lifts in transitions of flows.

- h. The adequacy of the proposed barrages is found in line with the project requirement, however the barrages will be designed in such a way that no obstructions will be created and sufficient flow section shall be provided to avoid flood lift. Before the execution stage, design shall be vetted by competent authority.

44. Dr. Avinash Surve suggested the following suggestions after site visit and sample stretch:

- a. During Monsoon even if there are no much floods in rivers due to existing dams and controlled releases from upstream reservoirs, now a days high intensity short duration events like 2019 pluvial floods , (floods in city area due to direct surface runoffs and natural drainages in city area) are occurring frequently, hence after raising embankments above ground levels, the arrangements for storm water drains must be ensured with planning of connecting surface water to nearest nalla/ drains and direct surface access towards rivers must be ensured with provision of water entry points in design of parapet walls and raised embankments. To avoid such city surface runoff inundations, thought must be given to limit height



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of embankments wherever possible and avoid embankments above the ground level.

- b. Proposed trails on sloping portions of embankment shall be designed in such a way that it shall allow the movement of water to flow during high flood time and not create obstructions.
- c. PMC to monitor the flood discharge levels at every 100m in the executed stretches and monitor the same at every 1km for the remaining project length during the flood periods.
- d. Understanding that the high flood (i.e., 100-year flood) may occur for very few days of the year, therefore reduction in height of embankments raised above ground shall be considered wherever possible.
- e. The stone rip rap shall be placed in the paneling form to sustain the sudden draw-down hydraulic conditions during floods.
- f. PMC shall ensure the specified density of the boulders in rip rap to avoid flying of stones due to the flood pressures and negative suctions.

45. Accordingly, Mr. Surve concluded his report as under:

- a. The Hydrology and Hydraulics report is thoroughly reviewed for the entire catchment area considering upstream of the dam, free catchment of all rivers up to project end.

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- b. It has been also vetted and checked by CWPRS in the year of 2017 and cleared by Irrigation Department in the year of 2021.
- c. Aspects of upgradation, alteration and addition of new barrages have been thoroughly reviewed and the same are even considered in the HEC-RAS model also. These Barrages shall not act as dam but as water diversion and retention structure. Barrages proposed are having automatic gates with sill levels at river bed, hence shall have no impact on bio-diversity.
- d. Suitable provision of free board is also mentioned and considered in calculations shall help to contain any change in rainfall pattern within river prism with constructed embankment.
- e. Overall, there is no likely aggravation of floods considering the existing HFL and proposed embankment. Hence, there will be no rise in flood levels due to the project, subject to timely dismantling of existing bridges and obstructions in the river as envisaged in hydraulic design of river channel.
- f. Red lines and blue lines levels will not change here, however the discharges defined by Irrigation Department corresponding to Red line and Blue line shall flow within the river prism. No deepening of the riverbed is proposed while minor cutting necessary for profiling of embankment as per required hydraulics are taken into consideration.

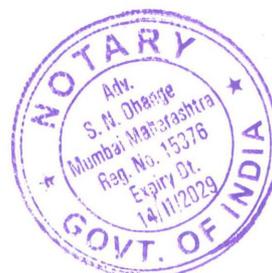


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- g. Suitable action required for the bridges are mandatory for improving the conveyance carrying capacity of river.
- h. Re-charging of ground water if any shall take place at longer run after the construction of embankment. The permeable material used for embankment shall help for percolation of water.
- i. Proper care in hydraulic design has been taken for Confluence effect at Sangam of Mula and Mutha.
- j. There will be positive impact in reducing the 'n' value , post construction of embankment. However in the report on safer side 'n' value is taken as 0.03.
- k. The cross section of embankment have been thoroughly reviewed in drawing as well as on site, the total material of embankment is kept permeable with use of natural elements only. Toe wall made of Plum Concrete/PCC is used in minimalistic manner to retain the earth and embankment edges.

46. Accordingly, SEAC observed that: Hence looking at the overall conclusion and suggestions, the Hydrology and Hydraulics report is reviewed. The report is found OK for further action. Project Proponent shall also take note of necessary suggestions and implement them during actual execution at site and submit timely compliances as needed for the overall benefit of the project. Copy of the report submitted by Mr. Avinash Surve, former Secretary, Water Resources Department is attached as ANNEXURE-11.

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47. The Appellant has alleged in para 68 to 70 that his concerns were not addressed by SEAC, in reply it is submitted that during deliberations letters addressed by the Appellant dated 31st January, 2023 and 18th April, 2023 were considered by SEAC and the same is noted in SEAC minutes dated 07.11.2023 and in SEIAA minutes dated 13.08.2024.

48. Grounds A to S are already dealt in the foregoing paragraphs of this reply affidavit.

49. SEIAA, while grant of the impugned EC, has followed the procedure as given under the EIA Notification, 2006 and as per the circulars, notifications, guidelines, office memorandums, issued by the MoEF&CC from time to time. There are no procedural irregularities in the grant of the impugned EC. Hence, it is kindly prayed that the appeal may be rejected.

50. In light of the above averments, this respondent craves leave to file any additional reply as and when required. It is respectfully prayed that the Environment Department shall abide by any orders and directions issued by the Hon'ble Tribunal.

Whatever is stated above is true and correct to the best of my knowledge, ability and belief and I affirm it to be true.

Mumbai

Date

07 AUG 2025


Dattatray Suryakant Bhalerao
Scientist I & Deputy Secretary,
Environment & CC Department,
Government of Maharashtra



VERIFICATION

I, Dattatray Surayakant Bhalerao, Scientist I & Deputy Secretary, Environment and Climate Change Department, Government of Maharashtra, having my office address 15th Floor, New Administrative Building, Mantralaya, Mumbai – 400 032 do hereby verify and declare that the statements made in the aforesaid paras are true and correct to the best of my knowledge and information and I believe the same to be true and that no material is has been concealed therefrom.

Solemnly affirmed on this _____ day of _____, 2025 at Mumbai.

07 AUG 2023



Dattatray Suryakant Bhalerao
Scientist I & Deputy Secretary,
Environment & CC Department,
Government of Maharashtra

BEFORE ME

Adv. S. N. Dhange
Notary Govt. of India
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NOTED & REGISTERED
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STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY

SEIAA -2023/CR- 1/SEIAA
Environment & Climate
Change Department,
217(Annex), Mantralaya,
Mumbai- 400 032.
Date: 11.01.2023

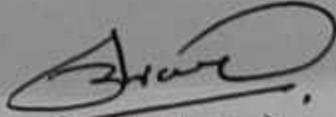
To,
Chief Engineer (Project),
Office of Municipal Commissioner,
Pune Municipal Corporation,
Shivajinagar, Pune-5.

Sub: Regarding Amendment in EC granted vide no SEIAA-EC-0000002088,
dated 16.11.2019

- Ref: 1. Letter received from Chief Engineer, Pune Municipal Corporation vide
outward no 3051, dated 28.12.2022.
2. Environment Clearance no SEIAA-EC-0000002088, dated 16.11.2019.
3. Hon'ble NGT order dated 02.11.2022 in the appeal no 12 of 2020 (WZ)

This has reference to your above referred letter requesting provision of format
for amendment in EC dated 16.11.2019 as per Hon'ble NGT order dated 02.11.2022. In
this regard, it is informed to you that, MoEF&CC has made it mandatory to use
parivesh portal for grant of Environment Clearance/ amendment. Hence, you are
requested to apply online on parivesh portal under amendment category

This letter is issued with the approval of Secretary (Env. & CC) & Member
Secretary, SEIAA.


(D. S. Bhalerao)
Scientist-II,
Govt. of Maharashtra

ANNEXURE-2

Item No.2

(Pune Bench)

**BEFORE THE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE**

(By Video Conferencing)

EXECUTION APPLICATION NO.13 OF 2022 (WZ)
IN
APPEAL NO.12 OF 2020 (WZ)

Sarang Yadwadkar and Another Applicants

Versus

Pune Municipal Corporation and others Respondents

Date of hearing: 04.01.2023

**CORAM: HON'BLE MR. JUSTICE DINESH KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. VIJAY KULKARNI, EXPERT MEMBER**

Applicants : Mr. Ritwick Datta, Advocate with Applicant No.1 in person

Respondents : Mr. Rahul Garg, Advocate for R-1 and R-4
Mr. Aniruddha Kulkarni, Advocate for R-2**ORDER**

1. This Execution Application has been filed for direction to be issued to respondent No.1 – Pune Municipal Corporation to immediately stop all construction activities undertaken by them for River Front Development Project of Mula, Mutha and Mula-Mutha rivers; further it is prayed that penalty be imposed on respondent No. 1 for willful violation of the judgment dated 29.11.2022 passed by this Tribunal in Appeal No.12 of 2020. Reliance has been placed on the operative part of the said judgment dated 29.11.2022, which reads as follows:-

“49. Despite lacunae in TOR, MOM and project description in EC letter, we find that overall system has enabled impact identification, assessment, preparation of EMP and recommending appropriate additional measures as EC conditions. EIA is an evolving process. MoEF&CC vide OM dated 11th June 2018 in order to streamline various processes in granting EC has issued Form-4 for seeking Amendment in Environmental Clearance by submitting information on amendment in configuration/Amendments in clearance conditions with reasons for seeking amendment. As this is public interest project, the PP has

carried out all required studies, and SEAC/SEIAA have duly apprised the proposal before recommending/granting EC, we do not find it necessary to set aside the EC, however, we hereby direct the PP to approach SEIAA for amendment of EC both in the terms of project scope and additional EC conditions to be stipulated, if any, before proceeding to start any construction activity. We dispose of Item Nos.1 and 2 accordingly.”

2. It is submitted by the learned counsel for the applicants that in spite of the said order, the construction work is going on in full swing which would lead to degradation of the ecology of the area and the same is being done in violation of the said order.

3. From the side of respondent No. 1 – Pune Municipal Corporation, the reply-affidavit has been filed wherein in paragraph no.8, it has been submitted that prior to passing of the judgment dated 29.11.2022 by this Tribunal, already two Work Orders dated 02.03.2022, reference Outward Nos.3164 and 3167 were issued and the work under the said Work Orders had commenced during the pendency of Appeal No.12 of 2020. The details of the works which were being undertaken have also been given in the said paragraph in clauses (a) to (d).

4. It is further submitted by respondent No.1 that no stay was granted on the commencement of the work during pendency of Appeal No.12 of 2020 despite the fact that I.A. No.105 of 2021 had been moved from the side of the applicants seeking ad-interim stay. Therefore, it is argued by the learned counsel for respondent No.1 that if the work which is going on pursuant to the earlier Work Orders dated 02.03.2022 is directed to be stopped, that would entail financial loss to the answering respondent – Pune Municipal Corporation. Further it is argued that no new Work Order has been placed by respondent No.1 – PMC subsequent to the passing of the judgment dated 29.11.2022 by this Tribunal.

5. Our attention is also brought to the fact that respondent No.1 – PMC, pursuant to the judgment dated 29.11.2022, has moved an

application dated 28.12.2022 before the Member Secretary, SEIAA seeking amendment in Environmental Clearance (EC) granted on 16.11.2019 wherein it has been submitted that respondent No.1 – PMC is not changing the original scope of work. However, as per the direction of the NGT, the format may be provided to them in which details of the project may be submitted for consideration by SEIAA. The learned counsel for respondent No.1 – PMC has, after having drawn our attention to this letter, states that till date, they have not been provided any format in which the amendment in E.C. may be prayed for. As of now, there does not exist any standard format for the same because of which the delay is occurring. They have yet not received reply from SEIAA in response to their letter dated 28.12.2022.

6. From the side of respondent No.2 – SEIAA, learned counsel Mr. Aniruddha Kulkarni is present. He states that this letter of respondent No.1 dated 28.12.2022 would be responded by SEIAA within seven days positively and that at least 8 to 12 weeks would be taken for issuing the amended E.C. by the SEIAA after submission of the application by respondent No.1 – PMC with that prayer, as the entire procedure has to be followed,

7. We are of the opinion that the prayer made by the learned counsel for the applicants that respondent No.1 – PMC should be directed to stop all construction activities would entail financial loss to them which can be avoided, particularly in view of the fact that we have not quashed the E.C. and have permitted respondent No.1 to approach the SEIAA for seeking amended E.C. But that has to be done on priority basis. It is apparent that respondent No.1 – PMC has already approached respondent No. 2 – SEIAA seeking format to be made available on which they have to apply for amended E.C. as no such format exists as of now. We, therefore, direct respondent No.2 – SEIAA to provide the appropriate

format within one week to respondent No.1 – PMC and within two weeks thereafter, the application in such format would be moved by respondent No.1 – PMC before the SEIAA seeking amended E.C. We direct respondent No. 2 – SEIAA to complete within further four weeks the proceedings of issuing the amended E.C. required in the present matter.

8. We hope that the above time-schedule shall be followed by the authorities as directed by us in letter and spirit so that no further delay occurs. We further make it clear that no new Work Order would be issued by respondent No.1 – PMC for raising construction of any kind till the amended E.C. has been obtained by them.

9. With above directions, we dispose of this Execution Application.

Dinesh Kumar Singh, JM

Dr. Vijay Kulkarni, EM

January 04, 2023
E.A. No.13 of 2022 (WZ)
Npj

ANNEXURE-3

Item No: 5

(Pune Bench)

**BEFORE THE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE**

[Through Physical Hearing (with Hybrid Option)]

ORIGINAL APPLICATION NO.79 OF 2024 (WZ)

Sarang Yadwadkar & Anr.

.... **Applicants****Versus**

Pune Municipal Corporation & Ors.

....**Respondents**

Date of Hearing : 20.08.2024

**CORAM : HON'BLE MR. JUSTICE DINESH KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. VIJAY KULKARNI, EXPERT MEMBER**

Applicants : Mr. Ritwick Datta, Advocate

Respondents : Mr. Rahul Garg, Advocate for R-1/PMC
Executive Engineer, Khadakwasla Irrigation Department
Mr. Aniruddha Kulkarni, Advocate for R-2 and R-4**ORDER**

1. From the side of respondent No.1/PMC, learned counsel Mr. Rahul Garg has appeared and states that the study on 18 points as mentioned in our previous order dated 24.04.2024 has already been conducted/complied with. The matter is under consideration before respondent No.4 – SEIAA as to whether amended EC should be granted. He submits that he may be allowed four weeks' time to file the reply-affidavit indicating therein all the details of the study conducted and outcome of the SEIAA. It is also apprised that the work which is going on at the site is pursuant to the work orders issued in March, 2022 and it has been orally apprised that there were two work orders, out of which one was to be completed within 30 months which would expire in September, 2024 and the other was to be completed within 36 months. But these work orders are not placed on record.

2. From the side of respondent No.2 – Environment and Climate Change Department, State of Maharashtra and respondent No.4 – SEIAA, learned

counsel Mr. Aniruddha Kulkarni has appeared and states that the matter is under consideration before SEIAA. He further states that he has not been served copy of the Original Application and other documents. Therefore, we direct learned counsel for the applicants to serve a copy of the O.A. and other relevant documents today through e-mail and reply would be filed within four weeks. We expect that by that time, SEIAA will take final decision in the matter.

3. The learned counsel for the applicants states that the applicants have also filed additional affidavit dated 17.08.2024, wherein our attention is drawn to paragraph Nos.4 to 7 in which emphasis has been laid that due to reduction in cross-section of river due to construction in question, there is reduction in the flood carrying capacity of the rivers, which is leading to huge flooding in the area. A copy of this additional affidavit has already been served on all other parties. The learned counsel for respondent Nos.1, 2 and 4 may file their reply to the same along with the reply to the main application.

4. From the side of respondent No.3, the Executive Engineer, Khadakwasla Irrigation Department has appeared and seeks time to file the reply. Four weeks' time is allowed for the same.

5. Put up this matter for next consideration on 19.09.2024.

Dinesh Kumar Singh, JM

Dr. Vijay Kulkarni, EM

August 20, 2024
O.A. No.79 OF 2024(WZ)
npj



भारत सरकार/ Government of India

जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय

Ministry of Water Resources, River Development & Ganga Rejuvenation

केन्द्रीय जल तथा विद्युत अनुसंधान शाला

Central Water and Power Research Station

खडकवासला, पुणे - 411024 / Khadakwasla, Pune 411024

Tel.: +91 20 2410 3378, 2410 3200, Fax: +91 20 2438 1004

E-mail: cro_tc@cwprs.gov.in, Website: www.cwprs.gov.in

संख्या: 520/Mula-Mutha-RFD/HMET/2017/725

दिनांक: December, 2017

26.12.17

सेवा में,

Shri Srinivas Bonala
Chief Engineer
Pune Municipal Corporation
Sawarkar Bhavan
Shivajinagar, Pune - 411 005

विषय: Vetting of Studies on Hydrology and Hydraulics of Mula-Mutha River for River Front Development Project of PMC at Pune

Ref.: 1. PMC letter No.: Nil dated 29.09.2017
2. Letter from PMC No. PMC/2399 dated 05 December 2017

Sir,

CWPRS have examined the hydrology and hydraulics report on Mula-Mutha river in context of River Front Development (RFD) planning as requested by PMC. The observations and suggestions of CWPRS during the course of interaction in this regard were addressed by the consultants of PMC. In principle, the report has taken into consideration the requisite aspects. CWPRS being the premier research institute in hydraulics and conducting research in water resources development and water borne transport has also made an observation on the river ecology as the issue to be tackled for the post RFD scenario and the same was communicated to PMC. It appears that, this issue is also being addressed by PMC in a comprehensive manner under the umbrella of JICA report on Mula-Mutha.

In light of the above facts, CWPRS clears the report on hydrology and hydraulics of Mula-Mutha as regards RFD project.

This issues with the approval of Director, CWPRS.

भवदीय,

डी. व. रमेश
26/12/2017

डॉ. सी. रमेश

साइंटिस्ट-८ (ज.मौ.वि.)



भारत सरकार / Government of India
 जल शक्ति मंत्रालय / Ministry of Jal Shakti
 जल संसाधन, नदी विकास और गंगा संरक्षण विभाग
 Department of Water Resources, River Development and
 Ganga Rejuvenation
 केन्द्रीय जल और विद्युत अनुसंधान शाला
 खडकवासला, पुणे - 411 024
 CENTRAL WATER & POWER RESEARCH STATION
 Khadakwasla, Pune - 411 024



संख्या: TC/2021/ 183

दिनांक: 05th April 2021

Shri S. V. Yadwadkar
 A-10, Pradnyangad,
 S.No. 119/3 Sinhagad Road
 Pune - 411030
 yadwadkarsarang@gmail.com

05 APR 2021

Sub.: Impact of the proposed River Front development (RFD) project on flood levels in Pune.

- Ref.: 1. Letter to CE(Projects), PMC, No. 520/RFD-PMC/2017/HMET/213 dated 06.04.2017
 2. Letter to CE(Projects), PMC, No. 520/Riverfront/PMC/HMET/2017/441 dt -27.07.2017
 3. Letter to Shri Srinivas Bonala, CE, PMC, No. 520/Mula-Mutha- D/HMET/2017/725 dt-26.12.2017
 4. Your letters No. nil dated 25.2.2021 and 22.3.2021

Dear Sir,

Central Water and Power Research Station undertakes various studies based on the facts in the form of data submitted by the project authorities or in some cases collected from local and central agencies (Viz. IMD). Studies suggest / recommend practically feasible, economically optimal and environmental friendly solutions to the problem. The input data given or submitted, define the river during the study. The study results are unbiased and based only on the facts in the form of input data needed for the studies. If some project is delayed and input conditions change over the period, CWPRS may not be able to change its recommendations on its own as the facts may not have come to the knowledge of CWPRS. Moreover, the completed studies in respect of the same cannot again be reopened by CWPRS. The working pattern of CWPRS is as per the guidelines issued by the MoJS, DoWR, New Delhi. The concerned project authorities have to approach CWPRS for reassessment in such cases where there is a major variation over the time in the input facts / data and when they suspect the optimal solution could be different from the one suggested due to old data.

In particular case of RFD work of PMC, CWPRS was requested by PMC to examine hydrology and hydraulics report prepared by the HCPDPM. The PMC requested to verify that the prepared report is in line and to suggest if anything more is needed. The same is indicated in the letter issued by CWPRS. CWPRS did not conduct any study for RFD of PMC but suggested to take care of some

टेलीफोन : 020-24103378

ई-मेल : cwpr_to@cwpr.gov.in

फैक्स : 020-24381004

वेबसाइट : www.moj.gov.in, www.cwpr.gov.in

dc

issues in the matter (Ref. letter 1 & 2 under reference above). The same is clear from the letter submitted by CWPRS. Moreover, CWPRS is not clearing authority in the matter as indicated in your letter.

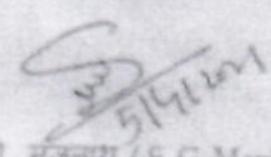
As CWPRS has not conducted or undertaken the study for RFD work of PMC, there is no way it can ask PMC to review the study that it did not conduct at the first instance, PMC may take decision in this regard, if it finds it necessary or warranting, detailed study in this regard may be referred to CWPRS. In view of the same your concerns may be addressed to PMC at appropriate level.

Thanking you.

निदेशक, के.ज.और वि.अ.शाखा के अनुमोदन से यह जारी किया गया है।

धन्यवाद,

भवदीय,


(एस. जी. मंजुनाथ / S. G. Marjunatha)
वैज्ञानिक ई (तकनीकी समन्वय)
Scientist 'E' (Technical Co-ordination)
For Director, CWPRS

- Encl: 1. Letter to CE(Projects), PMC, No. 520/RFD-PMC/2017/HMET/213 dated 6.4.2017
2. Letter to CE(Projects), PMC, No. 520/Riverfront/PMC/HMET/2017/441 dated 27.7.2017
3. Letter to Sri Srinivas Bonala, CE, PMC, No. 520/Mula-Mutha-RFD/HMET/2017/725 dated 26.12.2017
4. Your letters No. nil dated 25.2.2021 and 22.3.2021

Copy to: Chief Engineer (Projects), Pune Municipal Corporation, Savarkar Bhavan, Shivajinagar, Pune - 411005 for kind information along with all enclosures as above.

o/c

Minutes of 174th SEAC-3 Meeting Scheduled on 12th, 13th & 14th June, 2023 through Video Conference

Maharashtra SEIAA directed SEAC-3 to appraise the proposals by using information technology facilities. Hence, SEAC-3 initiated to appraise the proposals received by the SEIAA through Videoconferencing technology on Zoom platform from **12th, 13th & 14th June, 2023**

| | | |
|--------------------------------|------------------------------------|---|
| Dr. Deepak Mhaisekar, IAS Rtd. | Chairman | 12 th , 13 th & 14 th June, 2023 |
| Shri Mukund Pathak | Member | 12 th , 13 th & 14 th June, 2023 |
| Shri Dattatray Thorat | Member | 12 th , 13 th & 14 th June, 2023 |
| Shri Kiran Acharekar | Member | 12 th , 13 th & 14 th June, 2023 |
| Dr. Aseem Gokarn Harwansh | Member | 12 th , 13 th & 14 th June, 2023 |
| Mr Avinash Surve, | Special invitee for item no. 40 | 14 th June, 2023 |
| Shri Joy Thakur | Secretary | 12 th , 13 th & 14 th June, 2023 |

Chairman welcomed the members to the **174th SEAC III Meeting**.

Member Secretary

Chairman

| | | |
|-----------|---------------------------------------|--|
| 40 | SIA/MH/INFRA2/424 828/2023 | Pune River Rejuvenation Project by PUNE MUNICIPAL CORPORATION |
|-----------|---------------------------------------|--|

Representative of PP was present during the meeting along with environmental consultant M/s. Fine Envirotech Engineers

It is noted that, the PP has submitted the application for prior Environmental Clearance (For Area Development) for proposed Pune River Rejuvenation Project with total plot area of 8200000 sq.mt, FSI area of Not Applicable, Non FSI area of 8664 sq.mt.

Brief information of the proposal is as below:

| | | | |
|-----|-------------------------|--|---|
| 1. | Proposal Number | SIA/MH/INFRA2/424828/2023 | |
| 2. | Name of Project | PUNE RIVER REJUVENATION PROJECT | |
| 3. | Project category | 8 (b) – B1 Category As per Schedule of EIA Notification, 2006 | |
| 4. | Type of Institution | Government | |
| 5. | Project Proponent | Name | M/s. PUNE MUNICIPAL CORPORATION |
| | | Registered Office address | PMC building, near Mangla theatre, Shivajinagar, pune, Maharashtra – 411005 |
| | | Contact number | 25501103 |
| | | e-mail | puneriverprojects@gmail.com |
| 6. | Consultant | M/s. Fine Envirotech Engineers | |
| 7. | Applied for | Expansion/ Amendment | |
| 8. | Details of previous EC | Environmental Clearance Obtained Dated: 16th November, 2019 EC Reference No: SEIAA-EC-0000002088 | |
| 9. | Location of the project | Three River: • Mula River: Mumbai-Pune Bypass to Sangam Bridge (22.2 Km). • Mutha River: Mumbai-Pune Bypass to Mula-Mutha Sangam (10.4 Km). • Mula-Mutha River: Mula-Mutha Sangam to Kharadi (11.8 Km). | |
| 10. | Latitude and Longitude | Latitude: 18°31'49.84"N and Longitude: 73°51'36.78"E | |
| 11. | Total Plot Area (m2) | 8200000 sq.mt. | |
| 12. | Deductions (m2) | Not Applicable | |
| 13. | Net Plot area (m2) | 8200000 sq.mt. | |

Member Secretary

Chairman

| | | | | | |
|--------------|---|---|--|-----------------------|----------------------------------|
| 14. | Proposed FSI area (m2) | Not Applicable | | | |
| 15. | Proposed non-FSI area (m2) | Not Applicable | | | |
| 16. | Proposed TBUA (m2) | 8664 sq.mt. | | | |
| 17. | TBUA (m2) approved by Planning Authority till date | Not Applicable | | | |
| 18. | Ground coverage (m2) & % | 32000000 (39%) | | | |
| 19. | Total Project Cost (Rs.) | Rs. 4700 Crores | | | |
| 20. | CER as per MoEF & CC circular dated 01/05/2018 | Activity | Location | Cost (Rs.) | Duration |
| | | OM dated 30.9.2020 U/n F. No- 22 65/2017.IA.III supersedes earlier OM under even number dated 1st May, 2018 regarding guidelines in respect to CER. | | | |
| 21. | Details of Building Configuration : | | | | Reason for Modification / Change |
| | <Please use following legends: Floor = F, Parking = Pk, Podium = Po, Stilt =St, Lower Ground = LG, Upper Ground = UG, Basement = B, Shops = Sh> | | | | |
| | Previous EC | | Proposed Configuration | | |
| | Building Name | Total Area (sq.m.) | Building Name | Total Area (sq.m.) | |
| | Toilet | 0 | Toilet | 624 | |
| | Kiosk and food court | 0 | Kiosk and food court (30% of food court) | 3000 | |
| | Security room | 0 | Security room | 540 | |
| | Ticket counters | 0 | Ticket counters | 150 | |
| | Site office | 0 | Site office | 210 | |
| | Utility rooms/ Storage rooms | 0 | Utility rooms/ Storage rooms | 3600 | |
| Janitor Room | 0 | Janitor room | 540 | | |
| 22. | Total number of tenements | Not applicable | | | |
| 23. | Water Budget | Construction Phase (CMD) | | Operation Phase (CMD) | |
| | | Fresh Water | 220 | Fresh Water | 180 |
| | | Recycled (Flushing) | 0 | Recycled (Flushing) | 0 |
| | | Recycled (Gardening) | 0 | Recycled (Gardening) | Nil |
| | | Swimming Pool | 0 | Swimming Pool | 0 |
| | | Total | 220 | Total | 180 |

Member Secretary

Chairman

| | | | | | |
|-----|--|---|---|--|------|
| | | Waste Water Generation | 63 | Waste Water Generation | 16.2 |
| | | Information (assumed 1000 Labour during construction phase & 1800-2000 M2 every day and construction phase is considered as 7 years) Domestic = 70 m ³ /day (@70 LPCD & supply at 1 common point) Construction = 150 m ³ /day | | Assuming 12000 floating population and 10% consumption Drinking Water Demand will be 36 KLD (@30 LPCD) Flushing Water Demand will be 18 KLD (@15 LPCD) | |
| 24. | Water Storage Capacity for Firefighting /UGT | Not Applicable | | | |
| 25. | Source of water | Pune Municipal Corporation, Pune | | | |
| 26. | Rainwater Harvesting (RWH) | Level of the Ground water table: | Pre-Monsoon: 20.4 m bgl Post Monsoon: 04 m bgl | | |
| | | Size and no of RWH tank(s) and Quantity: | Not Applicable | | |
| | | Quantity and size of recharge pits: | Not Applicable | | |
| | | Details of UGT tanks if any: | Not Applicable | | |
| 27. | Sewage and Wastewater | Sewage generation in CMD: | 16.2 | | |
| | | STP technology: | The sewage generated will be connected to existing and upgraded sewer networks to connect to STPs as proposed under JICA Proposal. | | |
| | | Capacity of STP (CMD): | The sewage generated will be connected to existing and upgraded sewer networks to connect to STPs as proposed under JICA Proposal.. | | |
| 28. | Solid Waste Management during Construction Phase | Type | Quantity (kg/day) | Treatment / disposal | |
| | | Dry waste | 60 | The waste generated will be segregated into biodegradable & non-biodegradable waste. The segregated waste then will be handed over to PMC facility | |
| | | Wet waste | NA | | |
| | | Construction waste | 8621450 m ³ | 69,59,600 m ³ of quantity to be utilized on site and 1661850 m ³ of quantity i.e. Open structures within the river bed | |

Member Secretary

Chairman

| | | | | |
|-----|---|--|---|---|
| | | | | acting as obstruction to flow of water, to be sent out of the site as per guideline issued under C& D Waste Management plan to Authorized landfill site/ collection centre of PMC. PMC has in-house facility for C&D waste conversion, hence the C&D waste shall be handed over to PMC for further utilization and disposal. |
| 29. | Solid Waste Management during Operation Phase | Type | Quantity (kg/day) | Treatment / disposal |
| | | Dry waste: | -- | The waste generated will be segregated into biodegradable & non-biodegradable waste. The segregated waste then will be handed over to PMC facility |
| | | Hazardous Waste: | NA | NA |
| | | Biomedical Waste | NA | NA |
| | | E-Waste | NA | NA |
| | | STP Sludge (dry) | NA | The sewage generated will be connected to existing and upgraded sewer networks to connect to STPs as proposed under JICA Proposal. |
| 30. | Green Belt Development | Total RG area (m2): | 2970000 sq.mt. | |
| | | Existing trees on plot: | 22150 nos. | |
| | | Number of trees to be planted: | 30000 nos. | |
| | | Number of trees to be cut: | 11000 nos. | |
| | | Number of trees to be transplanted: | 11150 no.s | |
| 31. | Power requirement: | Source of power supply: | MSEDCL and 11X615 transformers, as required | |
| | | During Construction Phase (Demand Load): | 5.5 MW | |
| | | During Operation phase (Connected load): | -- | |
| | | During Operation phase (Demand load): | -- | |
| | | Transformer: | 11X615 KvA transformers | |
| | | DG set: | NA | |
| | | Fuel used: | NA | |
| 32. | Details of Energy saving | Wherever possible Energy Saving by PV Solar Panels for common area lighting will be explored | | |

Member Secretary

Chairman

| 33. | Environmental Management plan budget during Construction phase | Type | Details | Cost/ Annum (Rs. In Lacs) | |
|-----|--|---------------------------------------|---|---|---------------------------------|
| | | Capital | Dust Suppression Measures & Barricading | 20 | |
| | | | Green Belt development | 1025 | |
| | | | Solid waste management facility | 50 | |
| | | | Environmental Monitoring | 15 | |
| | | | Occupational Health For Workers | 35 | |
| | | | Total | 1145 | |
| 34. | Environmental Management plan Budget during Operation phase | Component | Details | Recurring Cost per annum Rs. (INR in Lakhs) | Capital Cost Rs. (INR in Lakhs) |
| | | Water Pollution Control | Mobile STP Operation & Maintenance | 25 | 1500 |
| | | Environment Monitoring and Management | Monitoring charges for air, water, noise, soil etc. | 15 | -- |
| | | Green Belt development | Nil | 40 | 1020 |
| | | Solid waste Management | Nil | 20 | 300 |
| | | Swimming Pool | 1 Swimming Pool of capacity 300 cum | 140.45 | 10.0 |
| | | Solid Waste Management | Providing dustbins and collection facility | 65.0 | 23.0 |
| | | Occupational Health For Worker | Includes cost of medical checkup, PPE & first aid kit, first aid facility | 20 | -- |
| | | e-Waste | Nil | NA | NA |
| | | Energy Saving Measures | Nil | NA | NA |
| | | RWH | Nil | NA | NA |
| | | Swimming Pool | Nil | NA | NA |

Member Secretary

Chairman

| | | Total | 120 | 2820 |
|-----|--|--|-----|------|
| 35. | Traffic Management | Parking area is provided for the tourists visiting area after development. | | |
| 36. | Details of Court cases / litigations w.r.t. the project and project location if any. | EXECUTION APPLICATION NO.13 OF 2022 (WZ) IN APPEAL NO. 12 OF 2020 (WZ), BEFORE THE NATIONAL GREEN TRIBUNAL WESTERN ZONE BENCH, PUNE | | |

Deliberations:

PP stated that, the Pune Municipal Corporation (PMC) has taken up the River Rejuvenation Plan for three rivers in Pune Jurisdiction comprising of Mula, Mutha & Mula-Mutha rivers of 44km stretch. PP further stated that, they have received earlier Environmental Clearance (EC) from vide letter dated 16th November, 2019 for the project under 8(b) category i.e., Township and Area Development. There is no provision to obtain Environmental Clearance (EC) for River Rejuvenation project under EIA Notification, 2006, but, PMC only by way of abundant precaution applied for obtaining EC under Category 8(b), due to non-availability of applicable sector. PP further stated that, the project was then challenged at Hon'ble NGT in the year 2020. PP further stated that, the Hon'ble NGT vide their order dated 04.01.2023 in their appeal of 12 of 2020(WZ), directed PMC to approach State Environmental Impact Assessment Authority (SEIAA) for further clarification and consideration.

PP informed that, accordingly SEIAA vide their letter dated 11.01.2023, opined and informed that MoEF&CC has made it mandatory to use PARIVESH Portal for grant of Environmental Clearance/ amendment. hence, SEIAA suggested to apply online on PARIVESH Portal and continue the application under Expansion in Category 8(b) – B1 only.

PP stated that, the majority of river land i.e. 61% public land is under proposed river width and 30% under proposed types of flood mitigation embankments. However, the 9% remaining is divided for green development. PP informed that, the total remaining public land is identified for various uses. Primarily the remaining land has been distributed into three main categories like

- Public greens – This will include parks and gardens, open grounds and urban forests. It will contribute and add to the existing green cover of the city.

Member Secretary**Chairman**

- Public amenities and Utilities – This will include amenities such as temple ghats, visarjan facilities, parking areas, dhobi ghat, public plazas and food courts. Public amenities will ensure that the proposed riverfront is active, vibrant, viable and dynamic.
- Also, utilities like electric substations, pumping stations, toilets, drinking water facilities etc. are also proposed along the riverfront.

PP stated that, the land remaining, 68% is under public greens and 32% caters to public utilities and amenities. The project does not propose any real estate development anywhere within the project boundary.

| Name of product | Product/ By product | Quantity / Capacity | | | | Remarks |
|---|---------------------|---------------------|----------|-------|--------|---|
| | | As per Earlier EC | Proposed | Total | Unit | |
| Embankments | Product | 91 | 0 | 91 | km | The embankment types have been decided on the basis of land availability, immediate context and the hydraulics study. There are three types majorly i.e. Engineered, Urban riparian and rural riparian |
| Green embankment | Product | 180 | 67 | 247 | ha | The proposal includes landscaping on the sloped pitching of the urban and rural riparian |
| Pedestrian bridges | Product | 4 | 0 | 4 | Number | Pedestrian bridges have been proposed at strategic locations to improve pedestrian connectivity across river |
| Bridges across river | By-Product | 3 | 0 | 3 | Number | All the existing bridges shall be integrated with the proposed embankments. However, to improve the connectivity across the river new vehicular bridges suggested in the project shall be separately taken up by PMC and are not part of project block cost |
| Water retention techniques comprising of barrages | By-Product | 4 | 0 | 4 | Number | As per earlier EC, the project proposes water retention structures at the place of one check dam and one wier with advanced barrages with low crest level that do not act as an obstruction. Only one new barrage is proposed on the mutha river. Similarly, existing |

Member Secretary

Chairman

| | | | | | | |
|--|------------|----------------|----------------|----------------|--------|---|
| | | | | | | Bund Garden Barrage on Mula Mutha River will be retained and extended. The execution of barrage will happen separately |
| Public Amenities | Product | 16 | 7 | 23 | ha | Project involves development of public amenities as follows: 1. Temple ghats; 2. Parking; 3. Plaza; 4. Food Courts; 5. Crematoriums; 6. Utility |
| Urban infrastructure | Product | Not Applicable | Not Applicable | Not Applicable | NA | Project involves urban infrastructure development in the form of above-mentioned services at various locations comprising of lighting, storm water drainage, electrical, water supply connection, drinking water fountain, solid waste management, power supply arrangements. |
| Landscape comprising of gardens, urban forest and open grounds | Product | 45 | 5 | 50 | ha | Project involves development of park and garden at various locations. |
| Public access like staircase, ghats and ramps | Product | 342 | 0 | 342 | Number | Existing ghats will be refurbished Proposal includes: Staircase: 249 nos. Ghats: 74nos. and Ramps: 19nos. |
| JICA proposal | By-Product | Not Applicable | Not Applicable | Not Applicable | NA | The proposal would curb existing polluted outfalls from directly getting released into the river. The JICA proposal will be integrated with the proposed embankments. Additional 25km of interceptor lines are proposed. Also STPs proposed are part of JICA. |
| Interceptor work | Product | 40 | 48 | 88 | km | After the integration of the JICA proposal, the stretches that |

Member Secretary

Chairman

| | | | | | | |
|-----------|---------|-------|---|-------|--------|--|
| | | | | | | would require further intervention would be proposed with interceptor lines along the embankment. Additional 25km of Interceptor lines is proposed under JICA. |
| Earthwork | Product | 63100 | 0 | 63100 | Cum/km | The proposal includes earthwork along the entire stretch of 91km embankment |

The Committee noted the concerns raised regarding the project through following:

1. Letter received to SEAC and SEIAA by Mr Sarang Yadwadkar, on 31st January, 2023 and 18th April, 2023.
2. Judgment of Hon'ble National Green Tribunal (WZ) dated 29.11.2022 in the Appeal No. 12/2020.
3. Original Application filed by Mr Sarang Yadwadkar raising the issue of felling trees by Pune Municipal Corporation (Respondent No. 1) for the Mula, Mutha, Mula- Mutha Riverfront Development Project in Pune.

The committee noted that following stretches of two rivers (i.e. Mula and Mutha) are involved in the proposal under consideration:

1. Mula River: Mumbai-Pune Bypass to Sangam Bridge (22.2 Km).
2. Mutha River: Mumbai-Pune Bypass to Mula-Mutha Sangam (10.4 Km).
3. Mula-Mutha Sangam to Kharadi (11.8 Km).

In order to comply with the Judgment of Hon'ble National Green Tribunal and to cover the aspects of irrigation / water resources and hydrology in the aforementioned points, Mr Avinash Surve, Ex - Secretary, Water Resources Dept, Govt. of Maharashtra was invited as an expert for the meeting during appraisal of the aforesaid proposal. Mr Avinash Surve attended meeting and had sought time of 10 days which was granted by the Committee. He has submitted his report which is enclosed as **Annexure-I** along with the minutes.

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The case was discussed on the basis of the documents submitted and presentation made by the proponent. All issues relating to environment, including air, water, land, soil, ecology, biodiversity and social aspects were examined. The proposal is appraised as category 8(b) B1.

During discussion following points emerged:

1. PP to submit the Water quality monitoring results especially BOD values.
2. PP to submit the construction & demolition (C and D) waste quantification along with disposal plan
3. PP to submit the soil analysis report.
4. PP to submit the aquatic biodiversity report. Also, PP to submit the proposed Impact and mitigation measures for the same.
5. PP to submit the Hydraulics study or effect of RFD on natural storm water disposal into Mula- Mutha river.
6. PP to submit the phase wise timeline for project completion.
7. PP to submit the details of public utilities like public toilets, parking, visarjan ghats etc.
8. PP to submit the detail note of water carrying capacity of the river after the commencement of the project.
9. During Monsoon even if there are no much floods in rivers due to existing dams and controlled releases from upstream reservoirs ,now a days high intensity short duration events like 2019 pluvial floods , (floods in city area due to direct surface runoffs and natural drainages in city area) are occurring frequently , Hence after raising Embankments above ground levels, the arrangements for storm water drains must be ensured with planning of connecting surface water to nearest nalla/ drains and direct surface access towards rivers must be ensured with provision of water entry points in design of parapet walls and raised embankments. To avoid such city surface runoff inundations, thought must be given to limit height of embankments wherever possible and avoid embankments above the ground level.
10. Proposed trails on sloping portion of embankment shall be designed in such a way that it shall allow the movement of water to flow during high flood time and not create obstructions.

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11. PMC to monitor the flood discharge levels at every 100m in the executed stretches and monitor same at every 1km for the remaining project length during the flood periods.
12. Understanding that the high flood (i.e., 100-year flood) may occur for very few days of the year, therefore reduction in height of embankments raised above ground shall be considered wherever possible.
13. The stone rip rap shall be placed in the paneling form to sustain the sudden draw-down hydraulic conditions during floods.
14. PMC shall ensure the specified density of the boulders in rip rap to avoid flying of stones due to the flood pressures and negative suctions.
15. PMC to envisage mechanism for post monitoring of the project on monthly basis ensuring the compliance of the conditions prescribed.
16. PP to submit the detail landscape / plantation plan along with number / name of species to be planted. PP to submit the details of Transplantation techniques.
17. PP to obtain NOC / permission from competent authority for felling / transplantation of the trees.
18. PMC to appoint a hydrological expert, irrigation expert and trees expert to monitor project implementation and submit monthly progress report.

Decision: -

After deliberation, Committee decided to recommend the proposal for Environmental Clearance to SEIAA, subject to compliance of above points and the report submitted by Mr. Avinash Surve.

Member Secretary

Chairman

COMPLIANCE POINT NO 1: As most of the above points (SEAC Compliances) are highly technical in nature they will require detailed evaluation. PP to submit compliance of the above 18 listed requirements

ANNEXURE-7

Minutes of 174th SEAC-3 meeting (Day 03) held on 12th, 13th & 14th June, 2023

The case was discussed on the basis of the documents submitted and presentation made by the proponent. All issues relating to environment, including air, water, land, soil, ecology, biodiversity and social aspects were examined. The proposal is appraised as category 8(b) B1.

During discussion following points emerged:

1. PP to submit the Water quality monitoring results especially BOD values.
2. PP to submit the construction & demolition (C and D) waste quantification along with disposal plan
3. PP to submit the soil analysis report.
4. PP to submit the aquatic biodiversity report. Also, PP to submit the proposed Impact and mitigation measures for the same.
5. PP to submit the Hydraulics study or effect of RFD on natural storm water disposal into Mula- Mutha river.
6. PP to submit the phase wise timeline for project completion.
7. PP to submit the details of public utilities like public toilets, parking, visarjan ghats etc.
8. PP to submit the detail note of water carrying capacity of the river after the commencement of the project.
9. During Monsoon even if there are no much floods in rivers due to existing dams and controlled releases from upstream reservoirs ,now a days high intensity short duration events like 2019 pluvial floods , (floods in city area due to direct surface runoffs and natural drainages in city area) are occurring frequently , Hence after raising Embankments above ground levels, the arrangements for storm water drains must be ensured with planning of connecting surface water to nearest nalla/ drains and direct surface access towards rivers must be ensured with provision of water entry points in design of parapet walls and raised embankments. To avoid such city surface runoff inundations, thought must be given to limit height of embankments wherever possible and avoid embankments above the ground level.
10. Proposed trails on sloping portion of embankment shall be designed in such a way that it shall allow the movement of water to flow during high flood time and not create obstructions.

Member Secretary

Chairman

Minutes of 174th SEAC-3 meeting (Day 03) held on 12th, 13th & 14th June, 2023

11. PMC to monitor the flood discharge levels at every 100m in the executed stretches and monitor same at every 1km for the remaining project length during the flood periods.
12. Understanding that the high flood (i.e., 100-year flood) may occur for very few days of the year, therefore reduction in height of embankments raised above ground shall be considered wherever possible.
13. The stone rip rap shall be placed in the paneling form to sustain the sudden draw-down hydraulic conditions during floods.
14. PMC shall ensure the specified density of the boulders in rip rap to avoid flying of stones due to the flood pressures and negative suction.
15. PMC to envisage mechanism for post monitoring of the project on monthly basis ensuring the compliance of the conditions prescribed.
16. PP to submit the detail landscape / plantation plan along with number / name of species to be planted. PP to submit the details of Transplantation techniques.
17. PP to obtain NOC / permission from competent authority for felling / transplantation of the trees.
18. PMC to appoint a hydrological expert, irrigation expert and trees expert to monitor project implementation and submit monthly progress report.

Decision: -

After deliberation, Committee decided to recommend the proposal for Environmental Clearance to SEIAA, subject to compliance of above points and the report submitted by Mr. Avinash Surve.

Member Secretary

Chairman





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COMPLIANCE POINT NO 1: PP to submit the Water quality monitoring results especially BOD values.

Reply:

Pune Municipal Corporation (PMC) itself monitors Surface Water Quality monthly at various locations for various parameters including BOD. The monitoring results are continuously uploaded on MPCB website, which is online and can be accessed via following link, “<https://www.mpcb.gov.in/water-quality/Pune/17>”. The results for January to March 2023 are shown as below

1. Mutha River at Sangam Bridge

| Months | Parameters | | | | | | | | | | | | | | | | | | |
|--------------------|------------|------------|------------|-------------------------|------------|------------|---------------|------------|------------|---------------|------------|------------|----------------|------------|------------|-----------------------------|------------|------------|-----|
| | pH | | | Dissolved Oxygen (mg/l) | | | B.O.D. (mg/l) | | | C.O.D. (mg/l) | | | Nitrate (mg/l) | | | Fecal Coliform (MPN/100 ml) | | | WQI |
| YEAR : 2023 | | | | | | | | | | | | | | | | | | | |
| January | 7.2 | | 3 | | | 26 | | | 71.1 | | | 0.78 | | | 30 | | | 51.75 | |
| February | 7.4 | | 4.1 | | | 19.8 | | | 67.7 | | | 1.79 | | | 30 | | | 58.79 | |
| March | 7.5 | | 3.9 | | | 25 | | | 80 | | | 2.55 | | | 110 | | | 51.60 | |
| TOTAL | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | |
| | 7.2 | 7.5 | 7.37 | 3 | 4.1 | 3.67 | 19.8 | 26 | 23.6 | 67.7 | 80 | 72.93 | 0.78 | 2.55 | 1.71 | 30 | 110 | 56.67 | |

| WQI | Quality classification | Remarks | Colour code |
|-------------|------------------------|------------------|-------------|
| 63-100 | Good to Excellent | Non Polluted | |
| 50-63 | Medium to Good | Non Polluted | |
| 38-50 | Bad | Polluted | |
| 38 and less | Bad to very Bad | Heavily Polluted | |



CONT...

2. Mutha River near Veer Savarkar Bhavan

| Months | Parameters | | | | | | | | | | | | | | | | | | |
|--------------------|------------|-------------------------|------------|------------|---------------|------------|------------|---------------|------------|------------|----------------|------------|------------|-----------------------------|------------|------------|------------|------------|--|
| | pH | Dissolved Oxygen (mg/l) | | | B.O.D. (mg/l) | | | C.O.D. (mg/l) | | | Nitrate (mg/l) | | | Fecal Coliform (MPN/100 ml) | | | WQI | | |
| YEAR : 2023 | | | | | | | | | | | | | | | | | | | |
| January | 6.9 | 3.3 | | | 23 | | | 67.2 | | | 0.97 | | | 20 | | | | 53.22 | |
| February | 7.2 | 3.8 | | | 21.3 | | | 71.7 | | | 1.02 | | | 30 | | | | 57.31 | |
| March | 7.5 | 4.1 | | | 21 | | | 72 | | | 2.46 | | | 115 | | | | 53.51 | |
| ===== | | | | | | | | | | | | | | | | | | | |
| TOTAL | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | |
| | 6.9 | 7.5 | 7.2 | 3.3 | 4.1 | 3.73 | 21 | 23 | 21.77 | 67.2 | 72 | 70.3 | 0.97 | 2.46 | 1.48 | 20 | 115 | 55 | |

3. Mutha River at Deccan Bridge, Pune

| Months | Parameters | | | | | | | | | | | | | | | | | | |
|--------------------|------------|-------------------------|------------|------------|---------------|------------|------------|---------------|------------|------------|----------------|------------|------------|-----------------------------|------------|------------|------------|------------|--|
| | pH | Dissolved Oxygen (mg/l) | | | B.O.D. (mg/l) | | | C.O.D. (mg/l) | | | Nitrate (mg/l) | | | Fecal Coliform (MPN/100 ml) | | | WQI | | |
| YEAR : 2023 | | | | | | | | | | | | | | | | | | | |
| January | 6.8 | 3.1 | | | 26 | | | 71.1 | | | 0.74 | | | 25 | | | | 49.95 | |
| February | 7.3 | 3.5 | | | 21.3 | | | 75.7 | | | 1.15 | | | 30 | | | | 56.37 | |
| March | 7.6 | 3.9 | | | 24 | | | 76 | | | 2.36 | | | 120 | | | | 50.90 | |
| ===== | | | | | | | | | | | | | | | | | | | |
| TOTAL | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | |
| | 6.8 | 7.6 | 7.23 | 3.1 | 3.9 | 3.5 | 21.3 | 26 | 23.77 | 71.1 | 76 | 74.27 | 0.74 | 2.36 | 1.42 | 25 | 120 | 58.33 | |





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4. Mutha River at Khadakvasla Dam Pune

| Months | Parameters | | | | | | | | | | | | | | | | | | |
|--------------------|------------|-----|-----|-------------------------|-----|------|---------------|-----|------|---------------|-----|------|----------------|----------|-----|-----------------------------|-----|------|------|
| | pH | | | Dissolved Oxygen (mg/l) | | | B.O.D. (mg/l) | | | C.O.D. (mg/l) | | | Nitrate (mg/l) | | | Fecal Coliform (MPN/100 ml) | | | WQI |
| YEAR : 2023 | | | | | | | | | | | | | | | | | | | |
| January | 7.3 | | | 6.3 | | | 2.2 | | | 8.1 | | | 0.3(BDL) | | | 6 | | | 90.2 |
| February | 7.7 | | | 6.6 | | | 2.4 | | | 8 | | | 0.3(BDL) | | | 6 | | | 86.8 |
| March | 7.8 | | | 5.8 | | | 2.4 | | | 8 | | | 0.3(BDL) | | | 4 | | | 84.5 |
| ===== | | | | | | | | | | | | | | | | | | | |
| TOTAL | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | |
| | 7.3 | 7.8 | 7.6 | 5.8 | 6.6 | 6.23 | 2.2 | 2.4 | 2.33 | 8 | 8.1 | 8.03 | 0.3(BDL) | 0.3(BDL) | 0.3 | 4 | 6 | 5.33 | |

5. Mula-Mutha River at Mundhwa Bridge

| Months | Parameters | | | | | | | | | | | | | | | | | | |
|--------------------|------------|-----|-----|-------------------------|-----|------|---------------|------|------|---------------|------|------|----------------|------|------|-----------------------------|-----|-------|-------|
| | pH | | | Dissolved Oxygen (mg/l) | | | B.O.D. (mg/l) | | | C.O.D. (mg/l) | | | Nitrate (mg/l) | | | Fecal Coliform (MPN/100 ml) | | | WQI |
| YEAR : 2023 | | | | | | | | | | | | | | | | | | | |
| January | 7.1 | | | 4.4 | | | 14.9 | | | 51.4 | | | 0.91 | | | 20 | | | 62.73 |
| February | 7.3 | | | 3.6 | | | 17.9 | | | 59.8 | | | 1.33 | | | 20 | | | 59.03 |
| March | 7.5 | | | 4.5 | | | 17 | | | 52 | | | 1.31 | | | 45 | | | 59.71 |
| ===== | | | | | | | | | | | | | | | | | | | |
| TOTAL | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | |
| | 7.1 | 7.5 | 7.3 | 3.6 | 4.5 | 4.17 | 14.9 | 17.9 | 16.6 | 51.4 | 59.8 | 54.4 | 0.91 | 1.33 | 1.18 | 20 | 45 | 28.33 | |



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6. Mula-Mutha River at D/s of Theur, Pune

| Months | Parameters | | | | | | | | | | | | | | | | | | |
|--------------------|------------|-----|------|-------------------------|-----|------|---------------|------|------|---------------|------|-------|----------------|------|------|-----------------------------|-----|-------|-------|
| | pH | | | Dissolved Oxygen (mg/l) | | | B.O.D. (mg/l) | | | C.O.D. (mg/l) | | | Nitrate (mg/l) | | | Fecal Coliform (MPN/100 ml) | | | WQI |
| YEAR : 2023 | | | | | | | | | | | | | | | | | | | |
| January | 7.5 | | | 4.3 | | | 13.4 | | | 43.5 | | | 1.69 | | | 15 | | | 62.99 |
| February | 7.6 | | | 4.3 | | | 10.4 | | | 31.9 | | | 2.41 | | | 20 | | | 62.10 |
| March | 7.8 | | | 4.8 | | | 12.5 | | | 40 | | | 0.95 | | | 75 | | | 58.81 |
| ===== | | | | | | | | | | | | | | | | | | | |
| TOTAL | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | |
| | 7.5 | 7.8 | 7.63 | 4.3 | 4.8 | 4.47 | 10.4 | 13.4 | 12.1 | 31.9 | 43.5 | 38.47 | 0.95 | 2.41 | 1.68 | 15 | 75 | 36.67 | |

7. Mula River at Aundh Bridge –Aundgaon

| Months | Parameters | | | | | | | | | | | | | | | | | | |
|--------------------|------------|-----|------|-------------------------|-----|-----|---------------|------|-------|---------------|------|-------|----------------|------|------|-----------------------------|-----|-------|-------|
| | pH | | | Dissolved Oxygen (mg/l) | | | B.O.D. (mg/l) | | | C.O.D. (mg/l) | | | Nitrate (mg/l) | | | Fecal Coliform (MPN/100 ml) | | | WQI |
| YEAR : 2023 | | | | | | | | | | | | | | | | | | | |
| January | 7.3 | | | 4.6 | | | 10.5 | | | 35.6 | | | 4.95 | | | 10 | | | 68.59 |
| February | 7.5 | | | 4.3 | | | 13.4 | | | 43.8 | | | 1.72 | | | 11 | | | 63.99 |
| March | 7.8 | | | 4.9 | | | 11 | | | 36 | | | 2.46 | | | 20 | | | 64.00 |
| ===== | | | | | | | | | | | | | | | | | | | |
| TOTAL | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | |
| | 7.3 | 7.8 | 7.53 | 4.3 | 4.9 | 4.6 | 10.5 | 13.4 | 11.63 | 35.6 | 43.8 | 38.47 | 1.72 | 4.95 | 3.04 | 10 | 20 | 13.67 | |





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8. Mula River at Harrison Bridge near Mula -Pawana Sangam

| Months | Parameters | | | | | | | | | | | | | | | | | |
|--------------------|------------|-------------------------|---------------|---------------|----------------|-----------------------------|-------|-----|------|------|-----|-----|------|------|------|-----|-----|-------|
| | pH | Dissolved Oxygen (mg/l) | B.O.D. (mg/l) | C.O.D. (mg/l) | Nitrate (mg/l) | Fecal Coliform (MPN/100 ml) | WQI | | | | | | | | | | | |
| YEAR : 2023 | | | | | | | | | | | | | | | | | | |
| January | 7 | 4.1 | 18 | 55.3 | 3.02 | 17 | 60.12 | | | | | | | | | | | |
| February | 7.5 | 4.2 | 18.8 | 63.7 | 1.12 | 14 | 61.39 | | | | | | | | | | | |
| March | 8.1 | 3.8 | 25 | 76 | 1.96 | 70 | 48.56 | | | | | | | | | | | |
| ----- | | | | | | | | | | | | | | | | | | |
| TOTAL | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG | MIN | MAX | AVG |
| | 7 | 8.1 | 7.53 | 3.8 | 4.2 | 4.03 | 18 | 25 | 20.6 | 55.3 | 76 | 65 | 1.12 | 3.02 | 2.03 | 14 | 70 | 33.67 |

| WQI | Quality classification | Remarks | Colour code |
|-------------|------------------------|------------------|-------------|
| 63-100 | Good to Excellent | Non Polluted | Green |
| 50-63 | Medium to Good | Non Polluted | Yellow |
| 38-50 | Bad | Polluted | Orange |
| 38 and less | Bad to very Bad | Heavily Polluted | Red |

CONCLUSION:

From the tables above, it can be concluded that the BOD levels in Mula, Mutha & Mula-Mutha Rivers ranges from 2.2mg/l to 26mg/l and DO level ranges from 3-6.6mg/l.

The Water Quality Index (WQI) ranges from 48.56 to 90, so at some locations it falls under Medium to Good (Non-Polluted) and at only 2 locations, it is bad (Polluted) quality.



COMPLIANCE POINT NO 2: PP to submit the construction & demolition (C and D) waste quantification along with disposal plan

Reply:

DETAILS OF CONSTRUCTION & DEMOLITION WASTE

| Waste Type | Quantity (approx.) | Source | Disposal Method |
|---|---------------------------|--|--|
| Dismantling of structures like check dams, weirs and other low lying structures causing obstruction to the flow of water | 3264.3 Tonnes | Open structures within the riverbed acting as obstruction to flow of water | Obstructive structures that are demolished shall be sent out of the site as per guideline issued under C& D Waste Management plan to Authorized landfill site/ collection centre of PMC. |
| Demolition of structures like damaged/old pavements, compound walls, flooring etc. present in the project boundary, necessary for the construction of flood protection embankments. | 55 Tonnes | | |

PMC has in-house facility for C&D waste conversion; hence the C&D waste shall be handed over to PMC for further utilization and disposal



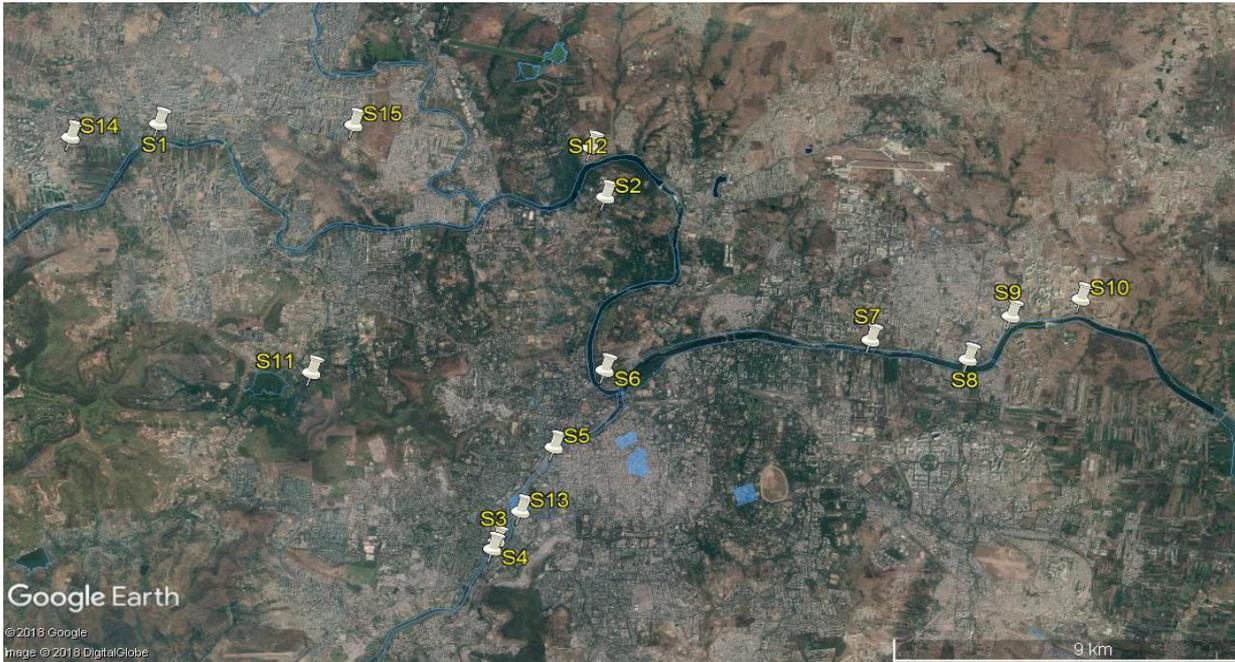


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COMPLIANCE POINT NO 3: PP to submit the soil analysis report.

Reply:

Soil sampling was conducted once during the study period of post-monsoon season.



Soil sampling Locations

| Sr. No | Name of Locations | Code |
|--------|---------------------------------------|------|
| 1 | Nr. Tithenagar | S1 |
| 2 | Nr. Panchshil Township | S2 |
| 3 | Project Site- Kothe Bukhle | S3 |
| 4 | RamNagar | S4 |
| 5 | Near Mother Teresa Garden | S5 |
| 6 | Narayan Nagar | S6 |
| 7 | Near Little Cambridge Learning center | S7 |
| 8 | Nr. MundhavaGaonthan | S8 |
| 9 | Near Wakad Park | S9 |
| 10 | Cantonment Area Near, MSETCL | S10 |
| 11 | Nr. Sabhagruh (Haripriya Hall) | S11 |
| 12 | Nr. SaritaNagari | S12 |
| 13 | Nr. Baba Bhide Bridge | S13 |
| 14 | Nr. Emerson Export Ltd | S14 |
| 15 | Nr. Stone Water Grill Restaurant | S15 |
| 16 | Nr. MundhavaGaonthan | S16 |

- The monitoring surveys of the study area 10 km radius distance from the project site were carried in October 2017 to December 2017.



CONT...

The soil samples were examined for various physicochemical parameters to determine the study area's existing soil characteristics. Physicochemical characteristics of soil are presented in Table given as follows.

| Sr. No | Parameters | Unit | Results | | | | | | | |
|--------|-------------------------|--------------------|---------|------|------|-------|------|------|------|------|
| | | | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 |
| 1. | pH | - | 7.37 | 7.60 | 7.51 | 7.72 | 7.65 | 7.41 | 7.39 | 7.8 |
| 2. | Electrical Conductivity | ms/cm ³ | 1.70 | 0.38 | 0.53 | 0.18 | 0.31 | 0.62 | 0.21 | 0.48 |
| 3. | Bulk Density | gm/cm ³ | 1.1 | 1.0 | 0.6 | 1.20 | 1.30 | 1.15 | 1.47 | 1.29 |
| 4. | Soil Moisture Content | % | 22.1 | 14.8 | 11.5 | 14.6 | 10.7 | 13.8 | 23.6 | 24.5 |
| 5. | Organic Carbon | % | 0.91 | 1.62 | 2.12 | 2.52 | 2.01 | 0.64 | 0.81 | 0.42 |
| 6. | Organic Matter | % | 1.57 | 2.80 | 3.65 | 4.34 | 3.47 | 1.10 | 1.40 | 0.72 |
| 7. | Available Nitrogen | mg/kg | 7130 | 5220 | 1940 | 1592 | 4180 | 1890 | 3100 | 4240 |
| 8. | Available Potassium | mg/kg | 53.2 | 49.3 | 50.5 | 34.3 | 53.2 | 41.9 | 53.3 | 43.7 |
| 9. | Available Phosphate | mg/kg | 20.8 | 24.6 | 26.8 | 18.9 | 15.9 | 23.2 | 21.4 | 20.7 |
| 10. | Calcium | mg/kg | 13.9 | 28.7 | 18.3 | 24.5 | 23.4 | 31.8 | 26.7 | 21.8 |
| 11. | Magnesium | mg/kg | 106.2 | 86.3 | 38.7 | 22.70 | 36.8 | 40.6 | 83.7 | 33.4 |
| 12. | Chloride | mg/kg | 1030 | 470 | 390 | 410 | 458 | 224 | 290 | 286 |
| 13. | Copper as Cu | mg/kg | 4.40 | 2.83 | 5.73 | 5.9 | 5.38 | 4.24 | 5.6 | 5.25 |
| 14. | Zinc as Zn | mg/kg | 0.51 | 1.52 | 1.53 | 1.32 | 1.53 | 1.28 | 1.6 | 1.48 |
| 15. | Iron as Fe | mg/kg | 22 | 21 | 29 | 40 | 30 | 32 | 38 | 29 |
| 16. | Lead | mg/kg | 0.8 | 0.79 | 1.17 | 1.23 | 1.50 | 0.64 | 1.23 | 1.7 |



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CONT...

| Sr. No | Parameters | Unit | Results | | | | | | |
|--------|-------------------------|--------------------|---------|-------|-------|-------|-------|------|-------|
| | | | S9 | S10 | S11 | S12 | S13 | S14 | S15 |
| 1 | pH | - | 7.25 | 7.80 | 7.68 | 7.57 | 7.79 | 7.71 | 7.18 |
| 2 | Electrical Conductivity | ms/cm | 1.72 | 0.35 | 0.183 | 0.118 | 0.351 | 0.28 | 0.291 |
| 3 | Bulk Density | gm/cm ³ | 1.1 | 1.2 | 1.1 | 1.22 | 1.31 | 1.13 | 1.4 |
| 4 | Soil Moisture Content | % | 24.5 | 15.67 | 10.9 | 16.4 | 11.9 | 15.6 | 27.8 |
| 5 | Organic Carbon | % | 0.98 | 1.69 | 2.20 | 2.58 | 2.10 | 0.58 | 0.87 |
| 6 | Organic Matter | % | 1.68 | 2.91 | 3.79 | 4.44 | 3.62 | 0.10 | 1.50 |
| 7 | Available Nitrogen | mg/kg | 7000 | 5000 | 1900 | 1560 | 4200 | 1800 | 3000 |
| 8 | Available Potassium | mg/kg | 50.12 | 47.5 | 52.9 | 31.8 | 50.6 | 44.6 | 56.7 |
| 9 | Available Phosphate | mg/kg | 21.8 | 19.9 | 24.1 | 12.3 | 13.4 | 20.1 | 18.1 |
| 10 | Calcium | mg/kg | 10.7 | 16.5 | 19.8 | 22.5 | 26.7 | 32.9 | 27.3 |
| 11 | Magnesium | mg/kg | 116.08 | 92.4 | 31.2 | 24.30 | 15.8 | 35.9 | 86.9 |
| 12 | Chloride | mg/kg | 1130 | 430 | 280 | 220 | 480 | 204 | 280 |
| 13 | Copper as Cu | mg/kg | 4.53 | 2.78 | 5.80 | 6.2 | 5.10 | 4.14 | 5.4 |
| 14 | Zinc as Zn | mg/kg | 0.61 | 1.62 | 1.56 | 1.26 | 1.60 | 1.31 | 1.0 |
| 15 | Iron as Fe | mg/kg | 29 | 25 | 32 | 43 | 32 | 35 | 40 |
| 16 | Lead | mg/kg | 1.1 | 0.81 | 1.21 | 1.18 | 1.42 | 0.61 | 1.32 |



CONT...

Chemical Characteristics of Soil

- pH ranges from 7.37 to 7.80 , hence, the soil is classified as Slightly Alkaline

The soils are rated as;

- In case of organic carbon, it ranges from 0.42% to 2.58%, hence, the content is fairly high (above 0.75 %)
- In case of Available Nitrogen, it ranges from 1500 to 7000 mg/kg
- For available Phosphorus, it ranges from 15-26 mg/kg
- For available Potassium, it ranges from 31-56 mg/kg
- Critical limits of Fe, Zn, Cu, which separate deficient from non-deficient soils followed in India, are 4.5, 0.5, 0.2 mg/kg respectively,
- **As per results, all are above those.**



COMPLIANCE POINT NO 4: PP to submit the aquatic biodiversity report. Also, PP to submit the proposed Impact and mitigation measures for the same.

Reply:

Fauna

Molluscs of 15 species belonging to 10 genera and aquatic insects belonging to 13 families from nine orders were recorded from various localities. The dominant groups of aquatic insects were those that prefer polluted water, marshy areas and waterbody with vegetation cover. Some other species were common in relatively unpolluted waterbodies and parts of rivers.

In the molluscs, viviparidae, lymnaeidae and thiaroidae were found to be dominant. Among thiaroidae, *Thiara scabra* and *Paludonus inflatus*, and *Gyrulus labiatus* from planorbidae were exceedingly rare.

The presence of chironomid larvae in most of the localities indicates that the rivers and waterbodies are polluted, and sampling yielded 12 genera belonging to four subfamilies.

FISHES

Due to untreated sewage being currently discharged in Mula, Mutha and Mula-Mutha Rivers, the fish population is day by day decreasing.



CONT...

FISHES

As per Report published by Sahapedia, Hemant Ghate (2021);

Some of the fish species found includes Garra mullya, Rohtee ogilbii, stone loach (*Nemachilichthys ruppelli*), Proeutropiichthys takree, and minor carp (*Labeo boggut*), Rhinomugil corsula and spiketail paradisefish (*Pseudosphromenus cupanus*). These include two exotic fishes, Oreochromis and Gambusia, which are now practically everywhere. Gambusia was introduced for mosquito control, but Oreochromis could be an accidental introduction from cultivation tanks. The introduction of important fish such as Cyprinus carpio communis, Oreochromis mossambica have driven away fishes such as Labeo fimbriatus.

The Mutha River is so loaded with sewage that, except during heavy monsoon rains, the flowing water is almost raw sewage and hardly any fish species are found. The area of the confluence of the rivers i.e. Mula river, Mutha and Mula-Mutha river is practically choked with decaying organic matter, with bubbles of methane and other gases erupting at the surface. Soon after the monsoon, the Mula River is practically choked with alligator weed (*Alternanthera philoxeroides*) and water hyacinth, which is a weed.



TYPES OF FISHES

| Family | Species |
|---------------|---|
| Notopteridae | <i>N. notopterus</i> (Pallas) |
| Cyprinidae | <i>P. sophore</i> (Hamilton – Buchanan) |
| Cyprinidae | <i>P. ticto ticto</i> (Hamilton – Buchanan) |
| Cyprinidae | <i>Danio aequipinnatus</i> (McClelland) |
| Cyprinidae | <i>D. devario</i> (Hamilton – Buchanan) |
| Cyprinidae | <i>D. malabaricus</i> (Jerdon) |
| Balitoridae | <i>N. denisoni denisoni</i> (Day) |
| Aplocheilidae | <i>Aplocheilus lineatus</i> (Valenciennes) |

IMPACT ENVISAGED

Aquatic eco-system in the project area is already poor due to untreated sewage being currently discharged in Mula, Mutha and Mula-Mutha Rivers. Hence adverse impact on aquatic eco-system is negligible.

Because of presence of sewage and industrial pollution in these rivers, fishes are hardly found. The Mutha River is so loaded with sewage that, except during heavy monsoon rains, the flowing water is almost raw sewage. The area of the confluence of these rivers is practically choked with decaying organic matter, with bubbles of methane and other gases erupting at the surface. Soon after the monsoon, the Mula River is practically choked with alligator weed (*Alternanthera philoxeroides*) and water hyacinth, which is a weed.



MITIGATION MEASURES

DURING CONSTRUCTION PHASE

- During construction phase, care will be taken by the contractors and PMC to not dump any type of waste in river.
- All the project river area will be properly barricaded during construction phase.
- Flow of river water will not be obstructed at any time due to construction activities.
- Regular surface monitoring will be conducted as per Environmental Monitoring plan.
- No disturbance will be created near fish habitats.

DURING OPERATION PHASE:

The proposed river development project will enhance the river's carrying capacity and flow of river and clean it as no untreated sewage or industrial effluent shall be disposed in the river, illegal dumping to the river will be stopped. The project will ensure availability of clean flowing water throughout the year, varying in depth, creating habitats for aquatic life and rejuvenate the river ecosystem.

The project will promote the restoration of natural character, indigenous habitats and ecosystems. This will in-turn enhance the aquatic eco-system of the rivers.





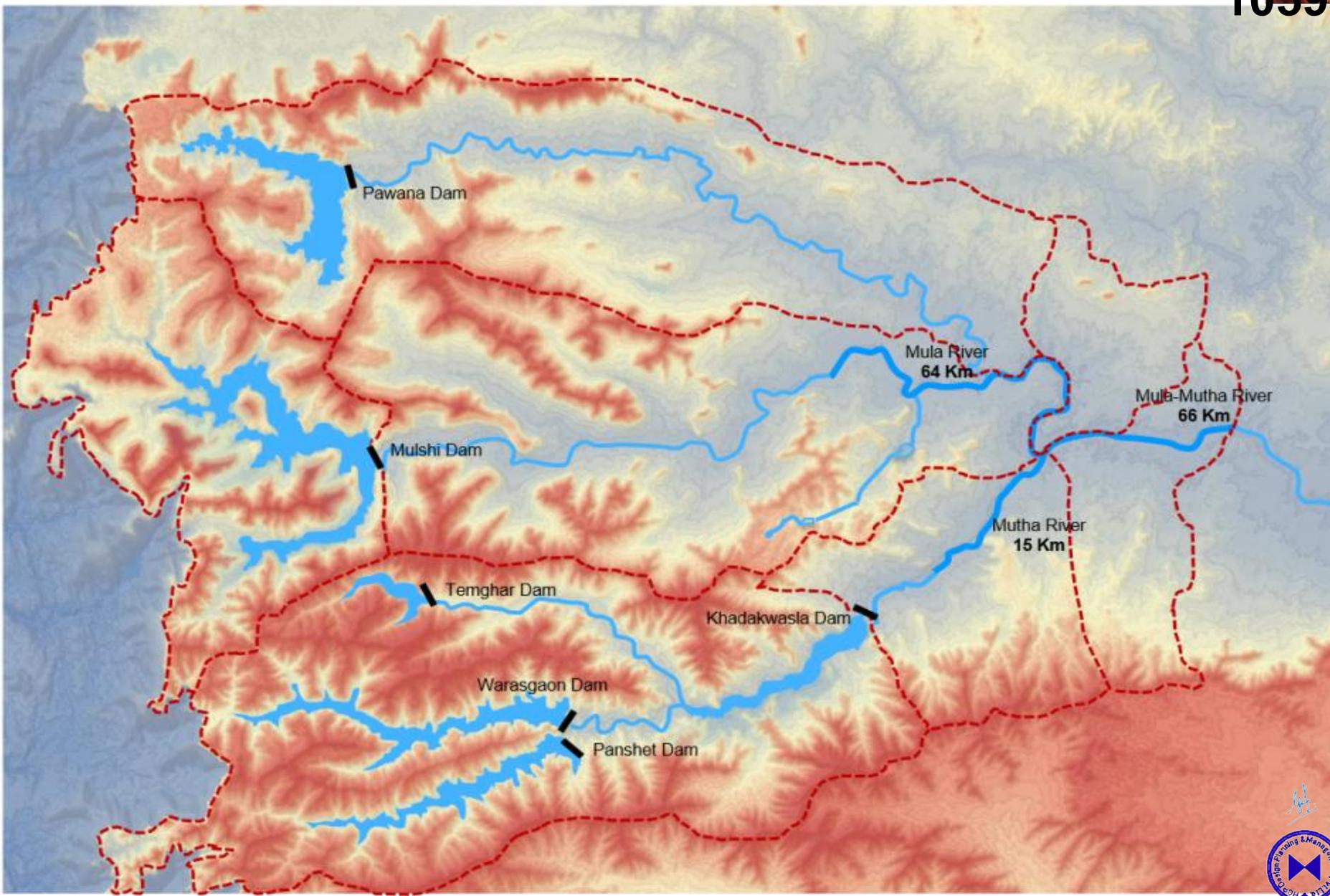
COMPLIANCE POINT NO 5: PP to submit the Hydraulics study or effect of RFD on natural storm water disposal into Mula- Mutha river.

Reply:

Full catchment area of 2,095.97sqkm. including catchment of upstream 6 dams – Mulshi, Pawana, Khadakwasla, Temghar, Warasgaon, Panshet and the free catchment area of 5 rivers – Pawna, Mula, Ramnadi, Mutha, Mula-Mutha from dam up to project end has been considered using rainfall data and Isopluvial maps.

Entire catchment of Mutha River up to Sangam including catchment area of Khadakwasla Dam is considered for arriving at the 100yr return period flood which includes the free catchment from Khadakwasla Dam upto Sangam. Entire catchment of Mula River upto confluence of Pawana River including catchment area of Mulshi Dam and catchment of Ramnadi is considered for arriving at the 100yr return period flood which includes the free catchment from Mulshi Dam upto confluence with Pawana River. Entire catchment of Pawana River upto confluence with Mula River including catchment of Pawana Dam is considered for arriving at the 100yr return period flood which includes the free catchment from Pawana Dam upto confluence with Mula River. Free catchment of Mula River from Confluence with Pawana upto Sangam and free catchment for Mula Mutha River from Sangam to end of project reach has been considered for arriving at the 100yr return period flood. Therefore, all the nallahs bringing water from their respective catchments to the river within project area are considered in hydrology study.





Map showing Mula, Mutha, Mula-Mutha Rivers, their catchment area and the upstream dam





Table showing overall catchment area of five rivers

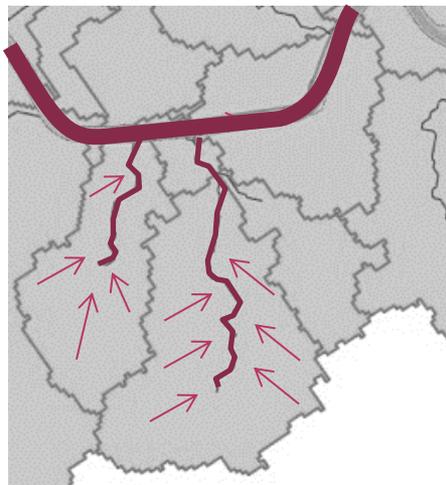
| LEGEND NO | SUB CATCHMENT | CATCHMENT AREA KM ² | LENGTH OF LONGEST STREAM (KM) |
|-----------|--|--------------------------------|-------------------------------|
| 0 | KHADAKWASLA DAM | 550.35 | 44.71 |
| 1 | MUTHA RIVER UPTO SANGAM FROM KHADAKWASLA DAM | 188.04 | 15.85 |
| 2 | MULA RIVER FROM CONFLUENCE WITH PAWANA TO SANGAM | 67.51 | 13.79 |
| 3 | MULA MUTHA RIVER FROM SANGAM UPTO KT WEIR | 58.82 | 15 |
| 4 | MULSHI DAM | 249.20 | 25.73 |
| 5 | MULSHI RIVER FROM MULSHI DAM UPTO CONFLUENCE WITH PAWANA RIVER | 480.85 | 45.46 |
| 6 | PAWANA RIVER CATCHMENT FROM PAWANA DAM UPTO CONFLUENCE WITH MULA RIVER | 501.20 | 69.153 |

a. Mula, Mutha and Mula – Mutha Rivers’ watershed and sub basin in natural condition were analysed.

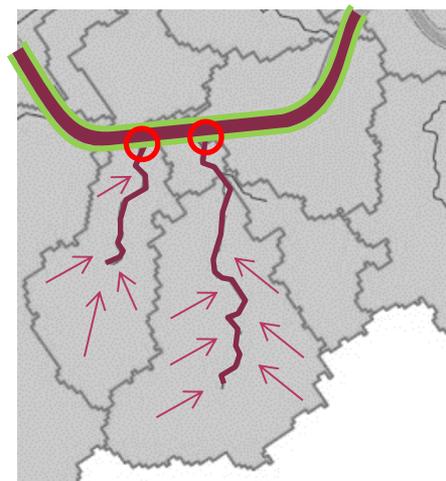
(Source: Hydraulics analysis tool applied in GIS on the DEM file from BHUVAN Portal)



b. Majorly, the entire storm water is being carried to the river by tributaries and other existing nallahs.



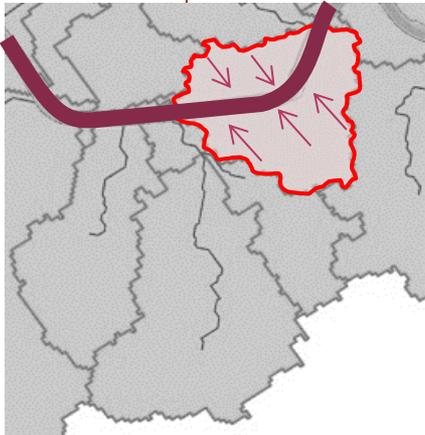
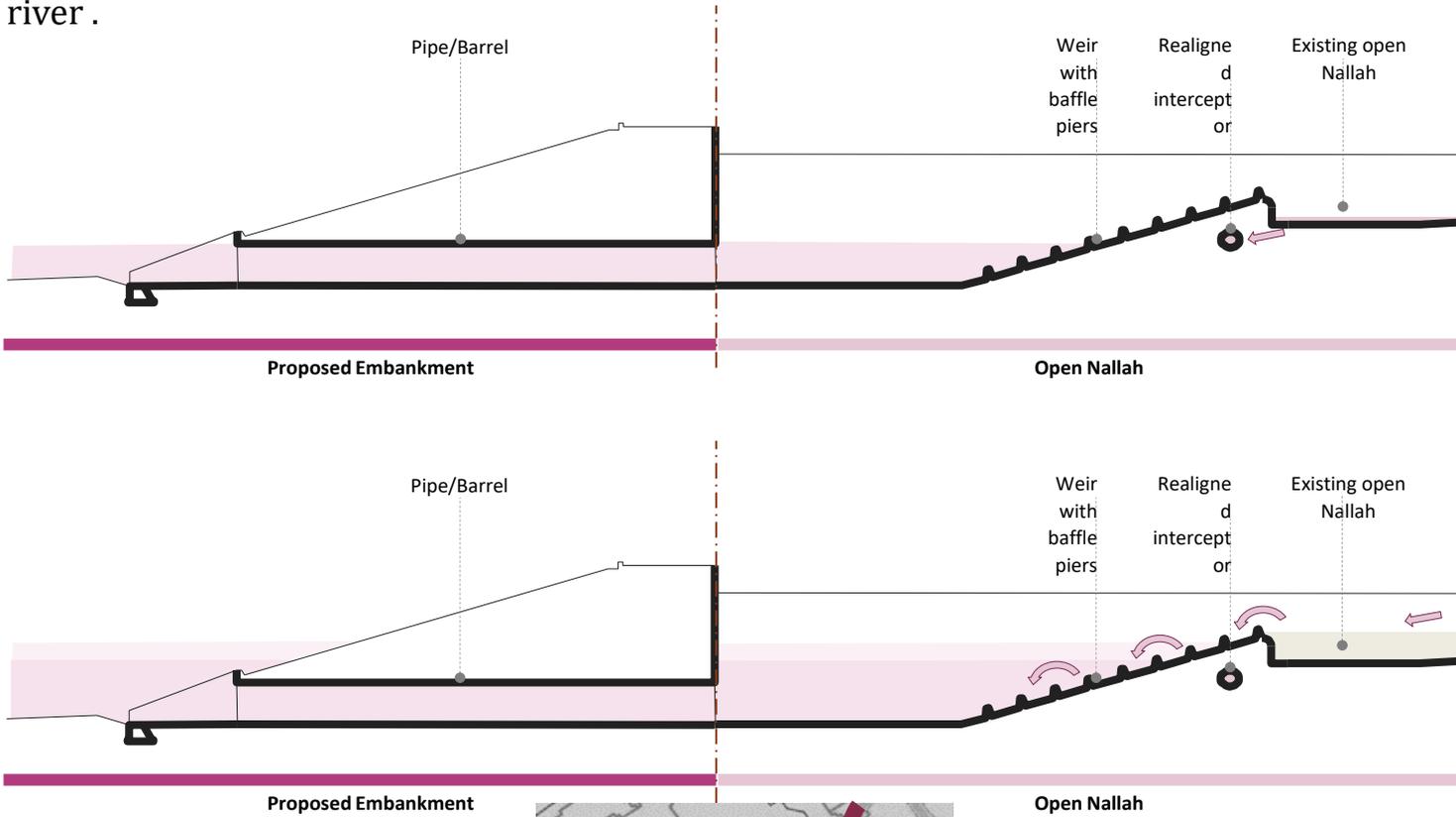
c. All the natural nallahs in existing conditions will be integrated within the embankments for smooth inflow into the river.



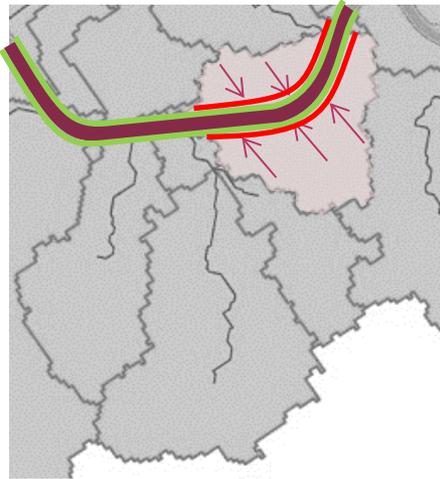


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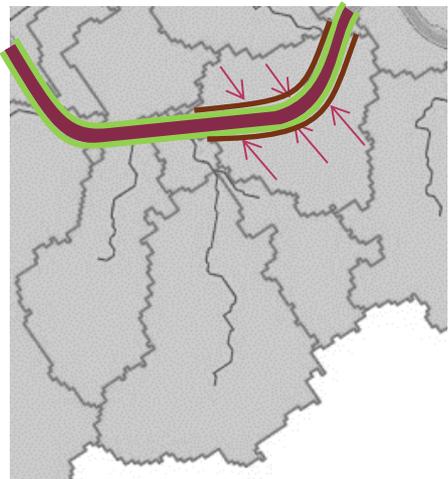
d. There are certain sub basins where there is no natural nala or where the surface runoff drains directly into the river .



e. After the construction of the embankment, surface runoff from this area may not be drained directly into the river.

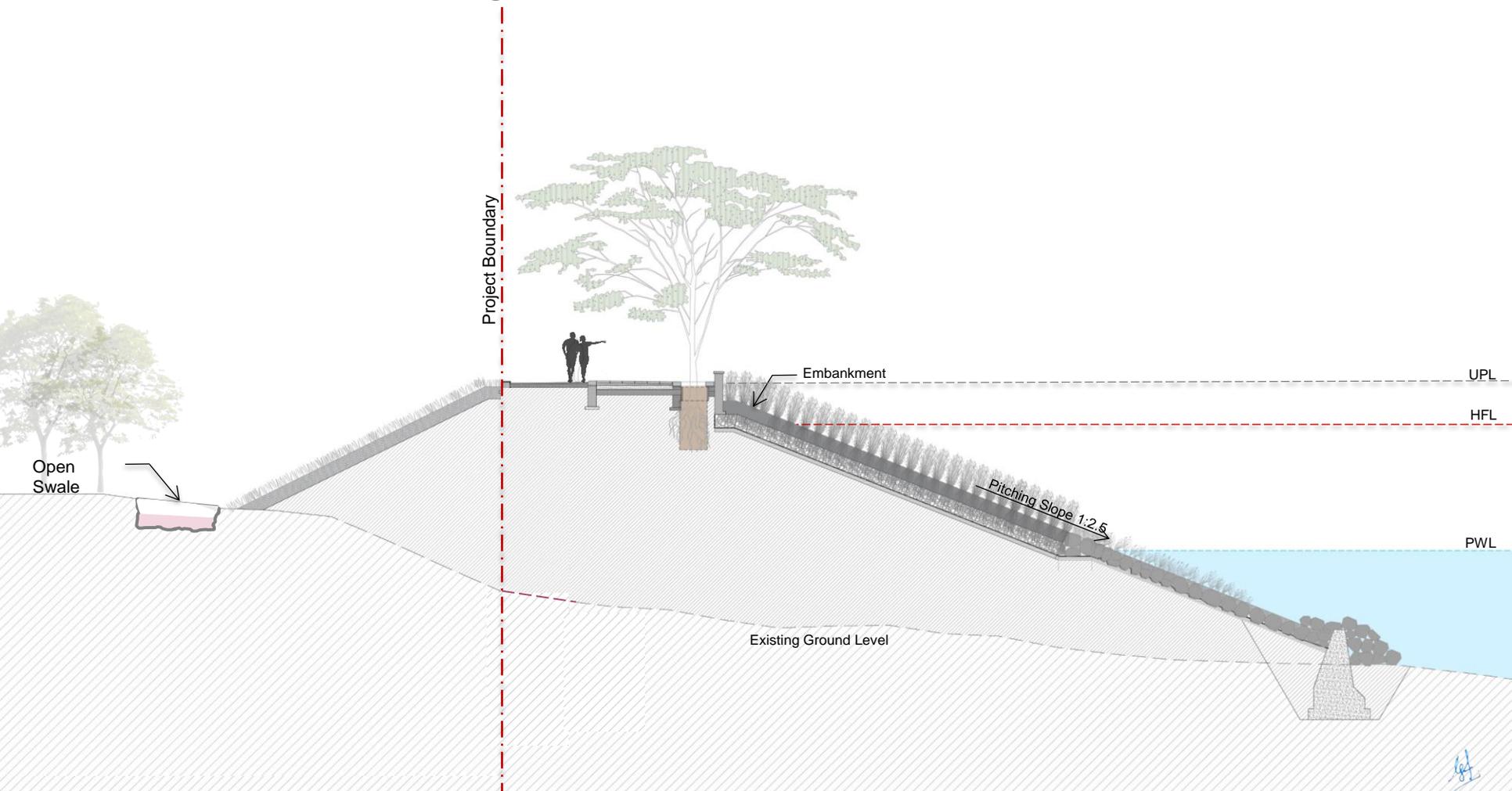


f. Those stretches will be provided with swales running parallel to the embankments along the city side up to the next nallah or would have provisions of outfalls at strategic locations. The locations and dimensions of these swales would be finalized during the detailed design stage.

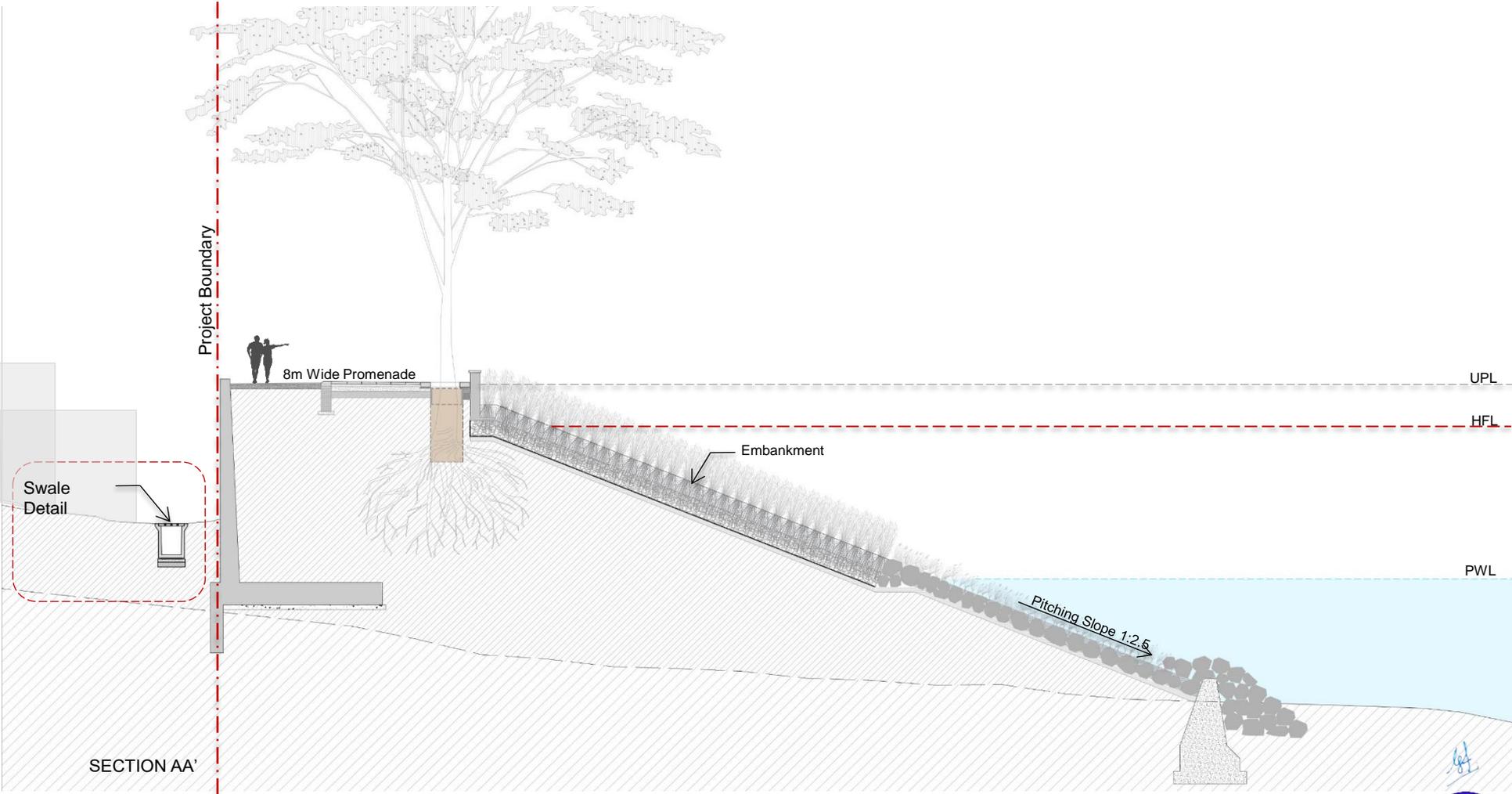


g. However, during the flood in river, retention of flood within nallah shall be ensured to avoid submergence of urban areas due to backwater effect.

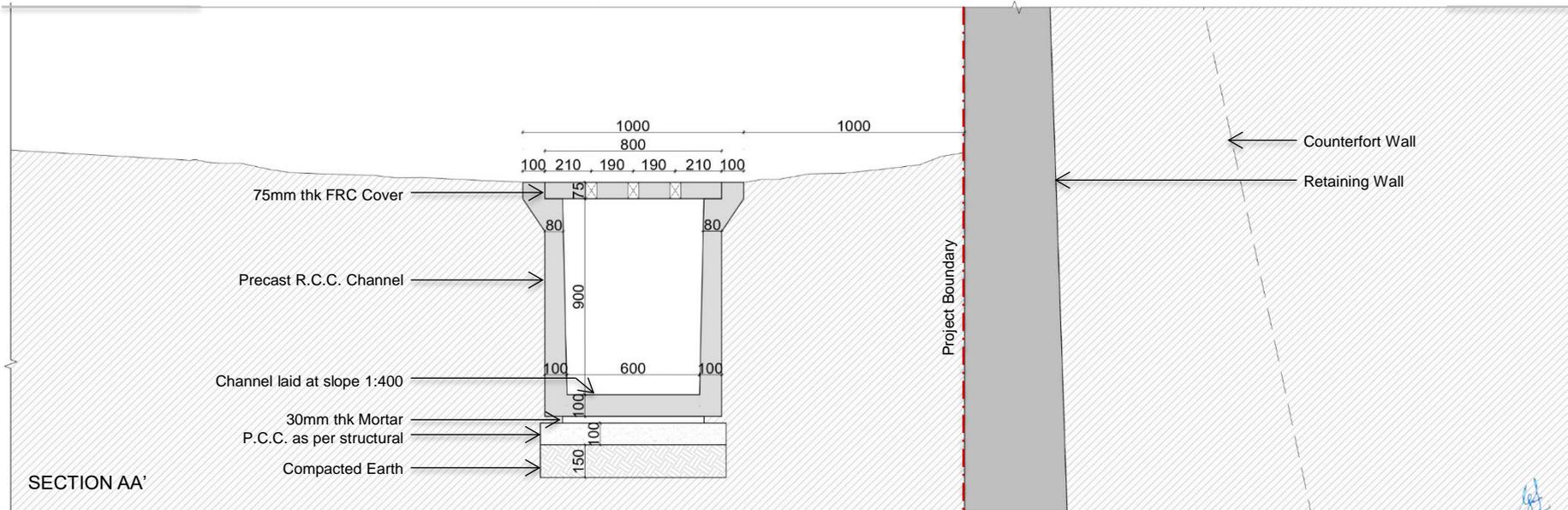
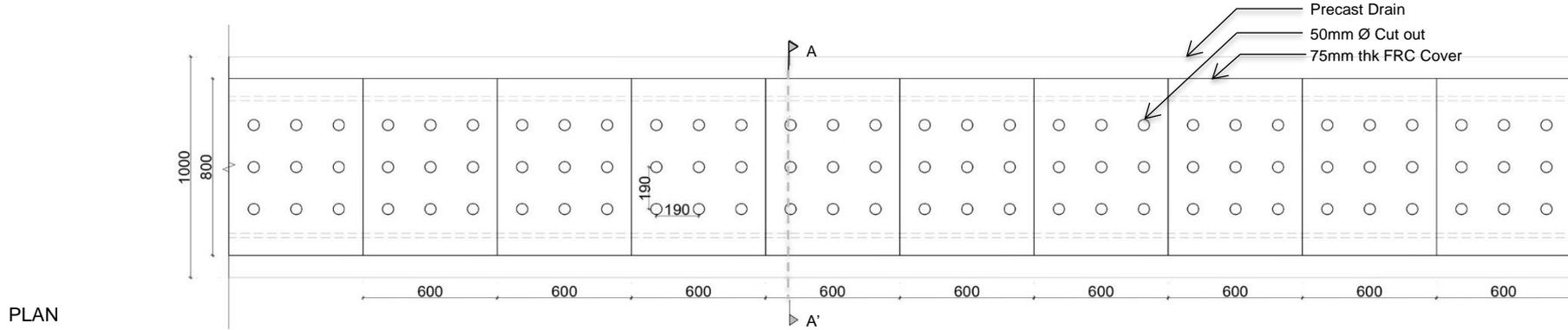
Open Swale provided along the back slope of the embankment



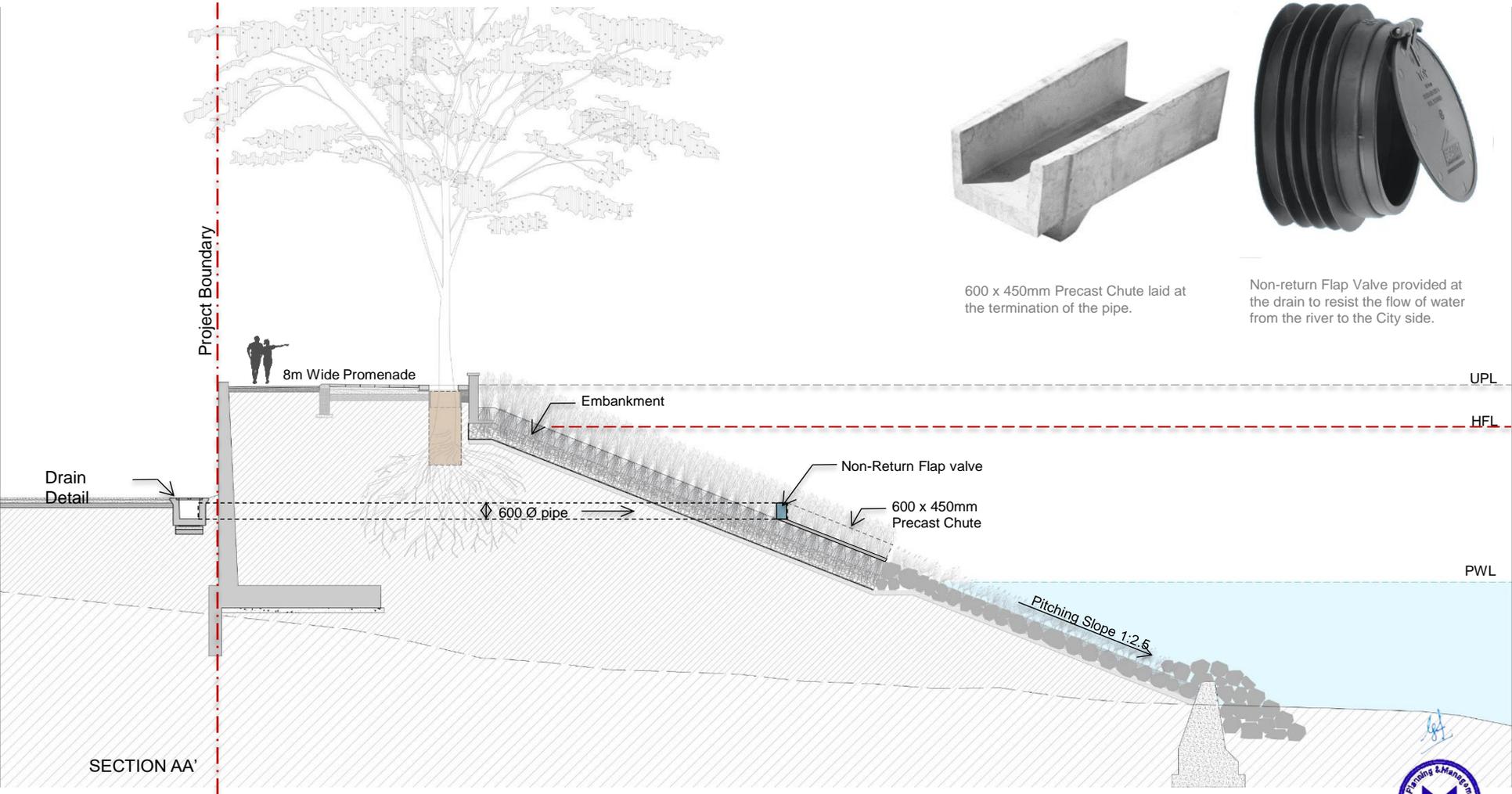
Closed Swale Detail near residential areas



Closed Swale Detail near residential areas



Drain Detail at the end of the Road



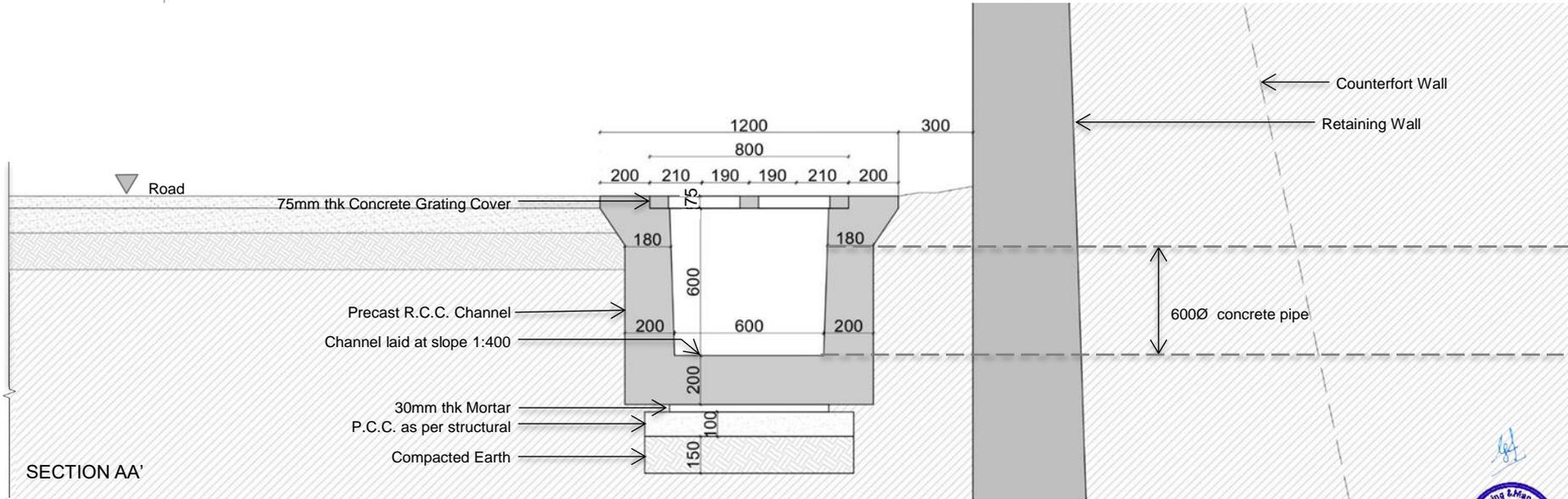
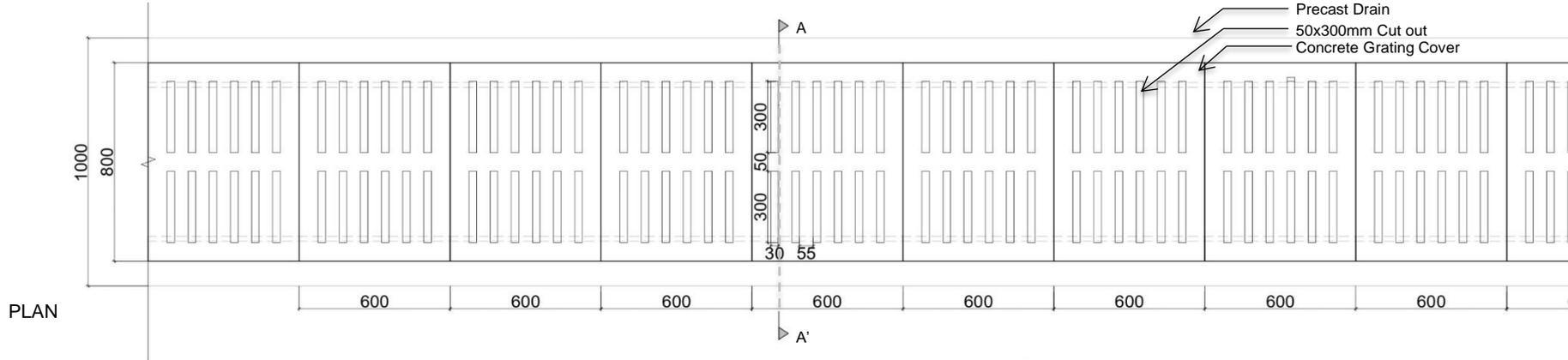
600 x 450mm Precast Chute laid at the termination of the pipe.



Non-return Flap Valve provided at the drain to resist the flow of water from the river to the City side.



Drain Detail at the end of the Road





COMPLIANCE POINT NO 7: PP to submit the details of public utilities like public toilets, parking, visarjan ghats etc.

Reply:

- **Visarjan Ghats**

Presently all Ganpati immersion activities take place in visarjan ponds/ kunds constructed along the riverbank at strategic locations. The immersion of idols at few locations impact the natural river flow due to its location. The idol immersion also pollutes the river water because there is no segregation of the water.

In the proposal, provisions of independent visarjan kunds are proposed at 15 locations along the embankment with no direct relation with the river water. The numbers and the location of the visarjan kunds have been proposed taking in consideration all the existing active areas and future strategic areas.

The proposed visarjan tanks would be placed at upper promenade level and there will be no connection between the visarjan tank water with the river water. There will not be any stagnant water in the tanks during non-usage of these tanks.

Special attention will be taken care by PMC that nirmalya is not directly offered into the river.





Visarjan Tanks near Bund Garden bridge, Mula-Mutha



Visarjan Tanks near S.M Joshi Bridge



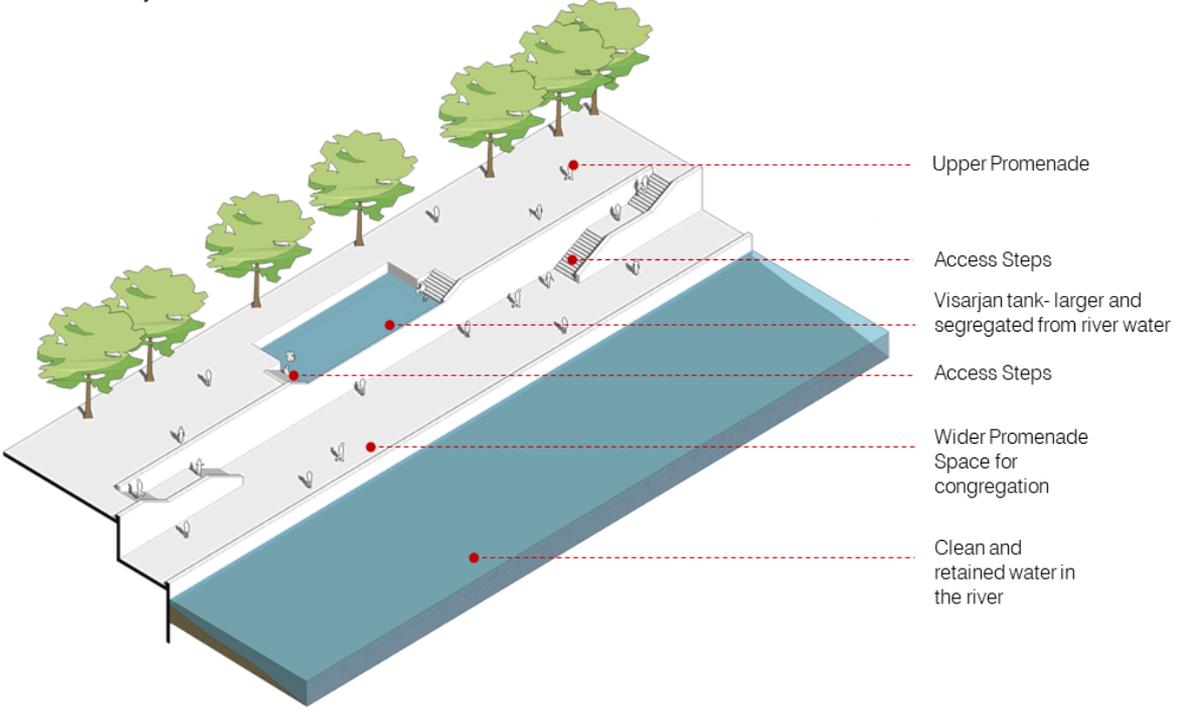


Integration of Visarjan Ghats

Integrated Ghat

Visarjan Kund

Retained Clean water



Map showing Existing and Proposed Visarjan Ghats





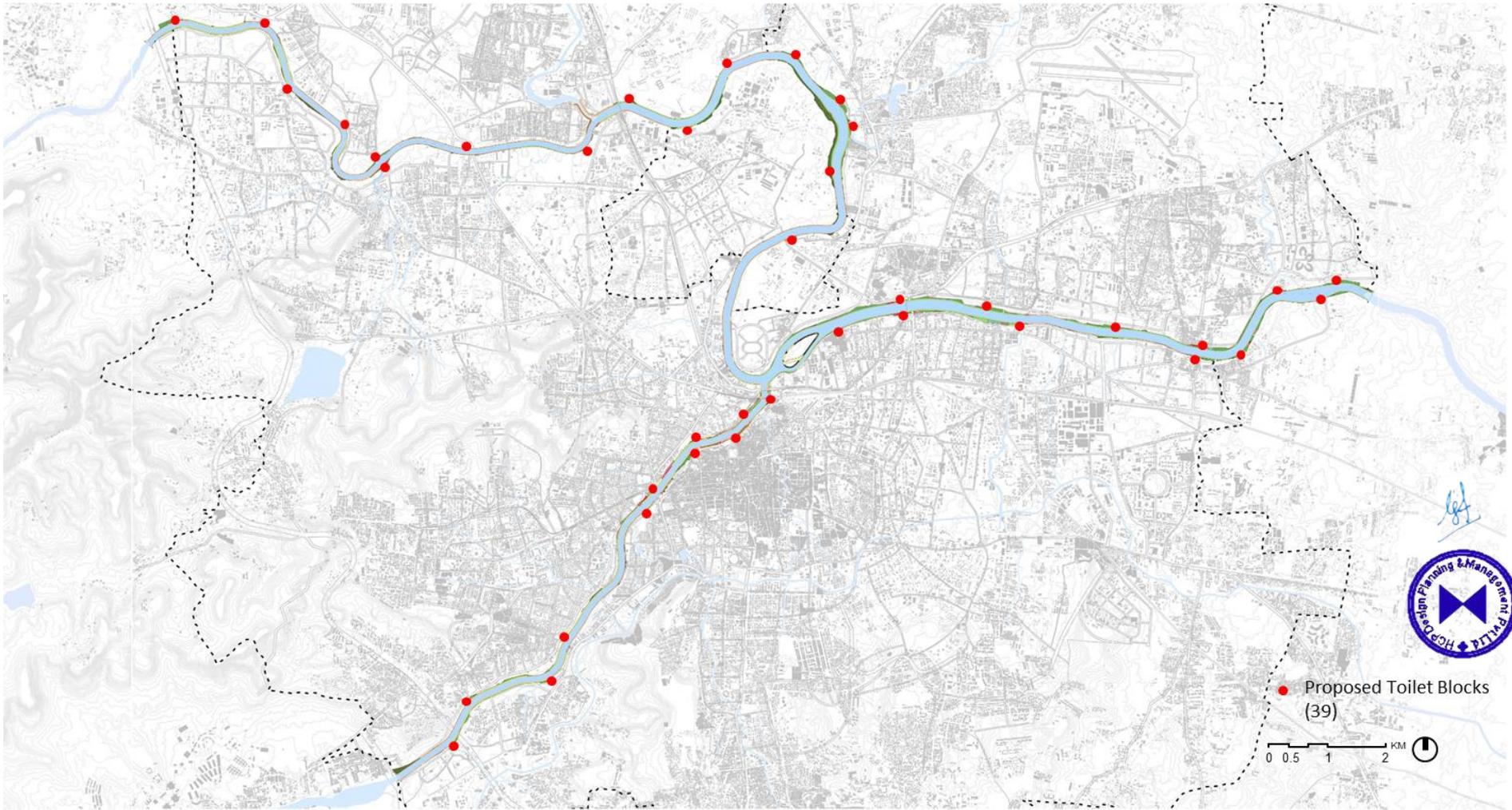
- **Toilet Blocks**

As per the proposed land uses along the embankments, toilet blocks have been proposed at 39 locations as per the footfall and requirements.

The toilet blocks will be placed at upper promenade level and will not be an obstruction to flood. Further, the toilets will be connected to the city sewage network and will not cause any water pollution. Smart toilets will be explored for the project. Smart public toilets have low operations and maintenance cost and are portable, vandal-proof toilet units. They are solar power dependent, eco- friendly and have an inbuilt grey water recycle system. It also caters to the disabled and has variety of options available.



Map showing Locations of Proposed Toilet Blocks





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- **Parking**

Parking will be provided on the remaining land as per the context and connectivity.

27 locations have been identified in the Final DPR to accommodate parking space for more than 2700 cars in the entire project area.

The parking spaces will have pervious material and will have enough trees along the periphery. The proposal will ensure that there is no heat island effect due to the parking area



COMPLIANCE POINT NO 8: PP to submit the detail note of water carrying capacity of the river after the commencement of the project.

Reply:

- The project enhances the flood carrying capacity of the river as compared to the existing natural condition. The project proposes to remove obstructions to the flow of water, reduce Rugosity coefficient and streamline the river and increase velocity. These steps will ensure that the cross currents within the river are prevented and will increase the conveyance carrying capacity of the river. Proposed embankment will prevent submergence of any low-lying areas near the river.
- A streamline flow pattern allows the river to minimize turbulence and cross currents. This will enhance the conveyance carrying capacity of the river & which will result in reduction in water surface elevation for more than 90% of the river length within project area. (Refer DPR Annexure 2 Hydrology and Hydraulics Page 165)
- The hydraulics study has been cleared by CWPRS and the same has been approved by the Irrigation Department.
- After receiving the referred letter, meeting happened with the irrigation dept. on 1st November 2021 and the clearance was received for the project considering the proposed hydrology and hydraulics report.





महापालिका आयुक्त कार्यालय
पुणे महानगरपालिका

०.००.१०.३३/१३०५/१२६२४

दि:- १५/११/२०२१

बैठकीचे इतिवृत

सोमवार दिनांक १ नोव्हेंबर २०२१ रोजी सकाळी १०.०० वाजता पुणे महानगरपालिकेचे जलसंपदा विभागाशी निगडित विषयाबाबत मा. महापालिका आयुक्त, पुणे महानगरपालिका यांचे कार्यालयामध्ये बैठक आयोजित करण्यात आली होती. सदर बैठकीस खालील अधिकारी उपस्थित होते.

| | | |
|----|-------------------------|---|
| १ | मा.श्री. विजयकुमार गौतम | विशेष कार्याधिकारी जलसंपदा विभाग, महाराष्ट्र शासन |
| २ | मा.श्री. विक्रम कुमार | महापालिका आयुक्त, पुणे म.न.पा |
| ३ | मा.डॉ. कुणाल खेमनार | अतिरिक्त महापालिका आयुक्त (इ), पुणे म.न.पा |
| ४ | श्री. प्रशांत बाघमारे | शहर अभियंता, पुणे म.न.पा |
| ५ | श्री. हनुमंत मुनाले | मुख्य अभियंता, जलसंपदा विभाग, पुणे |
| ६ | श्री. अनिरुद्ध पावसकर | मुख्य अभियंता, (पाणीपुरवठा) पुणे म.न.पा |
| ७ | श्री. व्ही.जी. कुलकर्णी | मुख्य अभियंता, (पथ) पुणे म.न.पा |
| ८ | श्री. युवराज देशमुख | अधीक्षक अभियंता, (प्रकल्प) पुणे म.न.पा |
| ९ | श्री. सं. द. चोपडे | अधीक्षक अभियंता, जलसंपदा विभाग, पुणे |
| १० | श्री. जगदीश खानोरे | अधीक्षक अभियंता, (मलनिःसारण प्रकल्प) पुणे म.न.पा |
| ११ | श्री. विजय पाटील | कार्यकारी अभियंता, खडकवासला पाटबंधारे विभाग, पुणे |
| १२ | श्री. नंदकिशोर जनताप | अधीक्षक अभियंता, (पाणीपुरवठा) पुणे म.न.पा |
| १३ | श्री. मंगेश दिवे | पर्यावरण अधिकारी, पुणे म.न.पा |

बैठकीचे सुरवातीला मा. आयुक्त, पुणे मनपा यांनी मा.श्री.विजयकुमार गौतम यांचे स्वागत केले. पुणे नदी पुनरुज्जीवन प्रकल्पाचे व साबरमती रिव्हर फ्रंट डेव्हलपमेंट प्रकल्पाचे सादरीकरण कामाचे तज्ञ सल्लागार मे एच.सी.पी डिझाईन प्लॅनिंग अँड मॅनेजमेंट कं. अहमदाबाद यांनी ऑनलाइनद्वारे सादरीकरण केले. सदर सादरीकरणामध्ये पुणे महानगरपालिका राबवित असलेला पुणे नदी पुनरुज्जीवन प्रकल्पाबाबतची हायड्रॉलॉजी व हायड्रॉलिसिक्स चे दृष्टिकोनातून, तसेच एकूण प्रकल्पाची माहिती सादर करण्यात आली.

बैठकीमध्ये खालीलप्रमाणे चर्चा व निर्णय घेणेत आला.

| अ.क्र | बैठकीत झालेली चर्चा | घेणेत आलेला निर्णय | संबंधित खाते / अधिकारी |
|-------|--|---|------------------------------------|
| १ | पुणे शहराच्या हद्दीतून वाहणाऱ्या ४५ किलोमीटरच्या मुळा-मुठा नदीच्या पुनरुज्जीवन प्रकल्पास ना हरकत देणेबाबत मे. राज्य शासनाच्या जलसंपदा विभागाचे पत्र जायक क्रमांक. संकीर्ण-२०२०/प्र.क्र.१४/२०२०/सि.बि (म) दिनांक २१/०१/२०२१ रोजीच्या पत्रामध्ये सी.डब्ल्यू.पी. आर.एस संस्थेने अभ्यास अहवालाची पडताळणी करून बिकसन प्रकल्पामुळे पुरेपेच्या पातळीत वाढ होणार नसल्याची खातरजमा मुख्य अभियंता जलसंपदा विभाग पुणे यांनी करावी आणि तसे पुणे महानगरपालिकेला अवगत करावे असे कळविण्यात आले होते. त्यानुसार मुख्य अभियंता जलसंपदा विभागाचे दि.२८/१०/२०२१ चे पत्रातील मुद्यांबाबत चर्चा झाली. यामध्ये | मुळा मुठा नदी पुनरुज्जीवन प्रकल्प करताना नदीची वहनक्षमता कमी होणार नाही याची दक्षता घेण्यात यावी. नदी पुनरुज्जीवन प्रकल्पाच्या प्रस्तावित काटछेदातून शंभर वर्षे वारंवारितेची पुरे विसर्ग सुरक्षितपणे वाहून नेण्याचा क्षमतेचा HEC-RAS मॉडेल मार्फत केलेल्या अभ्यासाची पडताळणी सी. डब्ल्यू. पी. | मुख्य अभियंता, जलसंपदा विभाग, पुणे |

| | | |
|---|--|--|
| १ | नदीचा काटछेद कमी होणार नाही असा उल्लेख करणेत आला आहे. त्यामुळे याबाबत अधिक स्पष्टता येणे अधिक जरूरीचे आहे. नदीच्या एकूण लांबीमध्ये ठिकठिकाणी नदीची रुंदी कमी/ जास्त प्रमाणात असल्याने तेच नदीकाठची उंची सुद्धा कमी/ जास्त असल्याने Eddies , Current निर्माण होतो व परिणामी प्रवाहास अडथळा निर्माण होतो. त्यामुळे प्रकल्पामध्ये १,६०,००० क्युसेक्स वहन क्षमता विचारात घेऊन नदीचा काट छेद प्रस्तावित करणेत आलेला आहे व तो योग्य त्या डिझाईन नुसार बांधला जाणार आहे. त्यामुळे Co efficient rogocity (N - value) कमी झाल्यामुळे पुरवहन क्षमतेमध्ये वाढ होणार आहे. त्यामुळे महानम पुर पातळीमध्ये (रेड लाईन) वाढ होणार नाही याची नपामणी मी. डब्ल्यू.पी. आर.एस या संस्थेने केलेली आहे. प्रस्तावित केलेला काट छेद योग्य असलेबाबत चर्चा झाली. त्याप्रमाणे कार्यवाही करणेस हरकत नाही. | आर. एस मार्फत करण्यात आली आहे. त्यामुळे पुरवहन क्षमता कमी होणार नाही, यापद्धतीने प्रस्तावित काटछेद ठेवावे, असे पाटबंधारे विभाग यांनी मान्य केले. |
| २ | नदीमध्ये येणाऱ्या मैलापाणी व्यवस्थेबाबत - नदीमध्ये येणाऱ्या मैलापाणी मुळे पाणी शेतीस देणेसाठी तसेच नदीमध्ये स्वच्छ पाणी राहणे जरूरीचे आहे. याबाबत जायका च्या माध्यमातून मैलापाणी शुद्धीकरण केंद्रे बांधण्यात येणार असून प्रकल्पाच्या क्षमतेमध्ये आणखी वाढ करण्याच्या दृष्टीने प्रयत्न करणे व नदीमध्ये शुद्ध पाणी राहिल याची काळजी महानगरपालिकेने घ्यावी याबाबत सूचना करण्यात आल्या. | नदीमध्ये १००% स्वच्छ पाणी राहणेसाठी अस्तित्वातील व जायका च्या माध्यमातून बांधण्यात येणाऱ्या मैला शुद्धीकरण प्रकल्पातील पाणी शुद्धीकरण केल्यानंतरच नदीमध्ये सोडण्यात यावे. |
| ३ | फुरसुंगी व उरळी देवाची येथे महानगरपालिकेमार्फत Town Planning Scheme नियोजित करणेत आल्या आहेत. यामध्ये पाटबंधारे विभागाच्या जागेचा देखील समावेश केला आहे. त्यामुळे पाटबंधारे विभागास व्यावसायिक/ रहिवाशी बांधकाम करणे योग्य जागा उपलब्ध होणार असून त्या भागाचा सुनियोजित विकास होणेस मदत होणार असल्याचे मा. महापालिका आयुक्त यांनी सांगितले. ही बाब विशेष कार्याधिकारी यांनी चांगली असल्याचे नमूद केले. | मा. विशेष कार्याधिकारी यांनी नमूद केल्याप्रमाणे पुढील कार्यवाही करण्यास हरकत नसल्याच्या सूचना देण्यात आल्या. त्यामुळे पाटबंधारे विभागास रहिवासी/ व्यावसायिक बापरा योग्य जागा उपलब्ध होणार आहे. |
| ४ | बडगाव बुद्रुक येथे मुठा उजव्या कॅनॉल च्या लगत पुणे मनपा मार्फत ७.५ मी. रुंद डी. पी. रस्त्याचे काम सुरु आहे. सदर काम त्वरित पूर्ण करणेबाबत मा. आमदार माधुरीताई मिसाळ व अन्य स्थानिक सभासद आग्रही आहेत. पु. ल. देशपांडे उद्यानाच्या मागील बाजूस या रस्त्यावर अस्तित्वातील नाल्यावर कल्लूट बांधण्याचे काम सुरु आहे. सदर काम पाटबंधारे विभागाचे थांबविले असून, सिंहगड रस्त्यास पर्यायी रस्ता म्हणून ७.५ मी. रुंदीचा रस्ता बापरला जाणार असल्याने, हे काम तातडीने पूर्ण होणे गरजेचे आहे. या कल्लूट च्या कामास पाटबंधारे विभागाच्या परवानगीची आवश्यकता आहे. | अ) मुख्य कॅनॉल लगत सदर कल्लूट चे काम होणार असून, मुख्य कॅनॉल च्या भरावास कोणत्याही प्रकारची क्षती पोहीचणार नाही याचे खबरदारी संबंधित ठेकेदाराने घेणे आवश्यक राहिल. ब) खोदाई पूर्ण झाल्यानंतर काळ्या मातीने भराव करून व प्रत्येक थर निहाय योग्य तो दाब देऊन कॅनॉल लगतचा भराव पुर्ववत करणे आवश्यक राहिल. क) सदर काम पुणे मनपा व खडकवासला पाटबंधारे विभाग यांचेकडील अधिकारी यांची एकत्रित समिती स्थापन करून |



COMPLIANCE POINT NO 9: During Monsoon even if there are no much floods in rivers due to existing dams and controlled releases from upstream reservoirs ,now a days high intensity short duration events like 2019 pluvial floods , (floods in city area due to direct surface runoffs and natural drainages in city area) are occurring frequently , Hence after raising Embankments above ground levels, the arrangements for storm water drains must be ensured with planning of connecting surface water to nearest nalla/ drains and direct surface access towards rivers must be ensured with provision of water entry points in design of parapet walls and raised embankments. To avoid such city surface runoff inundations, thought must be given to limit height of embankments wherever possible and avoid embankments above the ground level.

Reply:

- As per site conditions, storm water drains/ swales will be provided as mentioned in point no. 5.
- Majorly, the entire storm water is being carried to the river by tributaries, rivulets and other existing nallahs.
- All the natural nallahs in existing conditions will be integrated within the embankments for smooth inflow into the river.
- There are certain sub basins where there is no natural nala or where the surface runoff drains directly into the river.
- Those stretches will be provided with swales running parallel to the embankments along the city side and would have provisions of outfalls integrated to existing adjacent outfalls or nallahs. The locations and dimensions of these swales would be finalized in detailed design stage.



1080
CONT...

- Further, provision of water entry points on parapet walls have been at every 6m to drain stormwater from the promenade level towards the river.



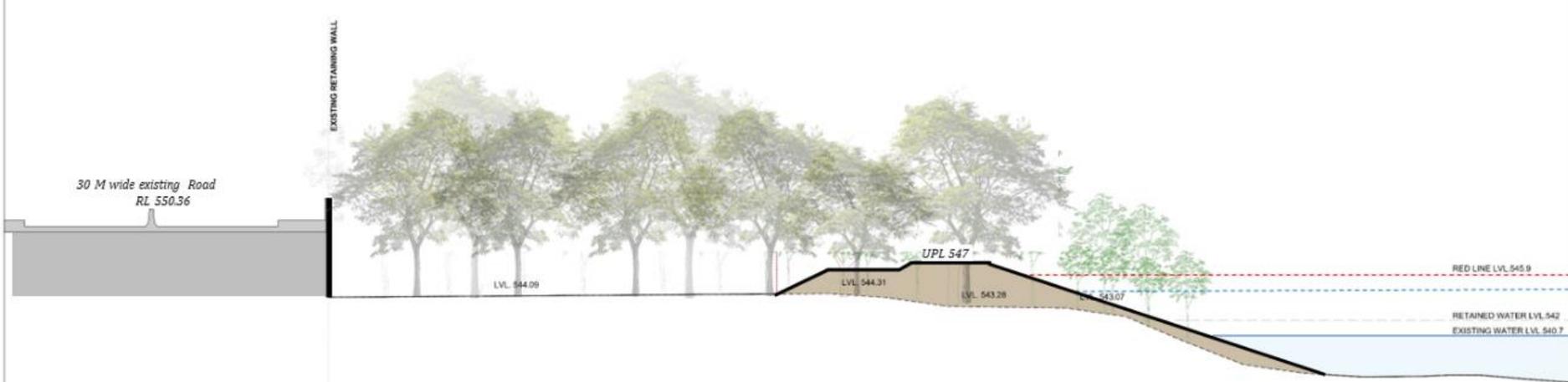
- As per site conditions and feasibility, the height of embankments shall be reduced wherever possible. Since there are a lot of developed and low-lying areas around the river, flood protection embankments up to certain level is mandatory. However, wherever possible the embankment height will be reduced provided that the flood water does not enter the city due to existing retaining walls, etc.



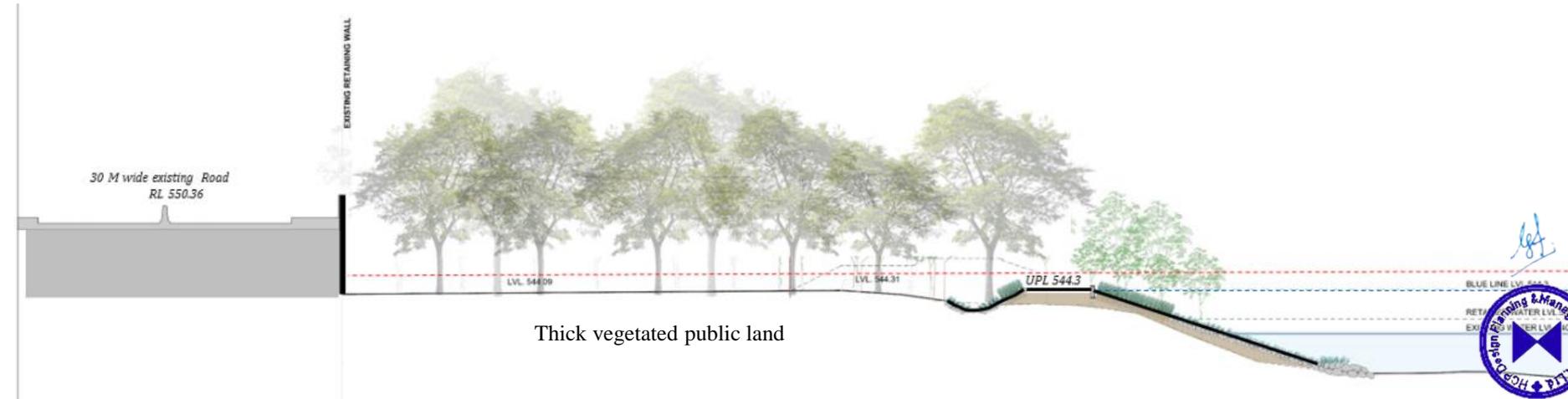
CONT...

- Schematic alteration in the embankments have been illustrated below:

i. Height of embankment up to red line protection



ii. Height of embankment reduced to blue line protection considering the site conditions and feasibility.



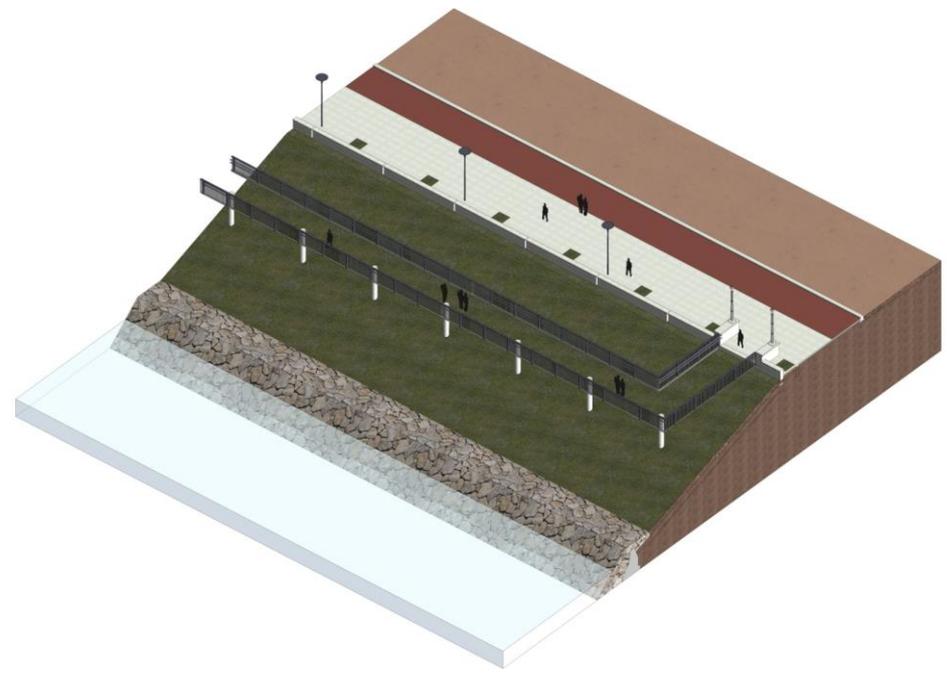


1082

COMPLIANCE POINT NO 10: Proposed trails on sloping portion of embankment shall be designed in such a way that it shall allow the movement of water to flow during high flood time and not create obstructions.

Reply:

The trails has been redesigned to allow flow of water during high flood times. The revised design is a hollow sleek structure that do not act as an obstruction to water flow. The same would be vetted by concerned authority regarding its stability before execution.

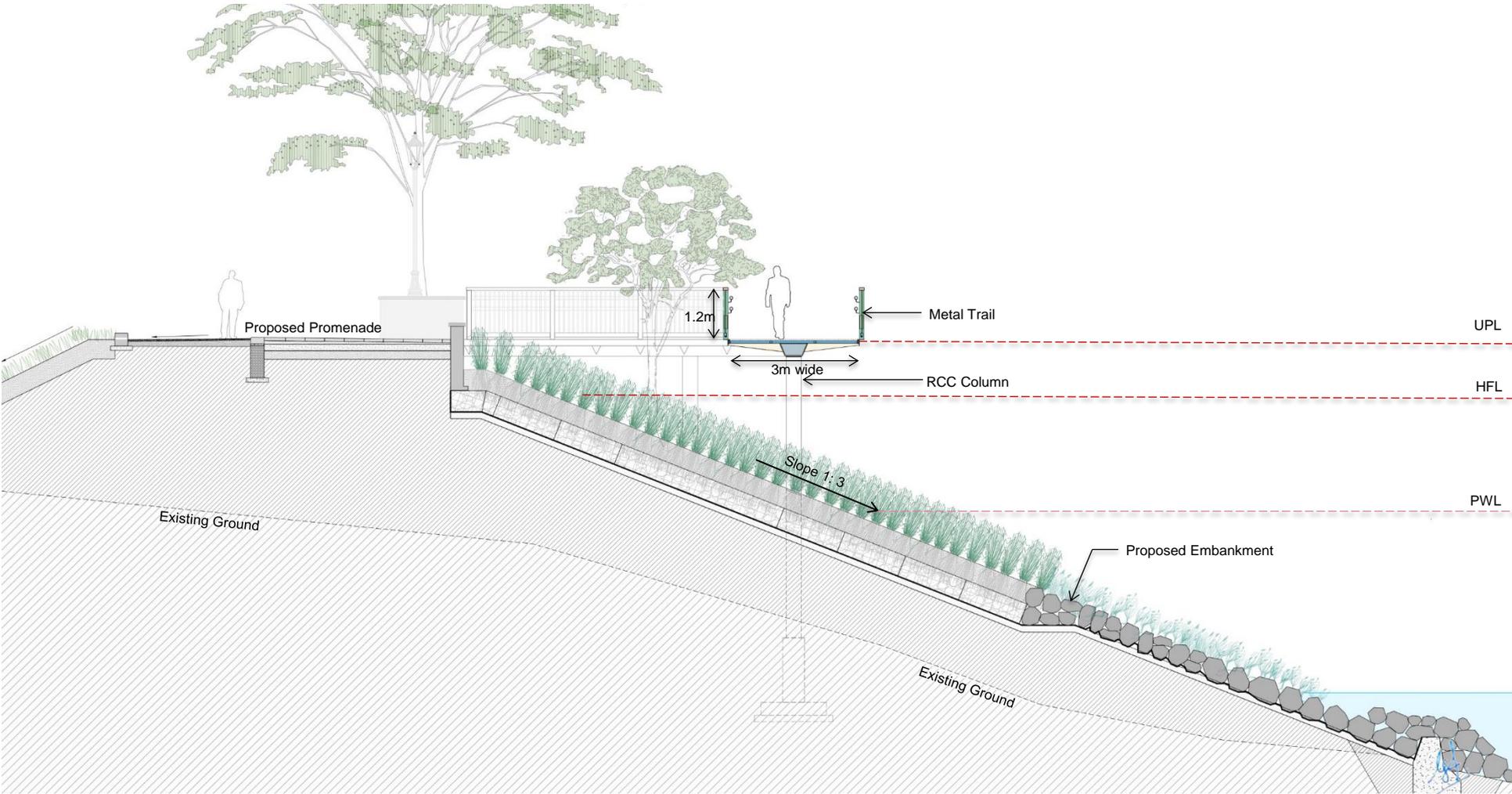


Reference Image: Metal Trail





Section through the Hollow Metal Trail





COMPLIANCE POINT NO 11: PMC to monitor the flood discharge levels at every 100m in the executed stretches and monitor same at every 1km for the remaining project length during the flood periods.

Reply:

PMC ensures that we will start monitoring the flood discharge levels at every 100m in the executed two stretches which are under process and will also monitor the same at every 1km for the remaining project length during the flood periods.

Report of the same shall be submitted duly to the Authority along with Six-Monthly Compliance Report.





The gates of the Barrage were closed by PMC resulting in retention of water in the upstream.

Bund Garden Barrage water retention 1088



The retained water level of 540.7m was observed after closing of Barrage .



Demarcation of retained water level to identify for any mishap that can occur on the site.

Water level monitoring done for Stretch 9 1090

MULA-MUTHA RIVER REJUVENATION PROJECT STRETCH-09
RIVER WATER LEVEL ON 25/07/2024



Mula-Mutha River Rejuvenation Project Stretch-09
River Water Level on 26/07/2024



Mula-Mutha River Rejuvenation Project Stretch-09
River Water Level on 27/07/2024



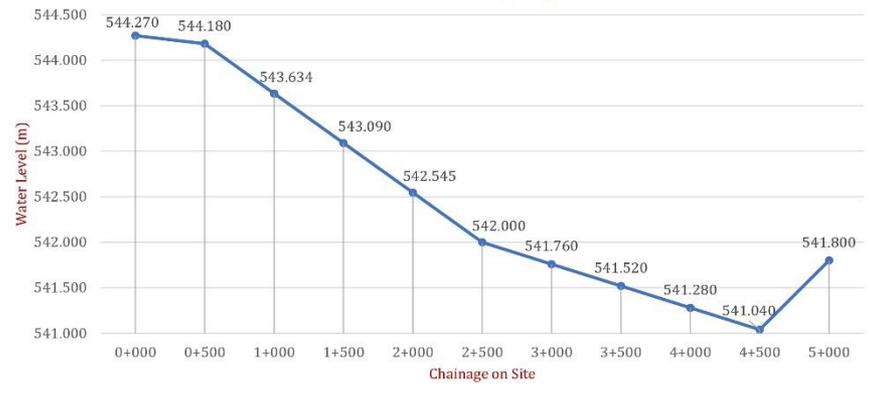
MULA-MUTHA RIVER REJUVENATION PROJECT STRETCH-09
RIVER WATER LEVEL ON 29/07/2024



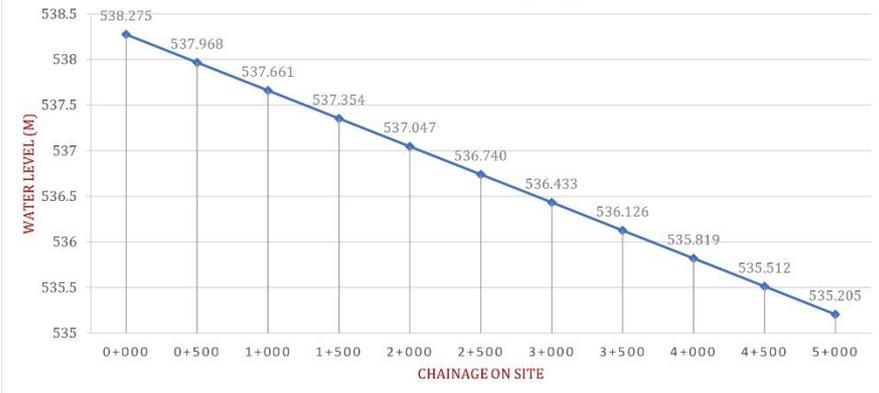
Water level monitoring done for Stretch 10

1091

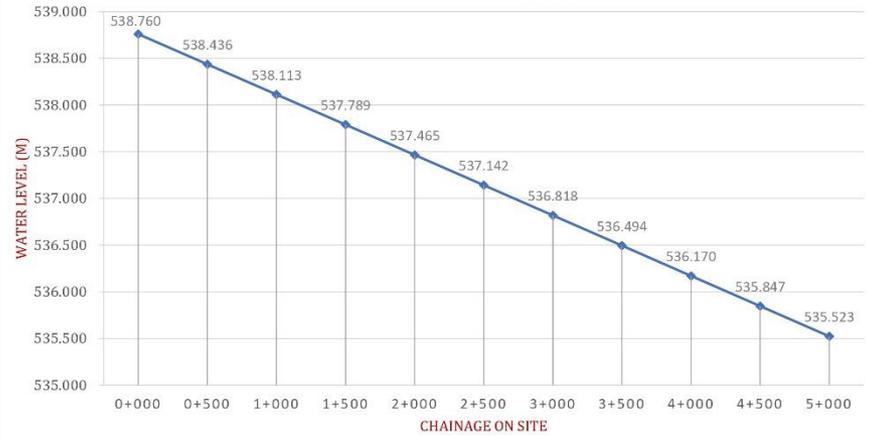
Mula-Mutha River Rejuvenation Project Stretch-10&11
River Water Level on 25/07/2024



MULA-MUTHA RIVER REJUVENATION PROJECT STRETCH-10&11
RIVER WATER LEVEL ON 28/07/2024



MULA-MUTHA RIVER REJUVENATION PROJECT STRETCH-10&11
RIVER WATER LEVEL ON 27/07/2024



MULA-MUTHA RIVER REJUVENATION PROJECT STRETCH-10&11
RIVER WATER LEVEL ON 26/07/2024



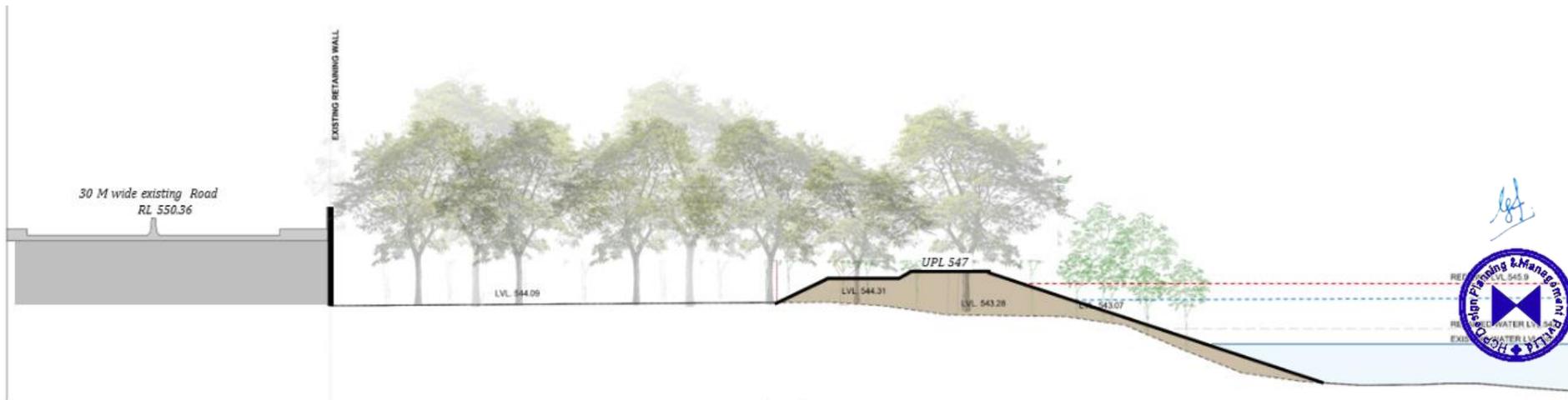


1092

COMPLIANCE POINT NO 12: Understanding that the high flood (i.e., 100-year flood) may occur for very few days of the year, therefore reduction in height of embankments raised above ground shall be considered wherever possible.

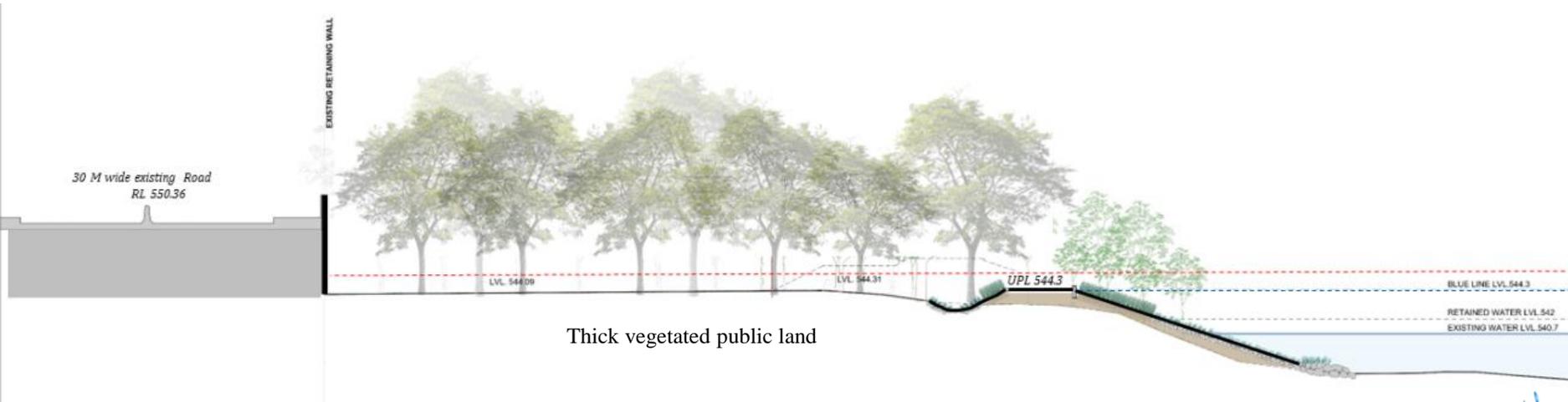
Reply:

- As per site conditions and feasibility, the height of embankments shall be reduced wherever possible. Since there are a lot of developed and low-lying areas around the river, flood protection embankments up to certain level is mandatory. However, the areas like defence area upstream of bund garden, Salim Ali bird sanctuary have possibilities of reducing the embankment height due to the presence of existing retaining wall and vacant areas.
- Schematic alteration in the embankments have been illustrated below:
 - i. Height of embankment up to red line protection



CONT...

- ii. Height of embankment reduced to blue line protection considering the site conditions and feasibility.



1094



COMPLIANCE POINT NO 13: The stone rip rap shall be placed in the paneling form to sustain the sudden drawdown hydraulic conditions during floods.

Reply:

The proposed stone riprap has been designed keeping in mind the sudden drawdown, steady seepage and seismic conditions. The design and technical specifications of the same have been vetted by COEP

COMPLIANCE POINT NO 14: PMC shall ensure the specified density of the boulders in rip rap to avoid flying of stones due to the flood pressures and negative suctions.

Reply:

The size, weight and other properties for the stone riprap as mentioned in the technical specifications shall be adhered to during execution. The design and specified properties have been proposed keeping in mind the potential effects of flood pressure and negative suctions.



COMPLIANCE POINT NO 15: PMC to envisage mechanism for post monitoring of the project on monthly basis ensuring the compliance of the conditions prescribed.

Reply:

ENVIRONMENTAL MONITORING PLAN is as below;

| Component | Parameters | Location | Frequency | Duration |
|---------------------|---|---|-------------------------|---|
| Ambient Air Quality | PM ₁₀ , PM _{2.5} , SO ₂ , NOx, VOC | Minimum 15 locations | Four /Year | 24 hrs |
| Noise level | Leq day, Leq night, L10, L50, L90 dB(A) | 17 number of location, In and around the work zone | Four /Year | 24 hour reading with a frequency of 10 minutes every hour |
| Soil Quality | Physico-chemical characteristic | 16 number of location | Four /Year | One time sample |
| Ecology | Survival rate of plantation | At locations of compensatory plantation and landscaping | Annually | For 3 years after operation starts |
| Solid waste | Depending on type of wastes | Solid waste disposal location | Once during each season | One time sample |
| Ground water | As per IS 10500:2012 | 10 number of location | Four /Year | One time sample |
| Surface water | As per IS 10500:2012 | 15 number of location | Four /Year | One time sample |

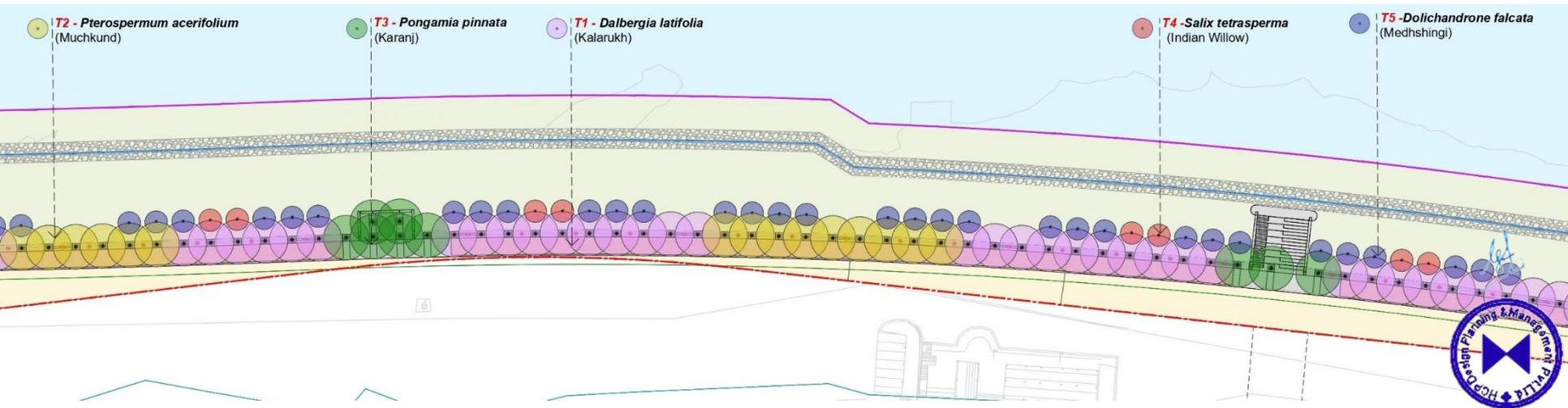


**1096**

COMPLIANCE POINT NO 16: PP to submit the detail landscape / plantation plan along with number / name of species to be planted. PP to submit the details of Transplantation techniques.

Reply:

- The embankments have been proposed with one row of trees along the upper walkway. The green embankments have strategically placed trees on the sloped pitching. And apart from that, the gardens, urban forests, and other public amenities proposed along the embankments also have thick tree plantation strategies.
- Overall, an estimate of more than 30,000 trees will be planted within the entire project area. Among which more than 15,000 will be planted on the embankments and the remaining 15,000 will be housed in the remaining land within the project area.



Proposed Planting Palette

1097

Trees

| Sr. no. | Botanical name |
|---------|--|
| 1 | Aegle marmelos (Bel, Maredu) |
| 2 | Azadirachta indica (Neem) |
| 3 | Bombax ceiba (Saanvari, Semal) |
| 4 | Butea monosperma (Palas) |
| 5 | Chukrasia tabularis (Dalmara, Lal-devdar) |
| 6 | Crateva adansonii (Barni) |
| 7 | Crateva religiosa (Vaywaran, Garlic Pear Tree) |
| 8 | Erythrina suberosa (Pangara) |
| 9 | Ficus microcarpa (Kamarup, Laurel Fig) |
| 10 | Ficus racemosa (Umber) |
| 11 | Ficus tsjahela (Karal Fig) |
| 12 | Ficus virens (Bassari, Pilkhan) |
| 13 | Heterophragma quadriloculare (Waras) |
| 14 | Mangifera indica (Amba) |
| 15 | Millingtonia hortensis (kaval Nimb) |
| 16 | Mutingia calabura (Paanchara) |
| 17 | Neolamarckia cadamba (Kadam) |
| 18 | Pongamia pinnata (Karanj) |
| 19 | Pterospermum acerifolium (Karnikar) |
| 20 | Schleichera oleosa (Kusumb) |
| 21 | Sterculia foetida (Jangali Badam) |
| 22 | Sterculia urens (Kandol) |
| 23 | Tamarindus indica (Chinch) |
| 24 | Terminalia arjuna (Arjun) |
| 25 | Terminalia bellirica (Baheda) |
| 26 | Trema orientalis (Kharagol, Ghol) |
| 27 | Mimusops elengi (Bakuli) |
| 28 | Albizia chinensis (Udal) |
| 29 | Albizia odoratissima (Chinchava) |
| 30 | Albizia procera (Pandhra Shirish) |

Trees

| Sr. no. | Botanical name |
|---------|--|
| 31 | Barringtonia acutangula |
| 32 | Barringtonia racemosa (Nivar, Sadphali) |
| 33 | Bauhinia foveolata (Chamoli) |
| 34 | Bauhinia purpurea (Kachnar) |
| 35 | Bauhinia racemosa (Aapta) |
| 36 | Bridelia retusa (Asana) |
| 37 | Cordia sinensis (Gondni) |
| 38 | Dolichandrone falcata (Medhshingi) |
| 39 | Firmiana colorata (Kaushi) |
| 40 | Lagerstroemia parviflora (Bondga, Bondara) |
| 41 | Lagerstroemia speciosa (Jarul) |
| 42 | Memecylon umbellatum (Anjani) |
| 43 | Mesua ferrea (Nag Chafa) |
| 44 | Morinda pubescens (Aseti, Dhaula) |
| 45 | Mutingia calabura (Paanchara) |
| 46 | Salix tetrasperma (Valunj) |
| 47 | Saraca indica (Sita Ashok) |
| 48 | Thespesia populnea (Paras-Bhendi) |
| 49 | Pongamia pinnata (Karanj) |
| 50 | Pterospermum acerifolium (Karnikar) |
| 51 | Schleichera oleosa (Kosam) |
| 52 | Albizia amara (Lallei) |
| 53 | Albizia odoratissima (Chinchava) |
| 54 | Albizia procera (Pandhra Shirish) |
| 55 | Bauhinia purpurea (Kachnar) |
| 56 | Bauhinia racemosa (Aapta) |
| 57 | Cordia dichotoma (Bhokar) |
| 58 | Cordia sinensis (Gondni) |
| 59 | Dolichandrone falcata (Medhshingi) |
| 60 | Holoptelea integrifolia (Vaval) |
| 61 | Morinda pubescens (Aseti, Dhaula) |
| 62 | Salix tetrasperma (Valunj) |
| 63 | Thespesia populnea (Paras-Bhendi) |
| 64 | Wrightia arborea (Pandu Kuda) |



Proposed Planting Palette 1098

Shrubs

| S.No. | Botanical Name |
|-------|----------------|
|-------|----------------|

| | |
|----|---|
| 1 | Agave amica (Tuberose) |
| 2 | Alocasia macrorrhizos (Giant Taro) |
| 3 | Angelonia angustifolia (Summer Snapdragon) |
| 4 | Asparagus racemosus (Satavari) |
| 5 | Canna indica (colorful mix) (Indian Shot) |
| 6 | Clerodendrum wallichii (Sankuppi) |
| 7 | Colocasia esculenta (Taro) |
| 8 | Crinum asiaticum (Sudarshan Lily) |
| 9 | Crinum menhune (Black Lily, Red Bog Lily) |
| 10 | Gardenia jasminoides (Gandroya) |
| 11 | Hamelia patens (Fire Bush) |
| 12 | Heliconia psitacorum 'Dwarf' |
| 13 | Hemerocallis fulva (Orange Day Lily) |
| 14 | Hymenocallis littoralis (Spider Lily) |
| 15 | Ixora coccinea (Ixora) |
| 16 | Jasminum sambac (Mogra) |
| 17 | Magnolia coco (Coconut magnolia) |
| 18 | Nerium oleander 'Dwarf' (Pink) |
| 19 | Pandanus yellow variegated dwarf (Kewra) |
| 20 | Plumbago zeylanica (Chitrak) |
| 21 | Ruellia simplex (Mexican Petunia) |
| 22 | Stachytarpheta indica (Indian Snake Weed) |
| 23 | Lawsonia inermis (Mehndi) |
| 24 | Cestrum nocturnum (Raat ki Rani) |
| 25 | Cestrum diurnum (Din ka Raja) |
| 26 | Barleria cuspidata (Kate Koranti) |
| 27 | Vitex negundo (Nagod) |
| 28 | Clerodendrum inerme (Vilayati Mehendi) |
| 29 | Capparis grandis (Pachonda) |
| 30 | Carissa congesta (Karonda) |
| 31 | Asclepias curassavica (Tropical milkweed) |
| 32 | Hibiscus rosa-sinensis dwarf (Jasud) (Mixture of 2 colors- 50-50 %) |
| 33 | Holarrhena pubescens (Indrajao) |
| 34 | Calotropis gigantea (Crown Flower, Aak) |
| 35 | Carissa spinarum (Wild Karonda) |
| 36 | Justicia adhatoda (Adhatoda) |
| 37 | Murraya exotica (Kamini) |
| 38 | Murraya paniculata (Madhukamini) |
| 39 | Senna auriculata (Tanner's Cassia) |
| 40 | Tabernaemontana divaricata(Chandani) |
| 41 | Woodfordia fruticosa (Dowari) |
| 42 | Argyrea cuneata (Purple morning glory) |

Grass

| S.No. | Botanical Name |
|-------|----------------|
|-------|----------------|

| | |
|----|--|
| 1 | Arundo donax (Giant Reed) |
| 2 | Megathyrsus maximus (Guinea grass) |
| 3 | Typha angustifolia (Tall Reed) |
| 4 | Vetiveria zizanioides (Vetiver) |
| 5 | Apluda mutica (Mauritian Grass) |
| 6 | Cyanthillium cinereum (Little Ironweed) |
| 7 | Eragrostis plumosa (Japanese Lovegrass) |
| 8 | Saccharum spontaneum (Wild Sugarcane) |
| 9 | Wild paspalum (Cow grass) |
| 10 | Cenchrus setaceus (Crimson fountaingrass) |
| 11 | Cymbopogon citratus (Lemon Grass) |
| 12 | Cyperus alternifolius (Umbrella Sedge) |
| 13 | Pennisetum setaceum (White Fountain Grass) |
| 14 | Pennisetum setaceum 'Rubrum' (Purple Fountain Grass) |

Ground cover

| S.No. | Botanical Name |
|-------|----------------|
|-------|----------------|

| | |
|---|-------------------------------|
| 1 | Ficus pandsa clipped hedge |
| 2 | Hamelia patens 'Dwarf' (Nana) |
| 3 | Pandanus variegated dwarf |
| 4 | Wedelia trilobata |

Creepers

| S.No. | Botanical Name |
|-------|----------------|
|-------|----------------|

| | |
|---|---|
| 1 | Argyrea nervosa (Elephant Creeper) |
| 2 | Derris trifoliata (Common Derris, Karanj Vel) |
| 3 | Ipomea carnea (Bush Morning Glory) |
| 4 | Ipomea cairica (Railway Creeper) |
| 5 | Ipomea campanulata (Tambar-vel) |
| 6 | Ipomea pes-caprae (Maryada-vel) |
| 7 | Ipomea purpurea (Morning glory) |
| 8 | Oxystelma esculentum (Rosy Milkweed Vine) |



CONT...

- There are a lot of existing trees along the riverbank of Mula, Mutha and Mula-Mutha rivers. The DPR (Detailed Project Report) does acknowledge the presence of this natural green feature within the project boundary and hence, clearly mentions that these trees will be integrated with the proposed embankment design. The design proposal carefully retains existing trees along with the proposed additional trees.
- But, among these existing trees, there are a lot of invasive species which have a detrimental effect on the overall green cover along the river. Any large invasive species within the project area shall be retained considering its age, condition of the tree, deep rooted or presence of any bird nests. And, it is proposed to remove recently emerged, small invasive species within the project boundary to improve ecology of the area.
- All the large native species and historical trees within the project area shall be retained and would be integrated into the design of the embankment. But, due to the implementation of the flood protection embankment some small native trees may get affected. Therefore, those trees need to be scientifically transplanted considering the feasibility and functionality of the proposed embankments. Proper transplanted methodology will be adopted to ensure high percentage of sustenance of the transplanted trees and minimal impact to the ecology.
- 5 years maintenance of the all the proposed plantation and transplantation will be ensured post construction of the embankments.





PICTURE ILLUSTRATION



Tree species proposed for transplantation.

| Sr no. | Existing Tree Species to be transplant in Stretch 9 and 10 |
|--------|--|
| 1 | Annona reticulata |
| 2 | Asimina triloba |
| 3 | Azadirachta indica |
| 4 | Bauhinia racemosa |
| 5 | Bombax insigne |
| 6 | Brownea coccinea |
| 7 | Butea monosperma |
| 8 | Cascabela thevetia |
| 9 | Cassia fistula |
| 10 | Citrus limon |
| 11 | Cocos nucifera |
| 12 | Delonix regia |
| 13 | Ficus benamina |
| 14 | Ficus racemosa |
| 15 | Ficus religiosa |
| 16 | Ficus simplicissima |
| 17 | Garcinia xanthochymus |
| 18 | Gliricidia sepium |
| 19 | Gmelina arborea |
| 20 | Hibiscus species |
| 21 | Holoptelea integrifolia |
| 22 | Hyophorbe lagenicaulis |
| 23 | Litsea glutinosa |
| 24 | Mangifera indica |
| 25 | Melia azadirach |
| 26 | Moringa oleifera |
| 27 | Morus alba |
| 28 | Muntingia calabura |
| 29 | Nerium oleander |
| 30 | Palm specie |

| | |
|----|-------------------------|
| 31 | Peltophorum pterocarpum |
| 32 | Phoenix dactylifera |
| 33 | Phoenix sylvestris |
| 34 | Phyllanthus species |
| 35 | Pithecellobium dulce |
| 36 | Plumeria alba |
| 37 | Pongamia pinnata |
| 38 | Pterocarpus santalinus |
| 39 | Putranjiva roxburghii |
| 40 | Ricinus communis |
| 41 | Samanea Saman |
| 42 | Samanea saman |
| 43 | Santalum album |
| 44 | Saraca asoca |
| 45 | Senna siamea |
| 46 | Spathodea campanulata |
| 47 | Swietenia macrophylla |
| 48 | Syzygium cumini |
| 49 | Syzygium samarangense |
| 50 | Tamarindus indica |
| 51 | Tectona grandis |
| 52 | Thespesia populnea |
| 53 | Trema orientale |



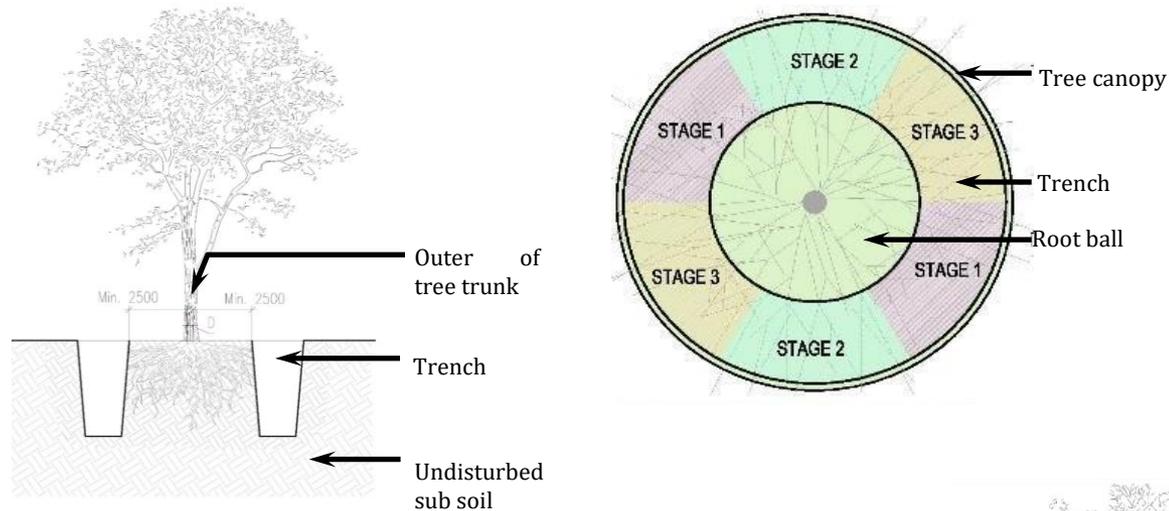


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•Transplantation Guidelines

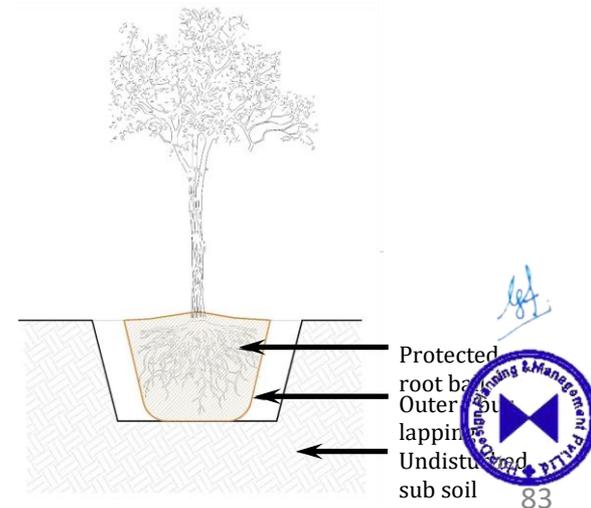
i. Stage 1 – Trenching

- Dig a trench on the outside of the marked circumference in only two opposing segments. After a period of 1 month since the 1st root pruning, dig a trench on the outside of the marked circumference in the adjacent two opposing segments and so on for the third segments.



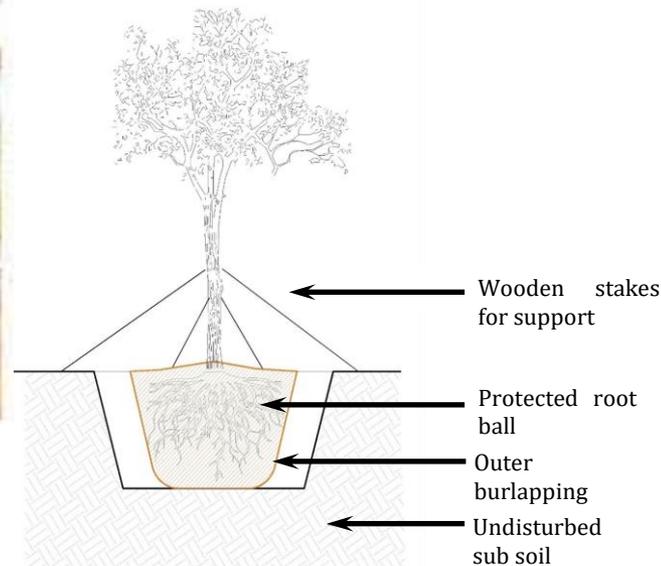
ii. Stage 2 – Burlap & Lifting

- Root ball is covered properly from top to bottom from a damp hessian as shown in fig. "C".
- This hessian shall be kept moist throughout the time of uplifting until the uplifted tree is transplanted in its new location.
- Lifting should be done by direct lift, with padded protection for the tree, using a machine of appropriate capacity connected to the support around the root ball, not to any other part of the tree as shown in fig. "D".



iii. Stage 3 – Relocation to External site

- A planting hole at the new location should be created in advance. In general, the depth of the planting hole shall not exceed the depth of the root ball and the sides of the planting hole should be scarified

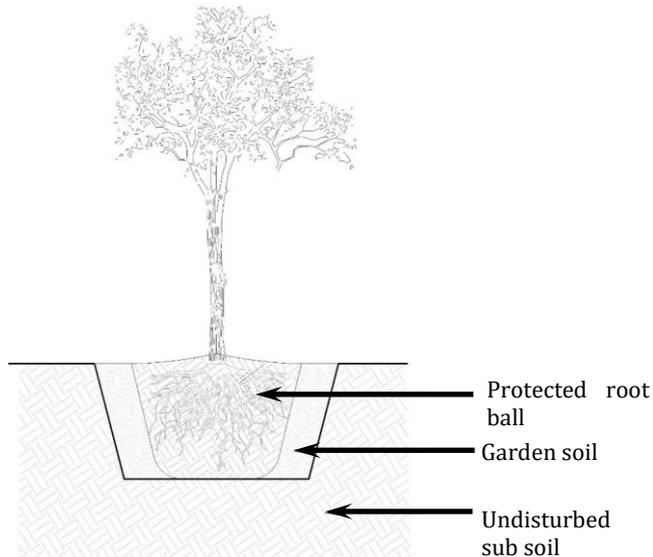




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Iv Stage 4 – Post Transplantation maintenance

- The top surface of the root ball should not be below the surrounding soil. The bottom of the trunk flare should be at or above the finished grade.
- The backfill soil should be tamped firmly around the base to stabilize a tree. It is important that all the transplanted trees should have a proper watering program as part of the daily maintenance work in the transit nursery.



COMPLIANCE POINT NO 17: PP to obtain NOC / permission from competent authority for felling / transplantation of the trees.

Reply:

PMC approached the State Government regarding the Tree cutting permission; however, the State government has delegated the power to PMC.

| S. No. | Stretch | River Length | No. trees to be retained | No. of tree to be transplanted | No. of small invasive trees to cut | Total no. of proposed trees | Actual Planted |
|--------|--|--------------|--------------------------|--------------------------------|------------------------------------|-----------------------------|--------------------|
| 1 | Total stretch under execution | 9km | 5,608 | 2,311 | 2,119 | 4,500 | 320 (Till date) |
| 2 | Total river length (on pro rata basis) | 44km | 27,416 | 11,298 | 10,360 | 30,000 | 320 |

Trees planted during execution till date:

| S. No. | Location | Numbers |
|--------|--|---------|
| 1 | Within Project boundary | 320 |
| 2 | Outside Project boundary (Defence Area, Military area) | 4,000 |



1106

Trees planted inside project boundary



12/04/2024



Trees planted inside project boundary



16/05/2024



1108

Trees planted inside project boundary



17/07/2024



Trees planted outside project boundary





 GPS Map Camera

Pune, Maharashtra, India
GVQ3+PWQ, Sangamvadi, Pune, Maharashtra 411006, India
Lat 18.540755°
Long 73.855378°
08/01/24 04:40 PM GMT +05:30



 GPS Map Camera

Pune, Maharashtra, India
GVQ3+PWQ, Sangamvadi, Pune, Maharashtra 411006, India
Lat 18.541029°
Long 73.855429°
08/01/24 04:41 PM GMT +05:30





पुणे महानगरपालिका
वृक्ष प्राधिकरण कार्यालय
शिवाजीनगर क्षेत्रिय कार्यालय, शिवाजीनगर, पुणे ५
जा.क्र.उकाजा/३१७०५
दिनांक १२/१०/२०२३

प्रति,
मा.महापालिका आयुक्त
तथा प्रशासक
तथा अध्यक्ष, वृक्ष प्राधिकरण समिती,
पुणे महानगरपालिका

यांजकडे सविनय सादर

विषय - पुणे महानगरपालिकेच्या नदी सुधार प्रकल्पांतर्गत - स्ट्रेच ९ व स्ट्रेच १० व स्ट्रेच ११ च्या नदीच्या डावी व उजवी बाजूचे वृक्ष पुर्ण काढणे /पुनरोपण करणेबाबतच्या प्रस्तावाबाबत.

- संदर्भ - १) महाराष्ट्र (नागरी क्षेत्र) झाडांचे संरक्षण व जतन अधिनियम १९७५
२) श्री श्रीनिवास बोनाला, मुख्य अभियंता (प्रकल्प), पुणे महानगरपालिका यांचा प्रस्ताव वृक्ष प्राधिकरण कार्यालय जा.क्र.२०१० दि.६/२/२०२३
३) मा.महापालिका आयुक्त तथा प्रशासक तथा अध्यक्ष, वृक्ष प्राधिकरण, पुणे महानगरपालिका यांचे मान्यता ठराव क्र.१/७ दि.२/६/२०२३

महोदय,

संदर्भाकित क्र.१ च्या अधिनियमातील तरतूदीनुसार, पुणे महानगरपालिका अधिकार क्षेत्रामध्ये वृक्ष प्राधिकरण समिती, पुणे महानगरपालिका यांचेमार्फत कामकाज करण्यात येते. त्यानुसार, सदर अधिनियमातील कलम ८ च्या तरतूदीस अधिन राहून वृक्ष छाटणी करणे/वृक्ष पुर्ण काढणे/पुनरोपण करणेस परवानगी देण्याची कार्यवाही करण्यात येत आहे.

महाराष्ट्र (नागरी क्षेत्र) झाडांचे संरक्षण व जतन (सुधारणा) अधिनियम, २०२१ मधील कलम ५ (ब)(ब) नुसार, "वृक्ष प्राधिकरण किंवा वृक्ष अधिकारी पुरातन (हेरिटेज) वृक्ष पाडण्याचा अर्ज महाराष्ट्र राज्य वृक्ष प्राधिकरणाकडे निदिष्ट करेल." तसेच कलम ४ मध्ये, "पाच वर्षे किंवा त्याहून अधिक वयाची २०० हून अधिक वृक्ष तोडण्याचा प्रस्ताव महाराष्ट्र राज्य वृक्ष प्राधिकरणाकडे पाठविला जाईल." असे नमूद केलेले आहे.

पुणे महानगरपालिकामार्फत नदी सुधारणा प्रकल्प राबविण्यात येत असून, संदर्भ क्र.२ नुसार सादर केलेल्या प्रस्तावानुसार, सदर कामांतर्गत खाली नमूद केल्या प्रमाणे एकूण ७४९६ वृक्ष बाधित होत आहेत.

पुणे महानगरपालिकामार्फत नदी सुधारणा प्रकल्प राबविण्यात येत असून, संदर्भ क्र.२ नुसार सादर केलेल्या प्रस्तावानुसार, सदर कामांतर्गत खाली नमूद केल्या प्रमाणे एकूण ७४९६ वृक्ष बाधित होत आहेत.

| अ.क्र. | क्षेत्रिय कार्यालयाचे नाव | ठिकाण | स्ट्रेच क्रमांक | बाधित वृक्ष संख्या | वृक्ष पुर्ण काढणे संख्या | वृक्ष पुनरोपण करणे संख्या | वृक्ष पुर्ण काढणे/पुनरोपण करणेच्या बदल्यात करावयाची भरपाई नविन वृक्षलागवड संख्या |
|-------------|---------------------------|---|-------------------|--------------------|--------------------------|---------------------------|--|
| १) | नगरोड - वडगावशेरी | बंडगार्डन पुल व मुंदवा | १० व ११ डावी बाजू | १२३६ | ८८६ | ३५० | २९५६९ |
| २) | कै.बा.स.ढोले पाटील | बंडगार्डन पुल ते मुंदवा | १० व ११ उजवी बाजू | १२४५ | ६४३ | ६०२ | ११५५८ |
| ३) | कै.बा.स.ढोले पाटील | संगम पुल ते बंडगार्डन पुल व नाईक बेट नदीची उजवी बाजू | ९ | १९७९ | ४०४ | १५७५ | ९८६८ |
| ४) | येरवडा-कळस-धानोरी | शादल बाबा दर्गा ते बंडगार्डन पुल | ९ | ९५ | १३ | ८२ | ६६२ |
| ५) | शिवाजीनगर - घोले रोड | संगमवाडी पुल ते शादल बाबा दर्गा व सी.ओ.ई.पी. कॉलेजची बाजू | ९ | २९४९ | ११२९ | १८२० | १३७८५ |
| एकूण | | | | ७४९६ | ३०६७ | ४४२९ | ६५४३४ |

उपरोक्त प्रस्तावावर पुणे महानगरपालिका वृक्ष प्राधिकरण खात्यांतर्गत तसेच मे उच्च न्यायालय, मुंबई यांच्या आदेशान्वये गठीत करण्यात आलेल्या मा.वृक्ष तज्ञ समितीमार्फत पाहणी करण्यात आलेली असून, त्यांच्या अहवालानुसार, एकूण ३०६७ वृक्ष पुर्ण काढणे व ४४२९ वृक्ष पुनरोपण करणेस, नविन स्थानिक जातीचे एकूण ६५४३४ वृक्षांची भरपाई लागवड करण्याच्या अटीवर शिफारस करण्यात आलेली आहे.





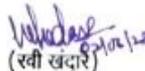
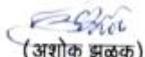
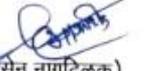
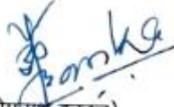
दिनांक ८/५/२०२३ रोजी सुनावणी घेण्यात आलेली आहे. तथापि, सदर प्रस्तावाबाबत श्री सांख यादवाडकर, पुणे यांनी पुणे महानगरपालिकेविरुद्ध वे राष्ट्रीय हरित लवाद, पश्चिम विभाग, पुणे बेंच या ठिकाणी ओरिजनल अप्लिकेशन नं. २०/२०२३ व आय.ओ.नं. १३५/२०२३ दाखल केलेली आहे. सदर दाव्याची सुनावणी दिनांक ३१/५/२०२३ रोजी पार पाडलेली असून, यामध्ये वे लवादाने पुढील प्रमाणे आदेश दिलेले आहे. "When we enquired from Mr. Raghvendra Kulkarni, learned counsel as to whether the trees are going to be felled, he gave reply in the negative saying that the Maharashtra Tree Authority has been applied for grant of permission for felling the trees and till the said permission is granted/obtained, no felling of the trees would be done. We direct respondent No.1 PMC not to fell any tree till the next date of hearing i.e. 31.07.2023."

सदर प्रस्तावामध्ये पुरातन (हेरिटेज) वृक्ष तसेच ५ वर्षे व त्याहून अधिक वयाची वृक्ष संख्या २०० पेक्षा अधिक असल्याने, सदर प्रस्तावास महाराष्ट्र राज्य वृक्ष प्राधिकरण समितीच्या मान्यतेची आवश्यकता आहे.

सदरचे प्रस्ताव महाराष्ट्र राज्य वृक्ष प्राधिकरण यांचे मान्यतेसाठी पाठविणेकरिता संदर्भ क्र.३ नुसार, मा.महापालिका आयुक्त तथा प्रशासक तथा अध्यक्ष, वृक्ष प्राधिकरण समिती, पुणे महानगरपालिका यांची संदर्भ क्र.३ नव्याने मान्यता दिलेली आहे.

संबंध, सदरचे प्रस्ताव मा.महाराष्ट्र राज्य वृक्ष प्राधिकरण, पर्यावरण व वातावरणीय बदल विभाग, महाराष्ट्र राज्य यांचे मान्यतेसाठी पाठविणेकरिता सोबत जोडलेल्या निवेदनावर आपली स्वाक्षरी होणेस विनंती आहे.

मा.स.कळंबे,

| | | | |
|---|--|--|--|
|  (रवी खंदार) महापालिका सहा. आयुक्त तथा वृक्ष अधिकारी शिवाजीनगर - घोले रोड क्षेत्रिय कार्यालय पुणे महानगरपालिका |  (अशोक शुक्ल) महापालिका सहा. आयुक्त तथा वृक्ष अधिकारी कै.बा.स.दोले पाटील क्षेत्रिय कार्यालय पुणे महानगरपालिका |  (चंद्रसेन नागटिक) महापालिका सहा. आयुक्त तथा वृक्ष अधिकारी येरवडा - कळस - धानोरी क्षेत्रिय कार्यालय पुणे महानगरपालिका |  (सोमनाथ बनकर) महापालिका सहा. आयुक्त तथा वृक्ष अधिकारी नगररोड - वडगांवशेरी क्षेत्रिय कार्यालय पुणे महानगरपालिका |
|---|--|--|--|

पुणे महानगरपालिका
 वृक्ष प्राधिकरण
 आचक्र क्रमांक/३१/६४२
 दिनांक/०२/०६/२०२३

पुणे महानगरपालिका
 वृक्ष प्राधिकरण
 आचक्र क्रमांक/३१/६४२
 दिनांक/०२/०६/२०२३



COMPLIANCE POINT NO 17: PP to obtain NOC / permission from competent authority for felling / transplantation of the trees.

Reply:

PMC is in process of obtaining Tree NOC from Tree authority. PMC shall obtain all necessary NOC/permissions from competent state authorities before undertaking any felling/transplantation of trees. The application copy is as below;



पुणे महानगरपालिका
वृक्ष प्राधिकरण कार्यालय
शिवाजीनगर क्षेत्रिय कार्यालय, शिवाजीनगर, पुणे ५
जा.क्र.उकाजा/ २१/२२४
दिनांक /०६/१०/२०२३

प्रति,
मा.प्रधान सचिव
पर्यावरण व वातावरणीय बदल विभाग
हुतात्मा राजगुरू चौक, मादाम कामा मार्ग,
मंत्रालय, मुंबई ४०० ०३२

यांजकडे सादर

विषय - पुणे महानगरपालिकेच्या नदी सुधार प्रकल्पांतर्गत - स्ट्रेच ९ व स्ट्रेच १० व स्ट्रेच ११ च्या नदीच्या डावी व उजवी बाजूचे वृक्ष पुर्ण काढणे /पुनरोपण करणेबाबतच्या प्रस्तावाबाबत.

संदर्भ - १) महाराष्ट्र (नागरी क्षेत्र) झाडांचे संरक्षण व जतन अधिनियम १९७५
२) श्री.श्रीनिवास बोनाला, मुख्य अभियंता (प्रकल्प), पुणे महानगरपालिका यांचा प्रस्ताव जा.क्र.३०११ दि.२६/१२/२०२२ (स्ट्रेच-९ करिता) व जा.क्र. ३१३० दि.४/१/२०२३ (स्ट्रेच १०, ११ करिता)
३) मा.महापालिका आयुक्त तथा प्रशासक तथा अध्यक्ष, वृक्ष प्राधिकरण, पुणे महानगरपालिका यांचे मान्यता ठराव क्र.१/७ दि.२/६/२०२३

महोदय,
संदर्भांकित क्र.१ च्या अधिनियमातील तरतूदीनुसार, पुणे महानगरपालिका अधिकार क्षेत्रामध्ये वृक्ष प्राधिकरण समिती, पुणे महानगरपालिका यांचे मार्फत कामकाज करण्यात येते. त्यानुसार, सदर अधिनियमातील कलम ८ च्या तरतूदीस अधिन राहून वृक्ष पुर्ण काढणे/वृक्ष पुर्ण काढणे/पुनरोपण करणेस परवानगी देण्याची कार्यवाही करण्यात येत आहे.

महाराष्ट्र (नागरी क्षेत्र) झाडांचे संरक्षण व जतन (सुधारणा) अधिनियम, २०२१ मधील कलम ५ (ब)(ब) नुसार, "वृक्ष प्राधिकरण किंवा वृक्ष अधिकारी पुरातन (हेरिटेज) वृक्ष पाडण्याचा अर्ज महाराष्ट्र राज्य वृक्ष प्राधिकरणकडे निदिष्ट करेल." तसेच कलम ४ मध्ये, "पाच वर्षे किंवा त्याहून अधिक वयाची २०० हून अधिक वृक्ष तोडण्याचा प्रस्ताव महाराष्ट्र राज्य वृक्ष प्राधिकरणकडे पाठविला जाईल." असे नमूद केलेले आहे.

पुणे महानगरपालिकामार्फत नदी सुधारणा प्रकल्प राबविण्यात येत असून, संदर्भ क्र २ नुसार सादर केलेल्या प्रस्तावानुसार, सदर कामांतर्गत खाली नमूद केल्या प्रमाणे एकूण ७४९६ वृक्ष बाधित होत आहेत.

| अ.क्र. | क्षेत्रिय कार्यालयाचे नाव | ठिकाण | स्ट्रेच क्रमांक | बाधित वृक्ष संख्या | वृक्ष पुर्ण काढणे संख्या | वृक्ष पुनरोपण करणे संख्या | वृक्ष पुर्ण काढणे/पुनरोपण करणेच्या बदल्यात करावयाची भरपाई नविन वृक्षलागवड संख्या |
|-------------|---------------------------|---|-------------------|--------------------|--------------------------|---------------------------|--|
| १) | नगरोड - वडगावशेरी | बंडगार्डन पुल व मुढवा | १० व ११ डावी बाजू | १२३६ | ८८६ | ३५० | २९५६१ |
| २) | कै.बा.स.ढोले पाटील | बंडगार्डन पुल ते मुढवा | १० व ११ उजवी बाजू | १२४५ | ६४३ | ६०२ | ११५५८ |
| ३) | कै.बा.स.ढोले पाटील | संगम पुल ते बंडगार्डन पुल व नाईक बेट नदीची उजवी बाजू | ९ | १९७९ | ४०४ | १५७५ | ९८६८ |
| ४) | येरवडा-कळस-धानोरी | शादल बाबा दर्गा ते बंडगार्डन पुल | ९ | ९५ | १३ | ८२ | ६६२ |
| ५) | शिवाजीनगर - घोले रोड | संगमवाडी पुल ते शादल बाबा दर्गा व सी.ओ.ई.पी. कॉलेजची बाजू | ९ | २९४१ | ११२१ | १८२० | १३७८५ |
| एकूण | | | | ७४९६ | ३०६७ | ४४२९ | ६५४३४ |

उपरोक्त प्रस्तावांवर पुणे महानगरपालिका वृक्ष प्राधिकरण खात्यांतर्गत तसेच मे.उच्च न्यायालय, मुंबई यांच्या आदेशान्वये गठीत करण्यात आलेल्या मा.वृक्ष तज्ञ समितीमार्फत पाहणी करण्यात आलेली असून, त्यांच्या अहवालानुसार, एकूण ३०६७ वृक्ष पुर्ण काढणे व ४४२९ वृक्ष पुनरोपण करणेस, नविन स्थानिक जातीचे एकूण ६५४३४ वृक्षांची भरपाई लागवड करण्याच्या अटीवर शिफारस करण्यात आलेली आहे.

सदर प्रकरणी जाहिरात क्र.१/१३३६ दि.२८/२/२०२३ रोजी दै.महाराष्ट्र टाईम्स, दै.लोकमत, दै.इंडियन एक्सप्रेस व ऊर्दू वर्तमानपत्रामध्ये जाहिर प्रकटन प्रसिध्द करून दिनांक १/३/२०२३ ते १३/३/२०२३ या कालावधीमध्ये आक्षेप/हरकती मागविण्यात आलेल्या आहेत. सदर कालावधीमध्ये प्राप्त झालेल्या आक्षेप/हरकतींवर दिनांक ८/५/२०२३ रोजी सुनावणी घेण्यात आलेली आहे.





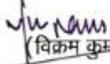
सदर प्रस्तावामध्ये पुरातन (हेरिटेज) वृक्ष तसेच ५ वर्षे व त्याहून अधिक वयाची वृक्ष संख्या २०० पेक्षा अधिक असल्याने, सदर प्रस्तावास महाराष्ट्र राज्य वृक्ष प्राधिकरण समितीच्या मान्यतेची आवश्यकता आहे.

सदरचे प्रस्ताव महाराष्ट्र राज्य वृक्ष प्राधिकरण यांचे मान्यतेसाठी पाठविणेकरिता संदर्भ क्र.३ नुसार, मा.महापालिका आयुक्त तथा प्रशासक तथा अध्यक्ष, वृक्ष प्राधिकरण समिती,पुणे महानगरपालिका यांची संदर्भ क्र.३ अन्वये मान्यता दिलेली आहे.

सबब ,विषयांकित प्रकरणी खालील नमूद केल्याप्रमाणे मान्यता मिळणेस विनंती आहे.

- १) पुणे महानगरपालिकेच्या नदी सुधार प्रकल्पांतर्गत मुळा - मुठा नदीच्या - स्ट्रेच ९ , स्ट्रेच १० व स्ट्रेच ११ च्या डावी व उजवी बाजूचे - ३०६७ वृक्ष पुर्ण काढणे व ४४२९ पुनर्रोपण करणेबाबतच्या प्रस्तावास मा.महाराष्ट्र राज्य वृक्ष प्राधिकरण ,पर्यावरण व वातावरणीय बदल विभाग,महाराष्ट्र राज्य यांची मान्यता मिळणेस.

मा.स.कळावे,


(विक्रम कुमार)
महापालिका आयुक्त तथा प्रशासक,
तथा अध्यक्ष, वृक्ष प्राधिकरण समिती,
पुणे महानगरपालिका



COMPLIANCE POINT NO 17: PP to obtain NOC / permission from competent authority for felling / transplantation of the trees.

Reply:

PMC approached the State Government regarding the Tree cutting permission; however, the State government has delegated the power to PMC.

Date: 25/09/2023

महाराष्ट्र शासन

क्रमांक. वृक्षअ २०२३/प्र.क्र. १४२/पा.क.२
पर्यावरण व धातावरणीय बदल विभाग,
१५ वा मजला, नवीन प्रशासकीय इमारत,
मादाम कामा मार्ग, हुतात्मा राजगुरुचौक,
पंजालय, मुंबई- ४०००३२.
दिनांक : २१ सप्टेंबर, २०२३

प्रति,
मा. आयुक्त,
पुणे महानगरपालिका,
पुणे

विषय : महाराष्ट्र (नागरी क्षेत्रे) झाडांचे संरक्षण व जतन अधिनियम, १९७५ मध्ये
दिनांक २५ ऑगस्ट २०२३ अन्वये करण्यात आलेली सुधारणा.

महोदय,

महाराष्ट्र (नागरी क्षेत्रे) झाडांचे संरक्षण व जतन अधिनियम, १९७५ मध्ये करावयाच्या सुधारणांसाठी
किधी मंडळाच्या पावसाळी अधिवेशनात सादर केलेले विधानसभा विधेयक क्रमांक ३२ विधी मंडळाच्या दोन्ही
सभागृहांनी मंजूर केल्यानंतर त्याचे अधिनियमात रूपांतर झाले असून त्याबाबतचे शासन राजपत्र दिनांक २५
ऑगस्ट २०२३ रोजी प्रसिध्द झाले आहे. (प्रत आपल्या मूलभ संदर्भासाठी सोबत जोडली आहे.)

२. सादर सुधारणेन्वये राज्यस्तरावरील महाराष्ट्र राज्य वृक्ष प्राधिकरणाच्या कक्षेतील " पाच वर्षे किंवा
त्यापेक्षा अधिक वयाची दोनशे पेक्षा अधिक वृक्ष तोडण्याचे व पुरातन वृक्ष (हेरिटेज वृक्ष)" तोडण्याचे प्रस्तावांवर
निर्णय घेण्याचे प्राधिकार आता "स्थानिक वृक्ष प्राधिकरणास" देण्यात आले आहेत.

३. यास्तव, महाराष्ट्र वृक्ष प्राधिकरणाकडे पाठविण्यात आलेले परंतु, महाराष्ट्र वृक्ष प्राधिकरणाने मंजूरी
न दिलेला (Differ) आपल्या महानगरपालिकेशी संबंधित खालील प्रस्ताव यासोबत परत पाठविण्यात येत
आहे.

| Local Body | Detail of Proposal |
|------------|--|
| PMC | Proposal for Cutting / Transplantation of 7496 Trees for River Revamp and Road Construction at Stretch 9/10/11 at the left and right banks of the Mula-Mutha River through Pune Municipal Corporation. |

४. तरी, प्रस्तावांसंदर्भात स्थानिक वृक्ष प्राधिकरणाच्यास्तरावर निर्णय घेण्यात यावा, अशी विनंती आहे.

आपला,

(द.सु. भालेराव)
शा.श्री. २ तथा अवर सचिव

सोबत: वरील प्रमाणे

Subject: Proposal for Cutting/Transplantation of 7496 Trees for River Revamp and Road Construction at Stretch 9/10/11 at the left and right banks of the Mula-Mutha River through Pune Municipal Corporation.

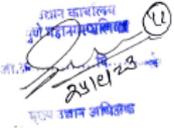
The following original documents with respect to above project is handed over to Mr. Sunil Mule Garden Department pmc

Telephone number-

Handing over original documents:-

- 1) File no. 1-Main file
- 2) File no. 2 - Letters, Photos, and Layout of trees to be cut and trees to be transplanted.
- 3) File no. 3-Dhole Patil Ward Office
- 4) File no. 4 - Photos and Documents of Trees to be cut and transplanted
- 5) File no. 6- Photos of Trees to be cut and transplanted
- 6) File no 7- Ghole road ward office
- 7) File-Two compliance files. (1 objection file and 1 court case file).

File Received 25/09/23


पुणे महानगरपालिका
२५/९/२३
पुणे उपाययोजना विभाग





- **PUBLIC INTEREST LITIGATION NO. 161 OF 2023** has been filed by Shalvi Pawar & Ors. Vs. Pune Municipal Corporation & Ors. IN THE HIGH COURT OF JUDICATURE AT BOMBAY CIVIL APPELLATE JURISDICTION.
- This Public Interest Litigation petition prays for the following reliefs:
 - *That this Hon'ble Court may be pleased to issue a Writ of Mandamus or any other writ, order or direction in the nature of a Mandamus restraining the Respondent No.2 from giving any permission for the cutting/transplanting of trees for the River Front Development Project and from taking any action on the proposal dated 6th June, 2023 sent by the Project Department.*
 - *This Hon'ble Court be pleased to issue a Writ of Mandamus or any other writ, order or direction in the nature of Mandamus, directing the Respondent No.1 and 2 to forthwith cease and recall any process it has undertaken for applying for permission for cutting and transplanting trees under the Maharashtra (Urban Areas) Protection and Preservation of Tress Act, 1975 for the River Front Development Project in Pune City.*
- On the PIL petition, the Hon'ble Court are of the opinion that
 - *"While considering the prayer for amendment in the EC, the SEAC/SEIAA shall take into consideration the submissions of the petitioners as well regarding felling of the trees for the project in question. The SEAC/SEIAA while processing and considering any application seeking amendment in the EC, has to necessarily consider various aspects impacting the environment, which will include the impact of any project requiring felling of trees as well.*
 - *Thus, so far as the other prayers are concerned, we provide that the petitioners may approach the SEAC/SEIAA, wherever the matter relating the amendment in the EC in relation to the project in question is pending, within two weeks from today. In case the petitioners approach either of the authorities, the concern of the petitioners shall be addressed while considering amendment in the EC as has been sought by the proponent/respondent-Corporation."*



COMPLIANCE POINT NO 18: PMC to appoint a hydrological expert, irrigation expert and trees expert to monitor project implementation and submit monthly progress report.

Reply:

PMC will appoint a Hydrological Expert, Irrigation Expert and Trees Expert to monitor project implementation during Construction phase and will prepare monthly progress report and submit it to the Authority.





1118 Conclusions

- The Hydrology and Hydraulics report is thoroughly reviewed for entire catchment area considering upstream of dam, free catchment of all rivers up to project end.
- It has been also vetted and checked by CWPRS in the year of 2017 and cleared by Irrigation Department in the year of 2021.
- Aspects of upgradation, alteration and addition of new barrages have been thoroughly reviewed and same are even considered in the HEC-RAS model also. These Barrages shall not act as dam but as water diversion and retention structure. Barrages proposed are having automatic gates with sill levels at river bed, hence shall have no impact on bio-diversity.
- Suitable provision of free board is also mentioned and considered in calculations shall help to contain any change in rainfall pattern within river prism with constructed embankment.
- Overall, there is no likely aggravation of floods considering the existing HFL and proposed embankment. Hence, there will be no rise in flood levels due to the project, subject to timely dismantling of existing bridges and obstructions in river as envisaged in hydraulic design of river channel.
- Red lines and blue lines levels will not change here, however the discharges defined by Irrigation Department corresponding to Red line and Blue line shall flow within the river prism.
- No deepening of the riverbed is proposed while minor cutting necessary for profiling of embankment as per required hydraulics are taken into consideration.
- Suitable action required for the bridges are mandatory for improving the conveyance carrying capacity of river.
- Re-charging of ground water if any shall take place at longer run after the construction of embankment. The permeable material used for embankment shall help for percolation of water.
- Proper care in hydraulic design has been taken for Confluence effect at Sangam of Mula and Mutha.
- There will be positive impact in reducing the 'n' value, post construction of embankment. However in the report on safer side 'n' value is taken as 0.03.
- The cross section of embankment have been thoroughly reviewed in drawing as well as on site, the total material of embankment is kept permeable with use of natural elements only. Toe wall made of Plum Concrete/PCC is used in minimalistic manner to retain the earth and embankment edges.

Hence looking at the over all conclusion and suggestions, the Hydrology and Hydraulics report is reviewed. The report is found OK for further action. Project proponent shall also take note of necessary suggestions and implement them during actual execution at site and submit timely compliances as needed for the overall benefit of the project.



Suggestions by Advisor after site visit at Sample stretch

1. During Monsoon even if there are no much floods in rivers due to existing dams and controlled releases from upstream reservoirs ,now a days high intensity short duration events like 2019 pluvial floods , (floods in city area due to direct surface runoffs and natural drainages in city area) are occurring frequently , Hence after raising Embankments above ground levels, the arrangements for storm water drains must be ensured with planning of connecting surface water to nearest nalla/ drains and direct surface access towards rivers must be ensured with provision of water entry points in design of parapet walls and raised embankments. To avoid such city surface runoff inundations, thought must be given to limit height of embankments wherever possible and avoid embankments above the ground level.
2. Proposed trails on sloping portion of embankment shall be designed in such as way that it shall allow the movement of water to flow during high flood time and not create obstructions.
3. PMC to monitor the flood discharge levels at every 100m in the executed stretches and monitor same at every 1km for the remaining project length during the flood periods.
4. Understanding that the high flood (i.e., 100-year flood) may occur for very few days of the year, therefore reduction in height of embankments raised above ground shall be considered wherever possible.
5. The stone rip rap shall be placed in the paneling form to sustain the sudden draw-down hydraulic conditions during floods.
6. PMC shall ensure the specified density of the boulders in rip rap to avoid flying of stones due to the flood pressures and negative suctions.

Reply:

All the suggestions given by Mr. Avinash Surve are duly noted and will be followed by PMC.



Item no. 24**Proposal No.:-** SLA/MH/INFRA2/424828/2023**Type of Project: EC**

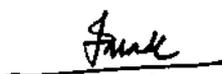
Subject- Environmental Clearance for Pune River Rejuvenation Project at Three River: • Mula River: Mumbai-Pune Bypass to Sangam Bridge (22.2 Km). • Mutha River: Mumbai-Pune Bypass to Mula-Mutha Sangam (10.4 Km). • Mula-Mutha River: Mula-Mutha Sangam to Kharadi (11.8 Km) by PUNE MUNICIPAL CORPORATION

Project Details-

Representative of PP was present during the meeting along with environmental consultant M/s. Fine Envirotech Engineers

Brief information of the proposal is as below:

| | | | | |
|-----|--|--|---|---------------------------|
| 1. | Proposal Number | SLA/MH/INFRA2/424828/2023 | | |
| 2. | Name of Project | PUNE RIVER REJUVENATION PROJECT | | |
| 3. | Project category | 8 (b) – B1 Category As per Schedule of EIA Notification, 2006 | | |
| 4. | Type of Institution | Government | | |
| 5. | Project Proponent | Name | M/s. PUNE MUNICIPAL CORPORATION | |
| | | Registered Office address | PMC building, near Mangla theatre, Shivajinagar, pune, Maharashtra – 411005 | |
| | | Contact number | 25501103 | |
| | | e-mail | puneriverprojects@gmail.com | |
| 6. | Consultant | M/s. Fine Envirotech Engineers | | |
| 7. | Applied for | Expansion/ Amendment | | |
| 8. | Details of previous EC | Environmental Clearance Obtained Dated: 16th November, 2019 EC Reference No: SEIAA-EC-0000002088 | | |
| 9. | Location of the project | Three River: • Mula River: Mumbai-Pune Bypass to Sangam Bridge (22.2 Km). • Mutha River: Mumbai-Pune Bypass to Mula-Mutha Sangam (10.4 Km). • Mula-Mutha River: Mula-Mutha Sangam to Kharadi (11.8 Km). | | |
| 10. | Latitude and Longitude | Latitude: 18°31'49.84"N and Longitude: 73°51'36.78"E | | |
| 11. | Total Plot Area (m2) | 8200000 sq.mt. | | |
| 12. | Deductions (m2) | Not Applicable | | |
| 13. | Net Plot area (m2) | 8200000 sq.mt. | | |
| 14. | Proposed FSI area (m2) | Not Applicable | | |
| 15. | Proposed non-FSI area (m2) | Not Applicable | | |
| 16. | Proposed TBUA (m2) | 8664 sq.mt. | | |
| 17. | TBUA (m2) approved by Planning Authority till date | Not Applicable | | |
| 18. | Ground coverage (m2) & % | 3200000 (39%) | | |
| 19. | Total Project Cost (Rs.) | Rs. 4700 Crores | | |
| 20. | CER as per MoEF & CC circular dated 01/05/2018 | Activity | Location | Cost (Rs.) |
| | | OM dated 30.9.2020 U/n F. No- 22 65/2017.IA.III supersedes earlier OM under even number dated 1st May, 2018 regarding guidelines in respect to CER. | | |
| 21. | Details of Building Configuration : <Please use following legends: Floor = F, Parking = Pk, Podium = Po, Stilt =St, Lower | | | Reason for Modification / |

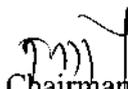

Member Secretary


Chairman

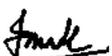
Minutes of 270th Day 1 (Part C) meeting of SELAA held on 07th November, 2023

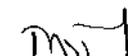
| Ground = LG, Upper Ground = UG, Basement = B, Shops = Sh> | | | | Change | |
|---|--|---|--|------------------------|------|
| Previous EC | | Proposed Configuration | | | |
| Building Name | Total Area (sq.m.) | Building Name | Total Area (sq.m.) | | |
| Toilet | 0 | Toilet | 624 | Addition | |
| Kiosk and food court | 0 | Kiosk and food court (30% of food court) | 3000 | Addition | |
| Security room | 0 | Security room | 540 | Addition | |
| Ticket counters | 0 | Ticket counters | 150 | Addition | |
| Site office | 0 | Site office | 210 | Addition | |
| Utility rooms/ Storage rooms | 0 | Utility rooms/ Storage rooms | 3600 | Addition | |
| Janitor Room | 0 | Janitor room | 540 | Addition | |
| 22. | Total number of tenements | Not applicable | | | |
| 23. | Water Budget | Construction Phase (CMD) | | Operation Phase (CMD) | |
| | | Fresh Water | 220 | Fresh Water | 180 |
| | | Recycled (Flushing) | 0 | Recycled (Flushing) | 0 |
| | | Recycled (Gardening) | 0 | Recycled (Gardening) | Nil |
| | | Swimming Pool | 0 | Swimming Pool | 0 |
| | | Total | 220 | Total | 180 |
| | | Waste Water Generation | 63 | Waste Water Generation | 16.2 |
| | | Information (assumed 1000 Labour during construction phase & 1800-2000 M2 every day and construction phase is considered as 7 years) Domestic = 70 m ³ /day (@70 LPCD & supply at 1 common point) Construction = 150 m ³ /day | Assuming 12000 floating population and 10% consumption Drinking Water Demand will be 36 KLD (@30 LPCD) Flushing Water Demand will be 18 KLD (@15 LPCD) | | |
| 24. | Water Storage Capacity for Firefighting /UGT | Not Applicable | | | |
| 25. | Source of water | Pune Municipal Corporation, Pune | | | |
| 26. | Rainwater Harvesting (RWH) | Level of the Ground water table: | Pre-Monsoon: 20.4 m bgl Post Monsoon: 04 m bgl | | |
| | | Size and no of RWH tank(s) and Quantity: | Not Applicable | | |
| | | Quantity and size of recharge pits: | Not Applicable | | |
| | | Details of UGT tanks if | Not Applicable | | |


Member Secretary


Chairman

| | | | | |
|-----|--|--------------------------------|---|--|
| | | any: | | |
| 27. | Sewage and Wastewater | Sewage generation in CMD: | 16.2 | |
| | | STP technology: | The sewage generated will be connected to existing and upgraded sewer networks to connect to STPs as proposed under JICA Proposal. | |
| | | Capacity of STP (CMD): | The sewage generated will be connected to existing and upgraded sewer networks to connect to STPs as proposed under JICA Proposal.. | |
| 28. | Solid Waste Management during Construction Phase | Type | Quantity (kg/day) | Treatment / disposal |
| | | Dry waste | 60 | The waste generated will be segregated into biodegradable & non-biodegradable waste. The segregated waste then will be handed over to PMC facility |
| | | Wet waste | NA | |
| | | Construction waste | 8621450 m3 | 69,59,600 m3 of quantity to be utilized on site and 1661850 m3 of quantity i.e. Open structures within the river bed acting as obstruction to flow of water, to be sent out of the site as per guideline issued under C&D Waste Management plan to Authorized landfill site/ collection centre of PMC. PMC has in-house facility for C&D waste conversion, hence the C&D waste shall be handed over to PMC for further utilization and disposal. |
| 29. | Solid Waste Management during Operation Phase | Type | Quantity (kg/day) | Treatment / disposal |
| | | Dry waste: | -- | The waste generated will be segregated into biodegradable & non-biodegradable waste. The segregated waste then will be handed over to PMC facility |
| | | Hazardous Waste: | NA | NA |
| | | Biomedical Waste | NA | NA |
| | | E-Waste | NA | NA |
| | | STP Sludge (dry) | NA | The sewage generated will be connected to existing and upgraded sewer networks to connect to STPs as proposed under JICA Proposal. |
| 30. | Green Belt Development | Total RG area (m2): | 2970000 sq.mt. | |
| | | Existing trees on plot: | 22150 nos. | |
| | | Number of trees to be planted: | 30000 nos. | |


Member Secretary


Chairman

Minutes of 270th Day 1 (Part C) meeting of SEIAA held on 07th November, 2023

| | | | | | |
|-------|--|--|--|---|---------------------------------|
| | | Number of trees to be cut: | 11000 nos. | | |
| | | Number of trees to be transplanted: | 11150 no.s | | |
| 31. | Power requirement: | Source of power supply: | MSEDCL and 11X615 transformers, as required | | |
| | | During Construction Phase (Demand Load): | 5.5 MW | | |
| | | During Operation phase (Connected load): | -- | | |
| | | During Operation phase (Demand load): | -- | | |
| | | Transformer: | 11X615 KvA transformers | | |
| | | DG set: | NA | | |
| | | Fuel used: | NA | | |
| 32. | Details of Energy saving | Wherever possible Energy Saving by PV Solar Panels for common area lighting will be explored | | | |
| 33. | Environmental Management plan budget during Construction phase | Type | Details | Cost/ Annum (Rs. In Lacs) | |
| | | Capital | Dust Suppression Measures & Barricading | 20 | |
| | | | Green Belt development | 1025 | |
| | | | Solid waste management facility | 50 | |
| | | | Environmental Monitoring | 15 | |
| | | | Occupational Health For Workers | 35 | |
| Total | 1145 | | | | |
| 34. | Environmental Management plan Budget during Operation phase | Component | Details | Recurring Cost per annum Rs. (INR in Lakhs) | Capital Cost Rs. (INR in Lakhs) |
| | | Water Pollution Control | Mobile STP Operation & Maintenance | 25 | 1500 |
| | | Environment Monitoring and Management | Monitoring charges for air, water, noise, soil etc. | 15 | -- |
| | | Green Belt development | Nil | 40 | 1020 |
| | | Solid waste Management | Nil | 20 | 300 |
| | | Swimming Pool | 1 Swimming Pool of capacity 300 cum | 140.45 | 10.0 |
| | | Solid Waste Management | Providing dustbins and collection facility | 65.0 | 23.0 |
| | | Occupational Health For Worker | Includes cost of medical checkup, PPE & first aid kit, | 20 | -- |

Small
Member Secretary

DM
Chairman

| | | | | |
|-----|--|--|-----|------|
| | | first aid facility | | |
| | | e-Waste | Nil | NA |
| | | Energy Saving Measures | Nil | NA |
| | | RWH | Nil | NA |
| | | Swimming Pool | Nil | NA |
| | | Total | | 120 |
| | | | | 2820 |
| 35. | Traffic Management | Parking area is provided for the tourists visiting area after development. | | |
| 36. | Details of Court cases / litigations w.r.t. the project and project location if any. | EXECUTION APPLICATION NO.13 OF 2022 (WZ) IN APPEAL NO. 12 OF 2020 (WZ), BEFORE THE NATIONAL GREEN TRIBUNAL WESTERN ZONE BENCH, PUNE | | |

SEAC Deliberation –

PP stated that, the Pune Municipal Corporation (PMC) has taken up the River Rejuvenation Plan for three rivers in Pune Jurisdiction comprising of Mula, Mutha & Mula-Mutha rivers of 44km stretch. PP further stated that, they have received earlier Environmental Clearance (EC) from vide letter dated 16th November, 2019 for the project under 8(b) category i.e., Township and Area Development. There is no provision to obtain Environmental Clearance (EC) for River Rejuvenation project under EIA Notification, 2006, but, PMC only by way of abundant precaution applied for obtaining EC under Category 8(b), due to non-availability of applicable sector. PP further stated that, the project was then challenged at Hon'ble NGT in the year 2020. PP further stated that, the Hon'ble NGT vide their order dated 04.01.2023 in their appeal of 12 of 2020(WZ), directed PMC to approach State Environmental Impact Assessment Authority (SEIAA) for further clarification and consideration.

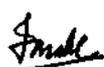
PP informed that, accordingly SEIAA vide their letter dated 11.01.2023, opined and informed that MoEF&CC has made it mandatory to use PARIVESH Portal for grant of Environmental Clearance/ amendment. hence, SEIAA suggested to apply online on PARIVESH Portal and continue the application under Expansion in Category 8(b) – B1 only.

PP stated that, the majority of river land i.e. 61% public land is under proposed river width and 30% under proposed types of flood mitigation embankments. However, the 9% remaining is divided for green development. PP informed that, the total remaining public land is identified for various uses. Primarily the remaining land has been distributed into three main categories like

- Public greens – This will include parks and gardens, open grounds and urban forests. It will contribute and add to the existing green cover of the city.
- Public amenities and Utilities – This will include amenities such as temple ghats, visarjan facilities, parking areas, dhobi ghat, public plazas and food courts. Public amenities will ensure that the proposed riverfront is active, vibrant, viable and dynamic.
- Also, utilities like electric substations, pumping stations, toilets, drinking water facilities etc. are also proposed along the riverfront.

PP stated that, the land remaining, 68% is under public greens and 32% caters to public utilities and amenities. The project does not propose any real estate development anywhere within the project boundary.

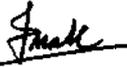
| Name of product | Product/ By | Quantity / Capacity | Remarks |
|-----------------|-------------|---------------------|---------|
|-----------------|-------------|---------------------|---------|

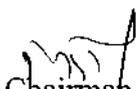

Member Secretary


Chairman

Minutes of 270th Day 1 (Part C) meeting of SEIAA held on 07th November, 2023

| | product | As per Earlier EC | Proposed | Total | Unit | |
|---|------------|-------------------|----------|-------|--------|--|
| Embankments | Product | 91 | 0 | 91 | km | The embankment types have been decided on the basis of land availability, immediate context and the hydraulics study. There are three types majorly i.e. Engineered, Urban riparian and rural riparian |
| Green embankment | Product | 180 | 67 | 247 | ha | The proposal includes landscaping on the sloped pitching of the urban and rural riparian |
| Pedestrian bridges | Product | 4 | 0 | 4 | Number | Pedestrian bridges have been proposed at strategic locations to improve pedestrian connectivity across river |
| Bridges across river | By-Product | 3 | 0 | 3 | Number | All the existing bridges shall be integrated with the proposed embankments. However, to improve the connectivity across the river new vehicular bridges suggested in the project shall be separately taken up by PMC and are not part of project block cost |
| Water retention techniques comprising of barrages | By-Product | 4 | 0 | 4 | Number | As per earlier EC, the project proposes water retention structures at the place of one check dam and one wier with advanced barrages with low crest level that do not act as an obstruction. Only one new barrage is proposed on the mutha river. Similarly, existing Bund Garden Barrage on Mula Mutha River will be retained and extended. The execution of barrage will happen separately |
| Public Amenities | Product | 16 | 7 | 23 | ha | Project involves development of public amenities as follows: 1. Temple ghats; 2. Parking; 3. Plaza; 4. Food Courts; 5. Crematoriums; 6. Utility |


Member Secretary


Chairman

| | | | | | | |
|--|------------|----------------|----------------|----------------|--------|---|
| Urban infrastructure | Product | Not Applicable | Not Applicable | Not Applicable | NA | Project involves urban infrastructure development in the form of above-mentioned services at various locations comprising of lighting, storm water drainage, electrical, water supply connection, drinking water fountain, solid waste management, power supply arrangements. |
| Landscape comprising of gardens, urban forest and open grounds | Product | 45 | 5 | 50 | ha | Project involves development of park and garden at various locations. |
| Public access like staircase, ghats and ramps | Product | 342 | 0 | 342 | Number | Existing ghats will be refurbished Proposal includes: Staircase: 249 nos. Ghats: 74nos. and Ramps: 19nos. |
| JICA proposal | By-Product | Not Applicable | Not Applicable | Not Applicable | NA | The proposal would curb existing polluted outfalls from directly getting released into the river. The JICA proposal will be integrated with the proposed embankments. Additional 25km of interceptor lines are proposed. Also STPs proposed are part of JICA. |
| Interceptor work | Product | 40 | 48 | 88 | km | After the integration of the JICA proposal, the stretches that would require further intervention would be proposed with interceptor lines along the embankment. Additional 25km of Interceptor lines is proposed under JICA. |

Minutes of 270th Day 1 (Part C) meeting of SEIAA held on 07th November, 2023

| | | | | | | |
|-----------|---------|-------|---|-------|--------|---|
| Earthwork | Product | 63100 | 0 | 63100 | Cum/km | The proposal includes earthwork along the entire stretch of 91km embankment |
|-----------|---------|-------|---|-------|--------|---|

The Committee noted the concerns raised regarding the project through following:

1. Letter received to SEAC and SEIAA by Mr Sarang Yadwadkar, on 31st January, 2023 and 18th April, 2023.
2. Judgment of Hon'ble National Green Tribunal (WZ) dated 29.11.2022 in the Appeal No. 12/2020.
3. Original Application filed by Mr Sarang Yadwadkar raising the issue of felling trees by Pune Municipal Corporation (Respondent No. 1) for the Mula, Mutha, Mula- Mutha Riverfront Development Project in Pune.

The committee noted that following stretches of two rivers (i.e. Mula and Mutha) are involved in the proposal under consideration:

1. Mula River: Mumbai-Pune Bypass to Sangam Bridge (22.2 Km).
2. Mutha River: Mumbai-Pune Bypass to Mula-Mutha Sangam (10.4 Km).
3. Mula-Mutha Sangam to Kharadi (11.8 Km).

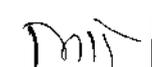
In order to comply with the Judgment of Hon'ble National Green Tribunal and to cover the aspects of irrigation / water resources and hydrology in the aforementioned points, Mr Avinash Surve, Ex - Secretary, Water Resources Dept, Govt. of Maharashtra was invited as an expert for the meeting during appraisal of the aforesaid proposal. Mr Avinash Surve attended meeting and had sought time of 10 days which was granted by the Committee. He has submitted his report which is enclosed as **Annexure-I** along with the minutes.

The case was discussed on the basis of the documents submitted and presentation made by the proponent. All issues relating to environment, including air, water, land, soil, ecology, biodiversity and social aspects were examined. The proposal is appraised as category 8(b) B1.

During discussion following points emerged:

1. PP to submit the Water quality monitoring results especially BOD values.
2. PP to submit the construction & demolition (C and D) waste quantification along with disposal plan
3. PP to submit the soil analysis report.
4. PP to submit the aquatic biodiversity report. Also, PP to submit the proposed Impact and mitigation measures for the same.
5. PP to submit the Hydraulics study or effect of RFD on natural storm water disposal into Mula- Mutha river.
6. PP to submit the phase wise timeline for project completion.
7. PP to submit the details of public utilities like public toilets, parking, visarjan ghats etc.
8. PP to submit the detail note of water carrying capacity of the river after the commencement of the project.


Member Secretary


Chairman

9. During Monsoon even if there are no much floods in rivers due to existing dams and controlled releases from upstream reservoirs ,now a days high intensity short duration events like 2019 pluvial floods , (floods in city area due to direct surface runoffs and natural drainages in city area) are occurring frequently , Hence after raising Embankments above ground levels, the arrangements for storm water drains must be ensured with planning of connecting surface water to nearest nalla/ drains and direct surface access towards rivers must be ensured with provision of water entry points in design of parapet walls and raised embankments. To avoid such city surface runoff inundations, thought must be given to limit height of embankments wherever possible and avoid embankments above the ground level.
10. Proposed trails on sloping portion of embankment shall be designed in such a way that it shall allow the movement of water to flow during high flood time and not create obstructions.
11. PMC to monitor the flood discharge levels at every 100m in the executed stretches and monitor same at every 1km for the remaining project length during the flood periods.
12. Understanding that the high flood (i.e., 100-year flood) may occur for very few days of the year, therefore reduction in height of embankments raised above ground shall be considered wherever possible.
13. The stone rip rap shall be placed in the paneling form to sustain the sudden draw-down hydraulic conditions during floods.
14. PMC shall ensure the specified density of the boulders in rip rap to avoid flying of stones due to the flood pressures and negative suction.
15. PMC to envisage mechanism for post monitoring of the project on monthly basis ensuring the compliance of the conditions prescribed.
16. PP to submit the detail landscape / plantation plan along with number / name of species to be planted. PP to submit the details of Transplantation techniques.
17. PP to obtain NOC / permission from competent authority for felling / transplantation of the trees.
18. PMC to appoint a hydrological expert, irrigation expert and trees expert to monitor project implementation and submit monthly progress report.

Recommendations of SEAC-

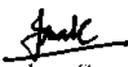
After deliberation, Committee decided to recommend the proposal for Environmental Clearance to SEIAA, subject to compliance of above points and the report submitted by Mr. Avinash Surve.

Deliberation in SEIAA-

Proposal is for amendment in earlier EC for Pune River Rejuvenation Project. Proposal was recommended by SEAC-3 in its 174th meeting for grant of amendment in Environment Clearance.

Proposal was then considered by SEIAA in its 265th meeting, however it could not be heard.

PP submitted that, they have received earlier Environmental Clearance (EC) dated 16th November, 2019 for the project under 8(b) category i.e., Township and Area Development. PP further submitted that, there is no provision to obtain Environmental Clearance (EC) for River Rejuvenation project under EIA Notification, 2006, but, Pune Municipal Corporation only by way of abundant precaution applied for obtaining EC under Category 8(b), due to non-availability of applicable sector. PP further submitted that, the project was then challenged at Hon'ble NGT in the year 2020. PP further stated that, the Hon'ble NGT vide its judgement dated 29.11.2022 in appeal no 12/2020 (WZ) directed PMC to approach SEIAA for amendment of EC both in the terms of project scope and additional EC conditions to be stipulated, if any, before proceeding to start any construction activity.


Member Secretary


Chairman

Minutes of 270th Day 1 (Part C) meeting of SEIAA held on 07th November, 2023

PP then applied to SEIAA, accordingly SEIAA vide their letter dated 11.01.2023, opined and informed that MoEF&CC has made it mandatory to use PARIVESH Portal for grant of Environmental Clearance/ amendment. hence, SEIAA suggested to apply online on PARIVESH Portal.

During the meeting, SEIAA observed that,

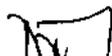
1. As most of the above points (SEAC Compliances) are highly technical in nature they will require detailed evaluation. PP to submit compliance of the above 18 listed requirements.
2. Hydraulic and Hydrology study /report is thoroughly wetted/analyzed by CWPRS and CWPRS should specifically comment on-
 - a) whether after channelization would there be rise in river flooding events in Pune city as well as Pluvial floods beyond both the banks of the rivers.
 - b) whether after channelization at the confluence of Mula Mutha river would there be rise in river flooding events .
 - c) whether 100 years floods data has been considered while computing the flood levels.
 - d) as one of the foremost objectives of the project is to, "Reduce the risk of flooding". Specific clarification on this should be given including phase wise targets and likely milestones.
 - e) conformation to Indian Standards Codes for all works including embankments.
 - f) whether GoI climate change scenarios and particularly conclusions of TERI that there would be 37.5% rise in annual rainfall with reduced number of rainy days i.e., more frequent cloud bursts is considered.
3. Detailed component for "Cleaning of Mula Mutha River" to be included.
4. Detailed IOD of Pune Municipal Corporation, Irrigation Department NOC, Storm Water Drain NOC, SWM NoC, Sewerage Department NOC, and Fire NoC to the project. PMC IOD shall include all existing structures to be retained or demolished (Bridges and road, Ghats etc.), detailed built up area as well as construction area to include all elements of construction i.e. retaining walls, other retaining structures bunds barrages etc. and all allied service structures.

SEIAA after deliberation decided to defer the proposal for the compliance of above point.

SEIAA Decision-

SEIAA after deliberation decided to defer the proposal.


Member Secretary


Chairman



Chief Engineer (Projects) Office
Pune Municipal Corporation,
3rd Floor, Main Building
Shivajinagar, Pune – 411005

Outward No:- 4/26

Date - 19/01/2024

To,
The Director,
CWPRS, Pune.

Subject: Regarding Clarification Required From CWPRS Regarding Hydrology and
Hydraulics

- Ref.:** 1. Hydrology and Hydraulics report of Riverfront Development Plan for Mula, Mutha and
Mula-Mutha Rivers Dt. 12-09-2016
2. Your letter No. 520/ Mula Mutha- RFD/HMET/2017/725 dated 26-12-2017
3. Minutes of 270th SEIAA meeting held on 07/11/2023.

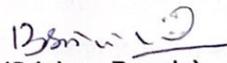
The Hydrology and Hydraulics study for the Mula, Mutha and Mula-Mutha Rivers for River Rejuvenation Project was conducted by Project consultant HCP design, planning and Management, Ahmadabad as per reference no 01. The Central Water and Power Research Station (CWPRS) Pune being the major research organization in the field of hydraulic and allied research as a subordinate office of the Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti, Government of India and having head office in Khadakwasala, Pune. The Pune Municipal Corporation requested CWPRS to verify the report prepared by project consultant. After many meetings and verification of all data, CWPRS gave the clearance for the Hydrology and Hydraulics report prepared for the Mula, Mutha and Mula-Mutha river rejuvenation project as per reference no 02.

The Pune Municipal Corporation has approached SEIAA for amendment in EC on 21-02-2023, which was considered in SEAC-3 meeting held between 12-14th June 2023, the same was recommended to SEIAA. During the SEIAA meeting held on 07/11/2023 as per the above reference no.3, SEIAA requested CWPRS to specifically comment on following points;

- a) Whether after channelization would there be rise in river flooding events in Pune city as well as pluvial floods beyond both the banks of the rivers.
 - b) Whether after channelization at the confluence of Mula-Mutha river would there be rise in river flooding events.
 - c) Whether 100 years floods data has been considered while computing the flood Levels.
 - d) As one of the foremost objective of the project is to, "Reduce the risk of flooding". Specific clarification on this should be given including phase wise targets and likely milestones.
 - e) Conformation to Indian Standards Codes for all works including embankments.
 - f) Whether Gol climate change scenarios and particularly conclusions of TERI that there Would be 37.5% rise in annual rainfall with reduced number of rainy days i.e., more Frequent cloud bursts is considered
- You are requested to go through the above issues and give your comments at the earliest.

Thanking You,

With Regards,


(Srinivas Bonala)

Chief Engineer (Projects)
Pune Municipal Corporation

Enclosure : . Minutes of 270th SEIAA meeting held on 07/11/2023.

Copy to : Dr. R.G.Patil (Scientist-E,CWPRS)



भारत सरकार / Government of India
 जल शक्ति मंत्रालय / Ministry of Jal Shakti
 जल संसाधन, नदी विकास और गंगा संरक्षण विभाग
 Department of Water Resources, River Development and Ganga Rejuvenation
 केन्द्रीय जल और विद्युत अनुसंधान शाला
 खडकवासला, पुणे - 411 024
 CENTRAL WATER & POWER RESEARCH STATION
 Khadakwasla, Pune - 411 024

टेलीफोन : 020-24103444
 फैक्स : 020-24381004
 वेबसाइट : www.cwprs.gov.in
 ई-मेल : patil.rg@cwprs.gov.in

No.: 520/Mula-Mutha-RFD/HMET/2024/28

Date: 25th January, 2024.

To,

✓ Shri Srinivas Bonala
 Chief Engineer (Projects)
 Pune Municipal Corporation (PMC)
 Savarkar Bhavan,
 Shivajinagar, Pune - 411 005

Sub.: Studies on Hydrology and Hydraulics of Mula –Mutha River Front Development Project of PMC at Pune- Regarding.

Ref.: 1. PMC letter No. 4/26 dated 19/01/2024
 2. CWPRS letter No TC/2021/183 dated 05/04/2021
 3. CWPRS letter No. 520/Mula-Mutha-RFD/HMET/2017/725 dated 26/12/2017

Sir,

This has reference to the letter cited at 1 above, regarding the River Front Development Plan for River Mula, Mutha and Mula-Mutha in the area of Pune Municipal Corporation. It is informed that CWPRS has already conveyed its views on the above subject vide letters 2 and 3. These CWPRS letters are enclosed as annexures for your kind ready reference.

This is issued with the approval of Director, CWPRS, Pune.

Thanking you,

Yours Sincerely,


 25-01-2024
 (Dr. R.G. Patil)
 Scientist-E

Encl.: As above

D:\N letter docx



Office of Municipal Commissioner
Pune Municipal Corporation
Shivajinagar, Pune-5
Outward No:- *mco/project/4237*
Date:- *23/03/2023*

To,
The Member Secretary (SEAC-3),
Environment Department,
Government of Maharashtra,
15th Floor, New Administrative Building,
Mantralaya, Mumbai – 400032

Subject: Environmental Clearance for River Rejuvenation Project of Mula,
Mutha & Mula-Mutha rivers, Pune

Ref.: 1. Single Window Number: SW/119445/2023
2. Proposal Number: SIA/MH/INFRA2/418742/2023

Sir,

Pune Municipal Corporation (PMC) has taken up the River Rejuvenation Plan for three rivers in Pune Jurisdiction comprising of Mula, Mutha & Mula-Mutha rivers of 44km stretch, aiming at transforming these rivers into a valuable asset for the city, creating a memorable identity for Pune. The aim of the project is to rejuvenate the river and convert the river into asset for the city. Protect low lying areas along the river from periodic flood risk, Sewage flowing in to the river will be curbed to make it pollution free. Abutting public gardens, historical and religious important places are integrated and enhanced public realm along the river, accessibility along the river, protecting & enhancing existing thick vegetated areas along river.

Pune Municipal Corporation (PMC) received Environmental Clearance (EC) from State Environmental Impact Assessment Authority (SEIAA) vide SEIAA-EC-0000002088 dated 16th November, 2019 for the project under 8(b) category i.e. Township and Area Development (*Attached as Annexure-1*). There is no provision to obtain Environmental Clearance (EC) for River Rejuvenation project under EIA Notification, 2006, but, PMC only by way of abundant precaution applied for obtaining EC under Category 8(b), due to non-availability of applicable sector.

The project was then challenged at Hon'ble NGT in the year 2020 for want of clarification on project components as mentioned in EC and EIA. The Hon'ble NGT vide their order dated 02.11.2022 in their appeal of 12 of 2020(WZ), directed PMC to approach State Environmental Impact Assessment Authority (SEIAA) for further clarification and consideration (*Attached as Annexure-2*).

SEIAA vide their letter SEIAA-2023/CR-1/SEIAA dated 11.01.2023 (*Attached as Annexure-3*), opined and informed that MoEF&CC has made it mandatory to use PARIVESH

D:\N letter.docx

Portal for grant of Environmental Clearance/ amendment. Hence, SEIAA suggested to apply online on PARIVESH Portal and continue the application under Expansion in Category 8(b) – B1 only.

The project involves 820ha of total land out of which;

- 500ha of land is River area (area under water);
- 247ha of Embankment area (There are three types majorly i.e. Engineered, Urban riparian and Rural riparian. The proposal includes landscaping on the sloped pitching of the urban and rural riparian. Paved Walkways: 85ha and Green sloped pitching: 162ha)
- 23ha of Public Amenities (Many public amenities like food courts, kiosks, public plazas, organized outdoor vending areas, craft bazaars, Ghats have been proposed for recreational purpose)
- 50ha of Green area apart from Green Embankment (This includes open gardens, urban forests, open grounds etc.)

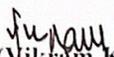
This is to bring to your kind attention that since we had received EC in 2019, PMC had awarded tender for construction. Hence, as clarified to Hon'ble NGT also (there is no stay on ongoing construction/ development by NGT), out of the total 44km, 2 stretches (9 & 10-11) are already under execution as well as the tender for stretch 1,2,3 has been floated for which contractor appointment shall commence. We hereby also undertake that no further Tender allotment beyond above mentioned stretches will be done till amended EC is received.

The information provided in Form-1 (Part-A and Part-C) is best to our knowledge. The Form-1 available on PARIVESH Portal is sector specific as per Category 8(b) i.e. Township and Area Development. Many of the items/ details sought are not applicable to our River Rejuvenation project as there is no specific format available on PARIVESH Portal for our project. The figures/details provided in the form such as demolition and dismantling, cutting and filling, tree cutting etc. are based on initial survey, however, they may vary as per actual site conditions. Any clarification, if required, on the information uploaded in the form shall be provided by PMC during presentation.

Therefore, we request you to kindly consider our project in the forthcoming meeting to grant us amended Environmental Clearance (EC).

Thanking You

Yours faithfully,


(Vikram Kumar)

Municipal Commissioner
Pune Municipal Corporation

Project Details

1. Details of Project

| | |
|---|--|
| 1.1. Name of the Project | Pune River Rejuvenation Project |
| 1.2. Project Proposal For | Expansion |
| 1.3. Whether proposal expansion is made under 7 (ii) (a)? | YES |
| 1.4. Project ID (Single Window Number) | SW/119445/2023 |
| 1.5. Description of Project | Pune Municipal Corporation has taken up the River Rejuvenation Plan for three rivers in Pune Jurisdiction comprising of Mula, Mutha & Mula-Mutha rivers, aiming at transforming these rivers into a valuable asset for the city, creating a memorable identity for Pune. PMC received EC for the project under 8(b) category in November 2019. The project was challenged at NGT in 2020. The NGT had directed project proponent to approach SEIAA for further consideration. SEIAA by their letter, opined that there is no provision to obtain EC for River Rejuvenation project under EIA Notification, 2006. PMC only by way of abundant precaution applied for obtaining EC, hence applied under Cat. 8(b). Also, SEIAA suggested to continue application under Expansion in Category 8(b) – B1 only. |

2. Details of the Company/Organization/User Agency making application

| | |
|---|---|
| 2.1. Legal Status of the Company/Organization/User Agency | State Government (Department/Autonomous body) |
| 2.2. Name of the Company/ Organization/User agency | PUNE MUNICIPAL CORPORATION |

Registered address

| | |
|---------------------------|---|
| 2.3. Address | PMC building, near mangla theatre, shivajinagar, pune, Maharashtra-411005 |
| 2.4. Village /Town / City | Pune |
| 2.5. State | MAHARASHTRA |
| 2.6. District | PUNE |
| 2.7. Pin Code | 411005 |
| 2.8. Landmarks | PMC building |
| 2.9. E-mail address | puneriverprojects@gmail.com |
| 2.10. Landline Number | xxxx1103 |
| 2.11. Mobile number | xxxxxx1771 |

3. Details of the person making application

| | |
|------------------|--------------|
| 3.1. Name | Kunal Kumar |
| 3.2. Designation | commissioner |

Correspondence address

| | |
|---------------------------|--|
| 3.3. Address | Third Floor, Savarkar Udhyog bhavan Pune Municipal corporation, Pune, Maharashtra 411005 |
| 3.4. Village /Town / City | Pune |
| 3.5. State | MAHARASHTRA |

| | |
|----------------------|-----------------------------|
| 3.5. State | MAHARASHTRA |
| 3.6. District | PUNE |
| 3.7. Pin Code | 411005 |
| 3.8. E-mail address | puneriverprojects@gmail.com |
| 3.9. Landline Number | xxxx1103 |
| 3.10. Mobile number | xxxxxx1771 |

Project Location

| | |
|---|---|
| 4. Location of the Project or Activity | |
| 4.1. Upload KML | MASTER PLAN Pune River Rejuvenation.kml |
| 4.2. Whether the project/activity falling in the state/UT sharing international borders | NO |
| 5. Shape of the Project | Linear |

Location Details

| Toposheet No | State/UT | District | Sub District | Village | Plot/Survey/Khasra No. |
|--------------|-------------|----------|--------------|----------------|------------------------|
| E43H14 | MAHARASHTRA | Pune | Haveli | Dapodi | |
| E43H14 | MAHARASHTRA | Pune | Pune City | Dhanori | |
| E43H14 | MAHARASHTRA | Pune | Pune City | Hingane Bk. | |
| E43H15 | MAHARASHTRA | Pune | Pune City | Hingane Bk. | |
| E43H15 | MAHARASHTRA | Pune | Pune City | Hingane Kh. | |
| E43H14 | MAHARASHTRA | Pune | Mulshi | Hinjavadi | |
| E43H14 | MAHARASHTRA | Pune | Pune City | Kalas (Urban) | |
| E43H14 | MAHARASHTRA | Pune | Pune City | Kharadi | |
| E43H14 | MAHARASHTRA | Pune | Mulshi | Mahulunge | |
| E43H14 | MAHARASHTRA | Pune | Haveli | Manjari Bk. | |
| E43H15 | MAHARASHTRA | Pune | Haveli | Nanded | |
| E43H14 | MAHARASHTRA | Pune | Haveli | Pimpale Nilakh | |
| E43H14 | MAHARASHTRA | Pune | Pune City | Balewadi | |
| E43H14 | MAHARASHTRA | Pune | Pune City | Baner | |
| E43H14 | MAHARASHTRA | Pune | Haveli | Bopkhel | |
| E43H14 | MAHARASHTRA | Pune | Haveli | Sangavi Haveli | |
| E43H15 | MAHARASHTRA | Pune | Haveli | Shivane | |
| E43H14 | MAHARASHTRA | Pune | Pune City | URBAN | |
| E43H15 | MAHARASHTRA | Pune | Pune City | URBAN | |
| E43H15 | MAHARASHTRA | Pune | Pune City | Wadgaon Kh. | |
| E43H14 | MAHARASHTRA | Pune | Pune City | Wadgaon Seri | |
| E43H14 | MAHARASHTRA | Pune | Pune City | Wagholi | |
| E43H14 | MAHARASHTRA | Pune | Mulshi | Wakad | |
| E43H15 | MAHARASHTRA | Pune | Pune City | Warze | |

Remarks

N/A

6. Land Requirement (in Ha) of the project or activity

| Nature of Land involved in (Ha) | Area Existing in Ha [X] | Additional Area Proposed in Ha [Y] | Total Area required after expansion in Ha [X+Y] |
|---------------------------------|-------------------------|------------------------------------|---|
| Non-Forest Land [A] | 820 | 0 | 820 |
| Forest Land [B] | 0 | 0 | 0 |
| Total [A+B] | 820 | 0 | 820 |

Project Activity Cost**6. Project/Activity Cost**

6.1 Cost of the Existing Project at current price level (in Lakhs) [A] 280000

6 Cost of the proposed expansion/ modernization of Project at current price level (in Lakhs) [B] 190000

6.3. Total Cost of the project/ Activity (in lakhs) [A+B] 470000

7. Employment likely to be generated**7.1. During construction phase**

Permanent employment

7.1.1. No. of permanent employment (No.s) [A] 20

7.1.2. Period of employment (No. of days) [B] 2555

7.1.3. No. of man-days [X]=[A]*[B] 51100

Temporary employment

7.1.4. Temporary / Contractual employment (No. of Man days) [Y] 2555000

7.1.5. Total [X] + [Y] 2606100

7.2. During operational phase

Permanent employment

| | Existing | Proposed | Total |
|---|----------|----------|--------|
| 7.2.1. No. of permanent employment (No.s) [A] | 0 | 20 | 20 |
| 7.2.2. Period of employment (No. of days) [B] | 0 | 1825 | 1825 |
| 7.2.3. No. of man-days [X]=[A]*[B] | 0 | 36500 | 36500 |
| Temporary employment | | | |
| 7.2.4. Temporary / Contractual employment (No. of Man days) [Y] | 0 | 365000 | 365000 |
| 7.2.5. Total [X] + [Y] | 0 | 401500 | 401500 |

Others

8. Whether Rehabilitation and Resettlement (R&R) involved? NO

9. Whether project area involves shifting of

1138

9. Whether project area involves shifting of watercourse/road/rail/Transmission line/water pipeline, etc. YES

required

9.1. Details

Shifting of Transmission line is required.

10. Whether any alternative site(s) examined or part thereof for the non-site-specific component?

Not applicable as the project or activity is site specific

11. Whether there is any Government Order or Policy/ Court order relevant or restricting to the site?

YES

Details of Order/Policy

Upload Copy

EXECUTION APPLICATION NO.13 OF 2022 (WZ) IN APPEAL NO.12 OF 2020 (WZ), BEFORE THE NATIONAL GREEN TRIBUNAL WESTERN ZONE BENCH, PUNE

1672830373124448767463b55da56d172 (1).pdf

Appeal No.12/2020(WZ) dated 29.11.2022, BEFORE THE NATIONAL GREEN TRIBUNAL WESTERN ZONE BENCH, PUNE

JUDGMENT in Appeal 12 of 2020(WZ) (1).pdf

12. Whether there is any litigation pending against the project and/or land in which the project is proposed to be set up? NO

13. Whether the proposal involves violation of Act/Rule/Regulation/Notification of Central/State Government? NO

Basic Information

1. Category of the Project/Activity

| | | |
|--|--|------------------|
| 1.1. Name of the project proposal | Pune River Rejuvenation Project | |
| 1.2. Type of Proposal | Expansion | |
| 1.3. Whether the Project Activity (Construction/ Operation) has been undertaken without obtaining prior Environmental Clearance under the provision of EIA Notification 1994/ 2006? | No | |
| 1.4. Whether multiple items (Components) as per the notification involved in the proposal? | No | |
| 1.4.1. Item No. as per schedule to EIA Notification, 2006 | 8(b) Townships/ Area Development Projects / Rehabilitation Centres | Area Development |
| Capacity | 820 | Ha |
| 2. Whether project/activity attracts the General Condition specified in the Schedule of EIA Notification? | No | |
| 3. Whether any Protected Areas Notified Under the Wild Life (Protection) Act, 1972 are located within 10 km of the project site | N/A | |
| 4. Whether any Severely Polluted Areas as identified by the CPCB from time to time located in proximity to the project site | No | |
| 5. Whether any Critically Polluted Areas as identified by the CPCB from time to time located in proximity to the project site | N/A | |
| 6. Whether any Notified Eco-Sensitive area notified under Environmental (Protection) Act, 1986 located in proximity to the project site | N/A | |
| 7. Whether any Inter-State Boundaries and International Boundaries located in proximity to the project site | N/A | |
| 8. Whether any Eco-sensitive Zone notified/proposed to be notified under Environment (Protection) Act, 1986 located within 10 km of the project site | No | |
| 9. Whether any forest land present within 10 km of the project site | No | |
| 10. Category of the Project as per EIA Notification, 2006 | B1 | |
| 10.1. Whether proposal is required to be appraised at Central level? | No | |
| 11. Whether Proposal has interlinked / interdependent projects or activities? | No | |

11.1. Reason thereof

PMC received EC for the project under 8(b) category in November 2019. The project was challenged at NGT in 2020. The NGT had directed project proponent to approach SEIAA

12. Whether any Forest Land involved in the project or part thereof

No

13. Whether NBWL recommendation is required?

No

14. Land Acquisition Details

| Type of Land | In case of non-forest land, please specify | Type of privately owned land | Type of land in terms of ownership | Supporting documents | | | Status of Land Acquisition |
|--------------|--|------------------------------|------------------------------------|----------------------|---------|----------|----------------------------|
| | | | | Document Name | Remarks | Document | |

Project Details

14. Details of Earlier EC/CTE/CTO of Existing Projects

14.1. Whether Environment Clearance available for the existing project / activity?

Yes

14.1.1. Proposal No.

IA/MH/NCP/64072/2017

14.1.2. Date of environmental clearance

16/11/2019

14.1.3. MoEFCC / SEIAA File Number

SEIAA-STATEMENT-0000001786

14.1.4. Upload EC Letter (in pdf)

SEIAA-STATEMENT-0000001786.pdf

14.1.5. Whether any amendment / corrigendum / transfer to the earlier EC has been obtained?

No

14.1.6. Status of Implementation of Project or Activity

No further action after EC

15. Whether the project/activity located in Notified Industrial Area?

No

16. Whether the project/activity located in CRZ or ICRZ area?

No

17. Whether the project proposed to be located in Territorial waters (Off-shore)

No

18. Whether project/activity attracts the Specific Condition specified in the Schedule of EIA Notification?

No

Product Details

19. Details of Products & By-products

| Name of Product | Product / By Product | Quantity / Capacity | | | | Mode of Transport / Transmission | Remarks |
|--------------------|----------------------|---------------------|----------|-------|--------|----------------------------------|---|
| | | Existing | Proposed | Total | Unit | | |
| Pedestrian bridges | Product | 4 | 0 | 4 | Number | Combination of two or three | Pedestrian bridges have been proposed at strategic locations to improve pedestrian connectivity |

| | | | | | | | |
|--|------------|----|----|----|-----------------|-----------------------------------|--|
| Bridges across river | By-Product | 3 | 0 | 3 | Number | Combination of two or three modes | Improve pedestrian connectivity across river All the existing bridges shall be integrated with the proposed embankments. However, to improve the connectivity across the river new vehicular bridges suggested in the project shall be separately taken up by PMC and are not part of project block cost |
| Water retention techniques comprising of barrages | By-Product | 4 | 0 | 4 | Number | Combination of two or three modes | As per earlier EC, the project proposes water retention structures at the place of one check dam and one wier with advanced barrages with low crest level that do not act as an obstruction. Only one new barrage is proposed on the mutha river. Similarly, existing Bund Garden Barrage on Mula Mutha River will be retained and extended. The execution of barrage will happen separately |
| Urban infrastructure comprising of lighting, storm water drainage, electrical, water supply connection, drinking water fountain, solid waste management, power supply arrangements | Product | 1 | 0 | 1 | NA | Combination of two or three modes | Project involves urban infrastructure development in the form of above-mentioned services at various locations |
| Public Amenities | Product | 16 | 7 | 23 | Hectares (Ha) | Combination of two or three modes | Project involves development of public amenities as follows: 1.Temple ghats; 2.Parking; 3. Plaza; 4. Food Courts; 5. Crematoriums; 6. Utility |
| Embankments | Product | 91 | 0 | 91 | Kilometers (Km) | Combination of two or three modes | The embankment types have been decided on the basis of land availability, immediate context and the hydraulics study. There are three types majorly i.e. Engineered, Urban riparian and rural riparian |
| Interceptor work | Product | 40 | 48 | 88 | Kilometers (Km) | Combination of two or three modes | After the integration of the JICA proposal, the stretches that would require further intervention would be proposed with interceptor lines along the embankment. Additional 25km of Interceptor lines is proposed under JICA |
| Landscape comprising of gardens, urban forest and open grounds | Product | 45 | 5 | 50 | Hectares (Ha) | Combination of two or three modes | Project involves development of park and garden at various locations |
| JICA proposal | By-Product | 0 | 0 | 0 | NA | Combination of two or three modes | The proposal would curb existing polluted outfalls from directly getting released into the river. The JICA proposal will be integrated with the proposed embankments. Additional 25km of interceptor lines are proposed. Also STPs proposed are part of JICA. |

| | | | | | | |
|---|---------|-----|-------|---------------------------|-----------------------------------|---|
| Product | 63100 | 0 | 63100 | Cubic meter per kilometer | Combination of two or three modes | The proposal includes earthwork along the entire stretch of 91km embankment |
| Public access like staircase, ghats and ramps | Product | 342 | 0 | 342 | Number | Combination of two or three modes Existing ghats will be refurbished Proposal includes: Staircase: 249 nos. Ghats: 74nos. and Ramps: 19nos. |
| Green embankment | Product | 180 | 67 | 247 | Hectares (Ha) | Road The proposal includes landscaping on the sloped pitching of the urban and rural riparian |

20. Whether any other Environmental Sensitive area exists within 10 Km from the project/activity boundary? Yes

20.1. Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value No

20.2. Areas which are important or sensitive for ecological reasons- Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests No

20.3. Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration No

20.4. Inland, coastal, marine or underground waters No

20.5. Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas Yes

| Name | Shortest distance from the project boundary in Km | Remarks |
|--|---|---|
| Religious places such as Visarjan ghats ets. | 0.01 | Project involves development of public amenities such as Temple ghats |

20.6. Defence installations Yes

| Name | Shortest distance from the project boundary in Km | Remarks |
|---------------|---|---|
| Defence Camps | 0.01 | Adjacent to project, but will not be affected |

20.7. Densely populated or built-up area Yes

| Name | Shortest distance from the project boundary in Km | Remarks |
|-----------|---|--|
| Pune City | 0.01 | The rivers are flowing through Pune city |

20.8. Areas occupied by sensitive man-made land uses Yes

| Name | Shortest distance from the project boundary in Km | Remarks |
|--------------------------|---|---|
| Various Religious Places | 0.01 | Project involves development of public amenities such as Temple ghats |

20.9. Areas containing important, high quality or scarce resources No

20.10. Areas susceptible to natural hazards which could cause the project to present environmental problems similar effects Yes

| Name | Shortest distance from the project boundary in Km | Remarks |
|---|---|---|
| Areas of Pune City along the river | 0.01 | There is a chance of flooding during construction, but after completion of the project, it will improve the flood resilience of the city. |
| 21. Status of collection of baseline data | Already collected | |
| Period of baseline data collection | | |
| 21.1. From | 02/10/2017 | |
| 21.2. To | 30/12/2017 | |
| 22. Seasons of collection | Post monsoon | |
| 23. Number of Monitoring locations for | | |
| 23.1. Meteorology (Nos.) | 8 | |
| 23.2. Ambient Air Quality (Nos.) | 15 | |
| 23.3. Surface Water Quality (Nos.) | 15 | |
| 23.4. Ground Water Quality (Nos.) | 10 | |
| 23.5. Ground water level (Nos.) | 1 | |
| 23.6. Noise Level (Nos.) | 17 | |
| 23.7. Soil Quality (Nos.) | 16 | |
| 23.8. Summary on the baseline situation | summary of baseline.pdf | |
| 23.9. Map showing the monitoring locations | Monitoring Location- study area.pdf | |

Consultant Details

| | | |
|---|---|--|
| 24. Whether QCI/NABET Accredited EIA Consultant engaged? | No | |
| 24.1. Reason for not engaging the Consultant | Fine Envirotech Engineers has Stay order against NABET Accreditation by Hon'ble Bombay High Court and Hon'ble Supreme Court of India. | |

Project Details

1. Introduction of Project or Activity

1.1. Need for the project or activity and its importance to the country/region

Rejuvenate the rivers by cleaning, reducing flood risk, enhancing ecology & making water available

1.2. Demand - Supply Gap and Domestic and export markets, if any

NA

2. Social Infrastructure

2.1. Readily available

There are few large scale significant Ghats which will be retained and integrated in project.

2.2. Proposed to be developed

Gardens, Temple Ghats, Visarjan facilities, Recreational amenities and facilities, plazas, cycle tracks and promenades, boating facilities, parking and facilities, Green Embankments, toilet blocks, pedestrian bridges, eateries, etc.

3. Connectivity to the project or activity

3.1. Nearest railway station and its distance (in Km)

Pune Junction

1.7

3.2. Nearest Airport and its distance (in Km)

Pune Airport

4.25

3.3. Nearest Town/City/District head quarter and its distance (in Km)

Pune City

0.01

4. Soil classification

Slightly Alkaline

5. Distance from the HFL of the river in m, if any

N/A

6. Benefits of the project

6.1. Social benefits of project or activity

Protected low lying areas along the river from periodic flood risk, Sewage flowing in to the river will be curbed to make it pollution free. Abutting public gardens, historical and religious important places are integrated and enhanced public realm along the river, Accessibility along the river, protecting & enhancing existing thick vegetated areas along river

6.2. Financial benefits of project or activity

The aim of the project is to rejuvenate the river and convert the river into asset for the city.

7. Project/ Activity Construction Status

To be Started

7.1. Likely date of start of construction activity (start of mining operations in case of mining proposals)

10/04/2023

7.2. Likely date of completion of construction activity (end of mining operations in case of mining proposals)

30/04/2030

Resource Utilization

8. Use of resources for construction or operation of the project

8.1. Whether requirement of water involved in the project? Yes

Details of Water requirement during Construction stage

| Sr.No. | Source | Quantity in KLD Present | Quantity in KLD with Expansion | Method of water withdrawal | Distance from Source in mtr | Mode of Transport | Details of Permission | Competent Authority | Upload a copy of the permission letter/NOC | Status of Permission/t |
|--------|----------------------------------|-------------------------|--------------------------------|----------------------------|-----------------------------|-------------------|-----------------------|---------------------|--|------------------------|
| 1 | Pune Municipal Corporation, Pune | 174 | 49 | Not applicable | 100 | Pipeline | NOC will be obtained | No | N/A | N/A |

Details of Water requirement during Operational stage

| Sr.No. | Source | Quantity in KLD Present | Quantity in KLD with Expansion | Method of water withdrawal | Distance from Source in mtr | Mode of Transport | Details of Permission | Competent Authority | Upload a copy of the permission letter/NOC | Status of Permission/t |
|--------|--------|-------------------------|--------------------------------|----------------------------|-----------------------------|-------------------|-------------------------------|---------------------|--|------------------------|
| 1 | Other | 180 | 0 | Others | 100 | Pipeline | NOC from PMC will be obtained | No | N/A | N/A |

8.2. Other information, if any

Water required for gardening purpose will be utilized from treated water from STPs under JICA Proposal

8.3. Whether requirement of Minerals and/or fuels involved in the project?

No

8.4. Construction material

Yes

| Construction material | Quantity in MT | Source | Mode of transport | Distance from source in Km |
|-----------------------|----------------|---|-----------------------------------|----------------------------|
| Cement | 676501 | Wagholi | Road | 10 |
| Sand | 499367 | Lonikand | Road | 16 |
| Aggregates | 919222 | Lonikand | Road | 16 |
| Stone | 5713575 | Lonikand | Road | 16 |
| Steel | 10947 | Authorized vendors from Raigad District | Combination of two or three modes | 150 |

8.5. Timber

No

8.6. Electric Power:

Yes

8.6.1. Total Electricity requirement (MW):

5.5

8.6.2. Main Source:

MSEDCL and 11 X 615 Transformers, as required

8.6.3. Renewable energy proposed to install (KW):

0

8.6.4. Percentage contribution of renewable energy:

0

8.6.5. Standby arrangements (details of DG Sets):

DG sets have been proposed as back up for the site

8.6.6. Stack height in m (DG set):

30

8.6.7 Energy conservation measures:

Not Applicable as its river rejuvenation project. However, wherever possible, street lights and construction power shall be solar/ power saving LEDs.

8.7. Whether any other natural resources / other raw materials required?: No

8.8. Whether any use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies) required? No

8.9. Whether any resource efficiency / optimization / recycling and reuse envisaged in the project? No

Physical Changes

9. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality:

9.1. Whether any permanent or temporary change in land use, land cover or topography due to project activity? Yes

| Please Specify | Existing | Proposed | Total | Remarks |
|------------------------|----------|----------|-------|--|
| Public Amenities | 16 | 7 | 23 | Many public amenities like food courts, kiosks, public plazas, organized outdoor vending areas, craft bazaars, , Ghats have been proposed for recreational purpose |
| River Area under Water | 526 | -26 | 500 | River area (area under water) |

The embankment types have been decided on the basis of

| | | | | |
|---|--|----|-----|-----|
| Embankment | 180 | 67 | 247 | |
| 9.1.1. Green belt | 45 | 5 | 50 | N/A |
| 9.1.2. Total | 767 | 53 | 820 | |
| 9.2. Whether any clearance of existing vegetation due to project activity? | Yes | | | |
| 9.2.1. No. of Trees | 11000 | | | |
| 9.2.2. Area covered with plantation/ vegetation / greenbelt proposed to be cleared in Ha | 9 | | | |
| 9.2.3. No. of trees proposed for transplantation | 11150 | | | |
| 9.2.4. Other information, if any | As per latest GR (RNI no.: MAHENG/2009/35528) no. of trees to planted against the no. of trees removed shall be decided. Details may vary during actual execution. Trees to be cut are all invasive species. Proper Tree cutting NOC shall be obtained prior to cutting of any Trees, if required. | | | |
| 9.3. Whether any loss of native species or genetic diversity? | No | | | |
| 9.4. Whether any demolition works involved in project activity? | Yes | | | |

Details of demolition

| Details | No.s | Built up area | Remarks |
|---------|------|---------------|---------|
|---------|------|---------------|---------|

| Details | No.s | Built up area | Remarks |
|---|------|---------------|---|
| 1148 Demolition includes low lying/ old check dam and weir, dilapidated ghats and visarjan tanks, compound walls and pavements coming inside project boundary | 1 | 0 | There is no habitable structure to be demolished. Existing open structures will be refurbished within river bed |

Total 1 N/A

9.5. Whether any linear structures proposed for diversion or demolition due to project activity? (e.g. roads, transmission lines, rail line, pipeline, conveyor, etc.) Yes

9.5.1. Details of Linear structures proposed for diversion or demolition

Demolition of Road from Mhatre bridge to Baba bhide bridge on LHS and Baba bhide bridge to tilak bridge on RHS of Mutha River

9.5.2. Length of linear structure in m

2000

9.5.3. Area covered by linear structure in Ha

4

9.5.4. Other information, if any

Other structures to be diverted/ shifted such as existing Power lines, Transmission lines and Interceptor lines within river bed

9.6. Whether any closure or diversion of existing transport routes or infrastructure due to project leading to changes in traffic movements? Yes

9.6.1. Length of the existing transport routes or infrastructure proposed to be closed or diverted in Km

2

9.6.2. Alternative arrangement proposed, if any

Existing city route will be used. Proposed Promenades will be developed for cycling tracks

9.6.3. Other information, if any

Demolition of Road from Mhatre bridge to Baba bhide bridge on LHS and Baba bhide bridge to tilak bridge on RHS of Mutha River

9.7. Whether any closure or diversion of water bodies present in project area or realignment of water courses passing through project area? No

9.8. Whether any dismantling or decommissioning or restoration works or reclamation works (Long-term/ short-term)? Yes

9.8.1. Details of dismantling / decommissioning

Dismantling of structures such as like check dams, weirs, pavement, flooring, compound walls, chain link fences etc.

9.8.2. Duration of dismantling or decommissioning

30/04

9.8.3. Details of restoration or reclamation

Restoration of existing Religious and Heritage Ghats, Stone retaining walls and bridges, as appropriate

9.8.4. Duration of restoration or reclamation

30/04

9.8.5. Other information, if any

Dismantling and restoration works will be executed as the project proceeds

9.9. Whether any construction works for temporary use for project activity? No

| | |
|--|---|
| 9.10. Whether any cut and fill excavations proposed for the project activity? | Yes |
| 9.10.1. Quantity of cutting material in Cu.m | 6959600 |
| 9.10.2. Proposed utilization / dispose of cutting material | 100% re-utilization in construction activity |
| 9.10.3. Quantity of filling material in Cu.m | 1214150 |
| 9.10.4. Source of filling material | Authorized vendors |
| 9.10.5. Other information, if any | The quantity may vary during actual project execution. |
| 9.11. Whether any underground works including tunnelling? | No |
| 9.12. Whether any dredging involved in project? | No |
| 9.13. Whether any offshore structures involved in project? | No |
| 9.14. Whether any new road, rail, sea, airports, helipad, etc. during construction or operation? | No |
| 9.15. Whether any construction of new linear structures? (e.g. transmission lines, pipelines, etc.) | Yes |
| 9.15.1. Length of transmission line proposed to be diverted | 2 Km |
| 9.15.2. Length of pipe line proposed to be diverted | 2 Km |
| 9.15.3. Length of new transmission line proposed | 1 Km |
| 9.15.4. Length of new pipeline proposed | 18 Km |
| 9.15.5. Other information, if any | Transmission & drainage lines to be realigned. |
| 9.16. Whether any Facilities for storage of goods or raw materials? | No |
| 9.17. Whether any Facilities for long term/ permanent housing of operational workers/ staff? | No |
| 9.18. Whether any Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers? | No |
| 9.19. Whether any Stream crossings, temporary and permanent? | No |
| 9.20. Whether any Influx of people to an area in either temporarily or permanently? | No |
| 9.21. Whether any other information would like to submit? | Yes |
| 9.21.1. Details thereof | There are few Nallahs and 7 live streams which will be integrated with the project. If any additional stream comes across, the same will be integrated appropriately. |

10. Release of pollutants to Air and Mitigation measures

10.1. Whether any probable air pollutants generated? Yes

| Air Pollution Source | Probable Pollutants | Mitigation Measures |
|------------------------------------|---|---|
| Transport of raw material/products | PM 10, PM 2.5, CO | Heavy vehicle must be checked for PUC, Sprinkling of water will be done for dust suppression |
| DG sets | PM, SO _x , NO _x | Providing adequate stack height for mixing of emissions, Maintenance of DG set |
| Others | Dust Emissions, PM 10 & PM 2.5, SO ₂ , NO _x | Dust mask to workers to prevent exposure to dust, Periodic maintenance of construction equipments |

10.2. Other information, if any

The baseline ambient air quality of the study area is meeting the prescribed National Ambient Air Quality Standard at all locations. All mitigation measures will be followed to not exceed Standard limit by NAAQs/ CPCB.

10.3. Generation of Noise & Vibration and mitigation measures

10.3.1. Whether any probable generation of Noise and vibration from the proposed project? Yes

10.3.1.1. Sources of Noise

During Construction phase: Construction Machineries, vehicular transportation etc. During operation phase only source of noise shall be vehicular traffic noise

10.3.1.2. Sources of Vibration

During construction phase: Machineries. No vibration is envisaged during operation phase.

10.3.1.3. Details of blasting, if any

NA

10.3.1.4. Other information, if any

NA

10.3.1.5. Whether any mitigation measures proposed for Noise & Vibration? Yes

10.3.1.5.1. Mitigation measures proposed for control of Noise

•Proper safety gears to construction workers •Construction activities shall be restricted during day time hour. All vehicles to have PUC and Bharat IV engines with proper maintenance.

10.3.1.5.2. Mitigation measures proposed for control of vibration

• All jackhammers and pavement breakers used on the construction site shall be fitted with manufacturer's approved exhaust muffler • Instead of pneumatic hammers electric, hydraulic hammers can be use

10.3.1.5.3. Other information, if any

All mitigation measures will be followed to not exceed Standard limit by NAAQs/ CPCB.

10.3.2. Whether any probable generation of Light and Heat? No

10.4. Discharge of pollutants to water and mitigation measures

10.4.1. Whether any probable water pollutants generated? No

10.5. Probable sources of water pollutant No

Details of reuse / recycle of wastewater

Qty / Capacity

Details

Present

Upon Expansion

10.6. Quantity of waste water generation per day (KLD)

0

0

| | | |
|--|--|---|
| 10.6. Quantity of waste water generation per day (KLD) | 0 | 0 |
| 10.7. Quantity of treated water proposed to use per day (KLD) | 0 | 0 |
| 10.8. Quantity of treated water proposed to discharge outside the premises (KLD) | 0 | 0 |
| 10.9. Purpose for which treated water is proposed to use | 0 | 0 |
| 10.10. Whether it is proposed to opt/avail common off-site Sewage Treatment Plant (CSTP)/Effluent Treatment Plant (CETP) facility? | No | |
| 10.11. Whether it is proposed to setup on-site Sewage Treatment Plant (STP)/Effluent Treatment Plant (ETP) facility? | No | |
| 10.12. Whether the adequacy of the Sewage Treatment Plant (STP) or Effluent Treatment Plant certified by an independent expert? | No | |
| 10.12.1. Reasons thereof | There are 10 existing STPs in Pune City at various locations. 11 STPs are proposed and designed as per CPHEEO guidelines and are provided under JICA & NRCD Scheme in various location of Pune city. They are not part of this proposal. | |
| 10.13. Whether any other mitigation measures proposed? | Yes | |
| 10.13.1. Details thereof | Water fountains for DO enhancement are proposed and green belt along the project boundary will be developed. | |
| 10.14. Whether Dual Plumbing System proposed to be implemented? | No | |
| 10.14.1. Reasons thereof | Not applicable | |
| 10.15. Whether any discharge of treated effluent involved? | No | |

Water Requirements

11. Ground water intersection and water conservation measures:

| | |
|---|---|
| 11.1. Whether ground water table intersection involved in the project activities? | No |
| 11.2. Area category from Groundwater availability perspective? | Safe |
| 11.3. Whether Rainwater harvesting proposed | No |
| 11.4. Whether any other water conservation measures proposed? | Yes |
| 11.4.1. Details thereof | The project proposals aim at reviving and enhancing the natural ecology and ground water table of the city. There are 7 live streams which will be integrated with project. Embankments will be constructed using eco-friendly material. Green belt development along the project boundary. |
| 11.5. Whether the ZLD is proposed? | No |

| Description | Existing | Proposed Incremental | Total after Expansion |
|--|--|--|-----------------------|
| 12.1. Area proposed for green belt (in Ha) | 45 | 252 | 297 |
| 12.2. Width of green belt (in m) along the boundary of the project or activity | 30 | 0 | 30 |
| 12.3. Percentage of the total area covered under green belt | 5.5 | 30.7 | 36.2 |
| 12.4. Details of the species proposed for plantation | Various native species of trees, shrubs, grass etc. will be planted. The greenbelt also includes area of Green Embankments | Various native species of trees, shrubs, grass etc. will be planted. The greenbelt also includes area of Green Embankments | |
| 12.5. No. of tree saplings to be planted | 30000 | 0 | 30000 |
| 12.6. Funds allocated for plantation in Lakhs. | 15660 | 0 | 15660 |

Waste Generation

13. Production of wastes during construction or operation or decommissioning

13.1. Whether any generation of Solid waste (domestic wastes)? Yes

| Name of the waste | Source | Qty (TPA) | Mode of disposal | Mode of Transport |
|-------------------|------------------------------|-----------|---|-------------------|
| Solid Waste | During Construction activity | 22 | Segregation into biodegradable & non-biodegradable waste and handed over to PMC | Road |

13.2. Whether any generation of plastic waste? No

13.3. Whether any generation of e-waste? No

13.4. Whether any generation of batteries waste? No

13.5. Whether any generation of Bio-medical waste? No

13.6. Whether any generation of hazardous wastes (as per Hazardous Waste Management Rules)? No

13.7. Whether any generation of construction or demolition wastes? Yes

| Name of the waste | Source | Qty (TPA) | Mode of disposal | Mode of Transport |
|--|---|-----------|---------------------------------|-------------------|
| Structures like pavement, flooring etc | Open Structures within the river bed acting as obstruction to flow of water | 385 | Authorized Landfill site of PMC | Road |
| Structures like check | Open Structures within the river bed acting as | | Authorized Landfill | |

13.8. Whether any generation of other wastes? No

13.9. Whether any generation of surplus products? No

13.10. Whether measures for waste minimization proposed? No

Risk Assessment

14. Whether any risks associated with project activities which could affect human health or the environment, -

14.1. From explosions, spillages, fires etc. from storage, handling, use or production of hazardous substances? No

14.2. From any other causes? No

14.3. Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)? Yes

14.3.1. Details thereof Flood disasters, Earthquake, cyclones, Storms, Climate Change

14.4. Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases) No

14.5. Could project adversely affect the wellbeing of people in project area e.g. by changing living conditions? No

14.6. Vulnerable groups of people who could be adversely affected by the project e.g. hospital patients, children, the elderly etc. No

14.6.1. Has cumulative risk assessment been performed? N/A

14.7. Whether any likely impacts of the proposed activity on the existing facilities adjacent to the proposed site due to generation of dust, smoke, odorous fumes or other hazardous gases? No

15. Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality

15.1. Whether lead to development of supportive facilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: Supportive infrastructure (roads, power supply, waste or waste water treatment, etc.); housing development; industries in supply chain and downstream; any other? Yes

15.1.1. Details there of

it is proposed to replace the existing water reservoirs with advanced barrages with low crest level so that they do not act as obstructions to the flow, simultaneously ensuring water availability along the entire length of river, interceptor lines and cleaning of river water

15.2. Whether lead to after-use of the site, which could have an impact on the environment? (e.g. mine void, dump sites, No

etc.)

1154

| | |
|---|---|
| 15.3. Whether set a precedent for later developments? | No |
| 15.4. Have cumulative effects due to proximity to other existing or planned projects with similar effects? | No |
| 15.5. Whether lead to growth of alien species, if any? | No |
| 15.6. Is there any threat of the project to the biodiversity (including displacement of fauna-both terrestrial and aquatic and avi-fauna or creation of barriers for their movement)? | No |
| 15.7. Will the proposed project in any way result in the obstruction of a view, scenic amenity or landscapes? | No |
| 15.8. Is there any impact on anthropological or archaeological sites or any important site feature in the vicinity of the proposed site have been considered? | Yes |
| 15.8.1. Details thereof | All such sites have been integrated with project for restoration purpose. |
| 15.9. Will the proposed project result in any changes to the demographic structure of local population? | No |
| 15.10. Will the project cause adverse effect on local communities, disturbance to sacred sites or other cultural values? | No |

16. Building or Construction projects or Area Development projects and Townships Proposals

16.1. Major Project Requirement in terms of the land area, built up area, green belt, parking needs etc.

| | Existing | Expansion |
|--|----------|-----------|
| 16.1.1. Surface Parking Area (sq. m) | 54000 | 54000 |
| 16.1.2. Total Land/plot area (sq. m) | 8200000 | 8200000 |
| 16.1.3. Area under Water (River Area) | 5260000 | 5000000 |
| 16.1.4. Maximum number of floors | N/A | 1 |
| 16.1.5. Total number of dwelling units | N/A | N/A |
| 16.1.6. Open Area (sq. m) | 1571400 | 1571400 |
| 16.1.7. Paved Area (sq. m) | 1060000 | 1030000 |
| 16.1.8. STP & Solid Waste Area (sq. m) | N/A | N/A |
| 16.1.9. Build up area (sq. m) | 8664 | 8664 |
| 16.1.10. Green belt Area (sq. m) | 450000 | 2970000 |
| 16.1.11. Proposed FAR | N/A | 0.001 |
| 16.1.12. Number of parking Required | 2700 | 2700 |

16.2. Whether management of drainage in and around site is proposed as per the Central Public Health & Environment Engineering Organization (CPHEEO) Manual on Storm Water Drainage System. 2019 to avoid flooding or water loading?

No

16.2.1. Reasons thereof

We will connect to the existing drainage system of the city

16.3. Details regarding measures are taken to prevent the run-off from construction activities polluting land & aquifers? (Give details of quantities and the measures taken to avoid the adverse impacts)

Proper Barricading of site.

16.4. Impact of the land use changes occurring due to the proposed project on the runoff characteristics of the area in post construction phase on a long term

There is no land use change. Apart from Green Embankments, green spaces such as urban forests, gardens etc will be provided

16.5. Will there be any significant land disturbance resulting in erosion, subsidence and instability?

No

16.5.1. Reasons thereof

The project itself is soil-erosion measure.

16.6. Whether soil erosion control measures proposed to conform to best management practices highlighted in the National Building Code (NBC) of India, 2016?

Yes

16.6.1. Details thereof

Embankments are constructed with geo-textile fibre, deep root grass system, Gabion Walls, Earth Embankments to prevent soil erosion and water entering. The embankment is strategically designed with natural elements like sand; stone rip rap, stone in wire crate, and compacted earth with vegetation.

16.7. Breakup of water requirement for various daily uses

| Daily Use | Daily quantity (KLD) | |
|------------------|----------------------|----------------|
| | Present | Upon Expansion |
| Drinking Water | 36 | 36 |
| Green Belt | 3150 | 20790 |
| Flushing | 18 | 18 |
| Dust Suppression | N/A | N/A |
| Daily Use | Present | Upon Expansion |
| NA | 0 | 0 |

16.8. Details of traffic management at the entry & exit to the project site in construction and operation phase with comparison to the present level of traffic

Very negligible impact of the traffic on the surrounding roads during construction phase and subsequently operation phase. Designated Parking space is provided.

16.9. Whether buildings or building complexes have a connected load of 100 kW or greater or a contract demand of 120 kVA or greater and are intended to be used for commercial purposes.

No

16.10. What is the Energy Performance Index (EPI) of a building in kilowatt-hours per square meter per year of the building and measures to minimize energy consumption?

Not applicable. Present proposal is River rejuvenation and not a residential project

16.11. Whether Compliance to the ECBC norms is applicable?

No

16.11.1. Reasons thereof

Not applicable. Present proposal is River rejuvenation and not a residential project

16.12. Details for Energy efficiency level

| Parameter | Details | Remarks |
|-----------------------------|---------|--|
| U-Factor (W/m2 .K) | NA | Not applicable. Present proposal is River rejuvenation and not a residential project |
| Solar Heat Gain Coefficient | NA | Not applicable. Present proposal is River rejuvenation and not a residential project |
| Visual Light Transmittance | NA | Not applicable. Present proposal is River rejuvenation and not a residential project |

16.12.2. Day lighting

| Parameter | Details | Remarks |
|--|---------|--|
| % Useful daylight illuminance (UDI) | 0 | Not applicable. Present proposal is River rejuvenation and not a residential project |
| Area per floor (sq. m) UDI requirement during 90% of the year | 0 | Not applicable. Present proposal is River rejuvenation and not a residential project |
| Total daylight area (sq. m) in building meeting UDI requirement during 90% of the year | 0 | Not applicable. Present proposal is River rejuvenation and not a residential project |

Building Envelope Sealing

16.12.3. Roof

| Parameter | Details | Remarks |
|----------------------------------|---------|--|
| Roof assembly U-factor (W/m2 .K) | 0 | Not applicable. Present proposal is River rejuvenation and not a residential project |
| Climate Zone | 0 | Not applicable. Present proposal is River rejuvenation and not a residential project |

16.12.4. External Wall

| | | |
|--|---|--|
| Opaque Assembly Maximum U-factor (W/m2 .K) | 0 | Not applicable. Present proposal is River rejuvenation and not a residential project |
| Climate Zone | 0 | Not applicable. Present proposal is River rejuvenation and not a residential project |
| Material | 0 | Not applicable. Present proposal is River rejuvenation and not a residential project |
| R Value | 0 | Not applicable. Present proposal is River rejuvenation and not a residential project |

16.12.5. Energy efficiency in Thermal comfort systems and controls Not applicable. Present proposal is River rejuvenation and not a residential project

16.12.6. Energy efficiency in Lighting and Electrical systems and controls Not applicable. Present proposal is River rejuvenation and not a residential project. However, LED/ solar street lights have been proposed.

16.13. Does the layout of streets & buildings maximize the potential for solar energy devices? Substantiate with details. Not applicable. Present proposal is River rejuvenation and not a residential project

16.14. What extent the non-conventional energy technologies are utilized in the overall energy consumption? Provide details of the renewable energy technologies used We are exploring the use of non-conventional energy source is Solar energy in Street Lights and will be incorporated as applicable

16.15. What are the likely effects of the building activity in altering the microclimates? Provide a self-assessment on the likely impacts of the proposed construction on creation of heat island & inversion effects? Not applicable. Present proposal is River rejuvenation and not a residential project

16.16. What precautions & safety measures are proposed against fire hazards? Furnish details of emergency plans

DMP is prepared. Assembly point will be designated. "Emergency Helpline Number" will be displayed at all levels. Identification of nearby hospitals and fire stations with route & contact number for emergency assistance

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16.17. Details of NOCs available for the project (if any)

NA

Enclosures

17. Layout Plan showing the components of the project and green belt proposed; general location and specific location of the project along with coordinates

Master Layout.pdf

18. Conceptual Plan for Building and Construction project

NOT APPLICABLE.pdf

19. Schematic representation of the feasibility drawings which give information for EIA purpose

Executive Summary.pdf

18. Additional Information

| S. No. | Document Name | Remark | Document |
|--------|-------------------------|--|---|
| 1 | EC-SEIAA | Earlier EC | EC_SEIAA.pdf |
| 2 | Land Use Plan | Land Use Plan | LAND USE PLAN.pdf |
| 3 | Final DPR- Part 3 | Final DPR - Part 3 | Final DPR-Part-3_compressed.pdf |
| 4 | Final DPR - Part 4 | Final DPR - Part 4 | Final DPR-Part-4_compressed (1).pdf |
| 5 | Final DPR - Part 2 | Final DPR - Part 2 | Final DPR-Part-2_compressed.pdf |
| 6 | Final DPR - Part 1 | Final DPR - Part 1 | Final DPR-Part-1_compressed.pdf |
| 7 | EIA report - compressed | EIA report- updated as per final DPR | EIA Report_opt_compressed.pdf |
| 8 | SEIAA Letter | SEIAA suggestion letter dated 11.01.2023 | SEIAA Letter-Reconsideration.pdf |
| 9 | NGT Order - 2020 | NGT Order - 2020 | NGT Order - 2020.pdf |
| 10 | NGT Order | NGT Order dated 29.11.2022 | JUDGMENT in Appeal 12 of 2020(WZ) (1).pdf |
| 11 | Cover Letter | Cover Letter | EC Cover Letter-PMC.pdf |

Undertaking

19. I hereby give undertaking that the data and information given in the application and enclosures are true to be best of my knowledge and belief and I am aware that if any part of the data and information is found to be false or misleading at any stage, the project will be rejected and clearance given if any to the project will be revoked at our risk and cost. In addition to the above, I hereby give undertaking that no activity/construction/expansion has been taken up

19.1. Name Kunal Kumar

19.2. Designation commissioner

19.3. Company PUNE MUNICIPAL CORPORATION

19.4. Address Third Floor, Savarkar Udhog bhavan Pune Municipal corporation, Pune, Maharashtra 411005

19.5. Date 04/04/2023

1. Details of Terms of Reference (ToR)

2. Select nature of the ToR ToR prescribed by EAC and Ministry

Note: Please select option "Standard ToR available on website" in case of Expansion under 7 (ii) (a).

2.1. Date of issuance of ToR/Standard ToR 10/08/2017

2.2. Date of issuance of Additional ToR, if any

2.3. MoEF&CC / SEIAA File No. F. No. 21-193/2017-IA-III

2.4. Upload ToR letter (PDF only) N/A

2.5. Whether any amendment to ToR has been obtained No

3. Details of Public Consultation

3.1. Whether the Project has been exempted from Public Hearing? Yes

3.1.1. Reason Building or Construction projects or Area Development projects or Townships

Baseline Details

4. Summary of Baseline Data

Details of Baseline data collection

4.1. Season Post monsoon

Period of collection

4.2. From 02/10/2017

4.3. To 30/12/2017

Number of monitoring locations

4.4. Meteorology (Nos.) 8

4.5. Ambient Air Quality (Nos.) 15

4.6. Surface Water Quality (Nos.) 15

4.7. Ground Water Quality (Nos.) 10

4.8. Ground Water Level (Nos.) 1

4.9. Noise Level (Nos.) 17

4.10. Soil Quality (Nos.) 16

5. Meteorological Parameters

| Parameter | Min. Value | Max. Value | Mean Value |
|--|------------|------------|------------|
| 5.1. Temperature (°C) | 14.5 | 31.5 | 23 |
| 5.2. Wind Speed (m/s) | 335.2 | 999 | 667.1 |
| 5.3. Relative Humidity (%) | 27 | 39 | 33 |
| 5.4. Solar Radiation (W/m ²) | 209 | 794 | 294 |

| | Total rainfall (mm) | No. of rainy days | Average annual rainfall (mm) |
|---------------------------------|---------------------|-------------------|------------------------------|
| 5.5. Rainfall | 79 | 3 | 500 |
| 5.6. Predominant Wind direction | East (E) | | |

6. Ambient Air Quality

Note: Please Specify range in case of data monitored at multiple locations

| Monitoring Location | | | Observed Value | | | |
|---------------------|--------------------|---------------------------|----------------|-------|------------|---------------------|
| Buffer Zone | Criteria Pollutant | Unit | From | To | Mean Value | Prescribed Standard |
| Buffer Zone | PM10 | Micro Gram per Meter Cube | 17.5 | 33.95 | 27.18 | 100 |
| Buffer Zone | PM2.5 | Micro Gram per Meter Cube | 22.84 | 44.32 | 34.53 | 60 |
| Buffer Zone | SO2 | Micro Gram per Meter Cube | 0.67 | 20.35 | 19.5 | 80 |
| Buffer Zone | NOx | Micro Gram per Meter Cube | 0.67 | 33.83 | 30.12 | 80 |

| Monitoring Location | | | Observed Value | | | |
|---------------------|--------------------|---------------------------|----------------|-------|------------|---------------------|
| Core Zone | Criteria Pollutant | Unit | From | To | Mean Value | Prescribed Standard |
| Core Zone | PM10 | Micro Gram per Meter Cube | 0.67 | 48.83 | 23.04 | 100 |
| Core Zone | PM2.5 | Micro Gram per Meter Cube | 0.67 | 52.88 | 38.59 | 60 |

7. Surface Water Quality

Note: Please Specify range in case of data monitored at multiple locations

| Monitoring Location | | Observed Value | | | | CPCB Water Quality Criteria | |
|---------------------|--------------------|----------------|------|------|-------------------------------|-----------------------------|----------|
| Buffer Zone | Criteria Pollutant | Unit | From | To | Standard as per IS: 2296-1982 | Class | Standard |
| Buffer Zone | DO | mg/L | 1.3 | 2.0 | 4.0 | C | 4.0 |
| Buffer Zone | TDS | mg/L | 280 | 302 | 500 | C | 500-2000 |
| Buffer Zone | Total Hardness | mg/L | 136 | 164 | 300 | C | 200-600 |
| Buffer Zone | BOD | mg/L | 8 | 14 | 3 | C | 3 |
| Buffer Zone | pH | NA | 7.10 | 7.28 | 6.5-8.5 | C | 6.5-8.5 |
| Buffer Zone | COD | mg/L | 32 | 56 | 250 | C | 250 |
| Buffer Zone | Chlorides | mg/L | 21.9 | 41.0 | 250 | C | 250 |
| Buffer Zone | Fluoride | mg/L | 0.54 | 0.72 | 1.5 | C | 1.0-1.5 |
| Buffer Zone | Total Coliform | MPN/100 mL | 350 | 1600 | 5000 | C | - |
| Buffer Zone | TSS | mg/L | 15 | 20 | 100 | C | - |

| Monitoring Location | | Observed Value | | | | CPCB Water Quality Criteria | |
|---------------------|--------------------|----------------|------|------|-------------------------------|-----------------------------|----------|
| Core Zone | Criteria Pollutant | Unit | From | To | Standard as per IS: 2296-1982 | Class | Standard |
| Core Zone | DO | mg/L | 0.8 | 3.6 | 4.0 | C | 4.0 |
| Core Zone | TDS | mg/L | 284 | 438 | 500 | C | 500-2000 |
| Core Zone | Chlorides | mg/L | 23.5 | 43.7 | 250 | C | 250 |

| | | | | | | | |
|-----------|----------------|------------|------|------|---------|---|---------|
| Core Zone | Total Coliform | MPN/100 mL | 350 | 1600 | 5000 | C | 5000 |
| Core Zone | Total Hardness | mg/L | 100 | 168 | 300 | C | 200-600 |
| Core Zone | Fluoride | mg/L | 0.43 | 0.78 | 1.5 | C | 1.0-1.5 |
| Core Zone | BOD | mg/L | 6 | 12 | 3 | C | 3 |
| Core Zone | TSS | mg/L | 11 | 24 | 100 | C | - |
| Core Zone | pH | NA | 6.94 | 8.06 | 6.5-8.5 | C | 6.5-8.5 |
| Core Zone | COD | mg/L | 24 | 64 | 250 | C | 250 |

8. Ground Water Quality

Note: Please Specify range in case of data monitored at multiple locations

| Monitoring Location | Criteria Pollutant | Unit | Observed Value | | Standard as per IS: 10500 Desired Limits | Standard as per IS: 10500 Permissible Limits |
|---------------------|---------------------------------------|------|----------------|------|--|--|
| | | | From | To | | |
| Buffer Zone | pH | NA | 7.29 | 7.51 | 6.5 | 8.5 |
| Buffer Zone | TDS | mg/L | 216 | 372 | 500 | 2000 |
| Buffer Zone | Total Hardness | mg/L | 192 | 310 | 200 | 600 |
| Buffer Zone | TSS | mg/L | 2 | 3 | 5 | - |
| Buffer Zone | Turbidity | mg/L | 1 | 1 | 1 | 5 |
| Buffer Zone | Sulphate | mg/L | 29.5 | 40.5 | 200 | 400 |
| Buffer Zone | Chlorides | mg/L | 17.9 | 30.9 | 250 | 1000 |
| Buffer Zone | Fluoride | mg/L | 0.5 | 0.8 | 1 | 1.5 |
| Buffer Zone | Calcium | mg/L | 27.9 | 38.7 | 75 | 200 |
| Buffer Zone | Magnesium | mg/L | 21.9 | 30.9 | 30 | 100 |
| Buffer Zone | Total Alkalinity as CaCO ₃ | mg/L | 128 | 200 | 200 | 600 |

| Monitoring Location | Criteria Pollutant | Unit | Observed Value | | IS: 10500 Desired Limits | IS: 10500 Permissible Limits |
|---------------------|--------------------|------|----------------|-------|--------------------------|------------------------------|
| | | | From | To | | |
| Core Zone | pH | NA | 7.15 | 8.23 | 6.5 | 8.5 |
| Core Zone | Chlorides | mg/L | 10.9 | 28.0 | 250 | 1000 |
| Core Zone | Turbidity | mg/L | 1 | 1 | 1 | 5 |
| Core Zone | Total Hardness | mg/L | 158 | 344 | 200 | 600 |
| Core Zone | Magnesium | mg/L | 7.77 | 28.19 | 30 | 100 |
| Core Zone | TDS | mg/L | 202 | 564 | 500 | 2000 |
| Core Zone | TSS | mg/L | 2 | 6 | 5 | - |

| | | | | | | |
|-----------|---------------------------------------|------|------|------|-----|-----|
| Core Zone | TSS | mg/L | 2 | 6 | 5 | - |
| Core Zone | Fluoride | mg/L | 0.56 | 0.8 | 1 | 1.5 |
| Core Zone | Sulphate | mg/L | 7.65 | 24.5 | 200 | 400 |
| Core Zone | Calcium | mg/L | 17.8 | 42.5 | 75 | 200 |
| Core Zone | Total Alkalinity as CaCO ₃ | mg/L | 100 | 214 | 200 | 600 |

9. Ground Water Level (Phreatic Surface)

| Monitoring Location | Range of Water Table Pre-monsoon Season (in m below ground level) | | Range of Water Table Post-monsoon Season (in m below ground level) | |
|---------------------|---|------------------|--|-------------------|
| | From (Pre-monsoon) | To (Pre-monsoon) | From (Post-monsoon) | To (Post-monsoon) |
| Buffer Zone | 5 | 10 | 2 | 5 |

| Monitoring Location | Range of Water Table Pre-monsoon Season (in m below ground level) | | Range of Water Table Post-monsoon Season (in m below ground level) | |
|---------------------|---|------------------|--|-------------------|
| | From (Pre-monsoon) | To (Pre-monsoon) | From (Post-monsoon) | To (Post-monsoon) |
| Core Zone | 5 | 10 | 2 | 5 |

10. Whether Ground Water Intersection will be there?

No

11. Noise Level

| Monitoring Location | Category | Observed Noise Level(dB(A)) | | | | Prescribed Standard(dB(A)) | |
|---------------------|------------------|-----------------------------|------|------------------|------|----------------------------|------------------|
| | | Day Time Level | | Night Time Level | | Day Time Level | Night Time Level |
| | | From | To | From | To | | |
| Buffer Zone | Residential area | 51.3 | 52.3 | 39.2 | 43.2 | 55 | 45 |
| Buffer Zone | Commercial area | 58.2 | 61.6 | 51.2 | 51.3 | 65 | 55 |

| Monitoring Location | Category | Observed Noise Level(dB(A)) | | | | Prescribed Standard(dB(A)) | |
|---------------------|------------------|-----------------------------|------|------------------|------|----------------------------|------------------|
| | | Day Time Level | | Night Time Level | | Day Time Level | Night Time Level |
| | | From | To | From | To | | |
| Core Zone | Residential area | 47.2 | 53.9 | 38.2 | 43.5 | 55 | 45 |
| Core Zone | Commercial area | 52.8 | 61.1 | 44.2 | 49.2 | 65 | 55 |

12. Soil Quality

Physical Characteristics

Note: Please Specify range in case of data monitored at multiple locations

| Monitoring Location | Soil Texture | Particle Size Distribution (%) | | | Water Holding Capacity (%) | Porosity (%) |
|---------------------|--------------|--------------------------------|-------|-------|----------------------------|--------------|
| | | Sand | Silt | Clay | | |
| Buffer Zone | Clay Loam | 37.64 | 21.49 | 27.82 | 56.23 | 10.7 |

| Monitoring Location | Soil Texture | Particle Size Distribution (%) | | | Water Holding Capacity (%) | Porosity (%) |
|---------------------|--------------|--------------------------------|------|------|----------------------------|--------------|
| | | Sand | Silt | Clay | | |
| Core Zone | | | | | | |

| Core Zone | Soil Texture | Sand | Silt | Clay | Water Holding Capacity (%) | Porosity (%) |
|-----------|--------------|------|-------|-------|----------------------------|--------------|
| Core Zone | Clay Loam | 38.5 | 24.62 | 33.06 | 55.92 | 15.67 |

13. Chemical Properties

Note: Please Specify range in case of data monitored at multiple locations

| Monitoring Location | | Observed Value | | | |
|---------------------|--------------------|----------------|------|-------|----------------------|
| Buffer Zone | Criteria Parameter | From | To | Unit | Permissible Standard |
| Buffer Zone | Carbon | 0.58 | 2.20 | % | -- |
| Buffer Zone | Calcium | 19.8 | 32.9 | mg/kg | -- |
| Buffer Zone | Magnesium | 31.2 | 86.9 | mg/kg | -- |
| Buffer Zone | Potassium | 44.6 | 56.7 | mg/kg | -- |

| Monitoring Location | | Observed Value | | | |
|---------------------|--------------------|----------------|--------|-------|----------------------|
| Core Zone | Criteria Parameter | From | To | Unit | Permissible Standard |
| Core Zone | Magnesium | 22.70 | 116.08 | mg/kg | -- |
| Core Zone | Potassium | 31.8 | 53.3 | mg/kg | -- |
| Core Zone | Calcium | 10.7 | 31.8 | mg/kg | -- |
| Core Zone | Carbon | 0.72 | 4.34 | % | -- |

14. Whether Traffic study has been conducted? Yes

Meteorological Parameters

| Parameter | Existing | Proposed |
|-------------------------------|-----------------|-----------------|
| 14.1. Road | Ghorpadi Mundwa | Ghorpadi Mundwa |
| 14.2. V (volume in PCU/day) | 98 | 98.625 |
| 14.3. C (capacity in PCU/day) | 108 | 108.3 |
| 14.4. Existing V/C Ratio | 0.9 | 0.91 |
| 14.5. LOS | 0.8 | 0.8 |

15. Whether any Schedule-I Species found in the study area? No

15.1. Whether conservation plan for Schedule-I Species has been approved by competent authority? N/A

16. Impact Prediction

Air Quality Impact Prediction

| Monitoring Location | | | Criteria Pollutant | Unit | Baseline Concentration [A] | Predicted incremental value considering worst case stability class [B] | Total GLC [A]+[B] | Prescribed Standard |
|---------------------|---------------|-------------|--------------------|-------------------|----------------------------|--|-------------------|---------------------|
| Lat | Long | Core/Buffer | | | | | | |
| 18° 31' 49"N | 73° 51' 36" E | Core Zone | PM10 | Microgr am per m3 | 23.67 | 0.1 | 23.77 | 100 |
| 18° 31' | 73° 51' 36" E | Core Zone | SO2 | Microgr am per | 20.35 | 0 | 20.35 | 80 |

| | | | | | | | | |
|--------------|---------------|-----------|-----|------------------|-------|---|-------|----|
| 18° 31' 49"N | 73° 51' 36" E | Core Zone | NOx | Microgram per m3 | 33.38 | 0 | 33.38 | 80 |
|--------------|---------------|-----------|-----|------------------|-------|---|-------|----|

17. Funds Allocated for Environment Management

| | |
|--|-------|
| 17.1. Funds Allocated for Environment Management (Capital) (in Lakhs) | 10095 |
| 17.2. Funds Allocated towards Corporate Environmental Responsibility (in Lakhs) | 0 |
| 17.3. Funds Allocated for Environment Management Plan (EMP) (Recurring per Annum) (in Lakhs) | 120 |

Summary of allocation of fund for EMP

| EMPs | Capital Cost (INR) | Recurring Cost per Annum (INR) |
|---|--------------------|--------------------------------|
| Water Pollution Control | 1500 | 25 |
| Environmental monitoring and Management | 15 | 15 |
| Green Belt Development | 8195 | 40 |
| Solid waste Management | 350 | 20 |
| Occupational Health and Safety | 35 | 20 |
| Total | 10095 | 120 |

18. Details of Post-project monitoring program

Parameters to be monitored during construction and operation of the unit

| Attribute | Parameters proposed for monitoring | Monitoring | | Mode of Monitoring | Frequency of Monitoring | Project phase in which monitoring is required | Monitoring Agency |
|---------------|---|-------------|-------------|--------------------|--|---|-------------------|
| | | Lat | Long | | | | |
| Air Quality | PM 10, PM 2.5, SO ₂ , NOx, VOC | 18° 31' 49" | 73° 51' 36" | Manual | Four/ year | All phases | Third Party |
| Noise Quality | Leq day, Leq night, L10, L50, L90 dB(A) | 18° 31' 49" | 73° 51' 36" | Manual | Four /Year (24 hour reading with a frequency of 10 | All phases | Third Party |
| Soil quality | Physico-chemical characteristic | 18° 31' 49" | 73° 51' 36" | Manual | Four /Year (one time sample) | All phases | Third Party |
| Water Quality | As per IS 10500:2012 and IS: 2296 | 18° 31' 49" | 73° 51' 36" | Manual | Four /Year (one time sample) | All phases | Third Party |
| Biodiversity | Survival rate of plantation | 18° 31' 49" | 73° 51' 36" | Manual | Once in year | Operation | Third Party |

19. Whether Environmental cell is proposed for implementation and monitoring of EMP

No

19.1. Reason thereof

Project Proponent itself will implement and monitor EMP

19.2. Provide Reference of EIA/EMP Report where addressed" label="Procedure to review effective implementation and monitoring of EMP and reporting of status of implementation to Project Head

Contractors are responsible to follow EMP and PMC will monitor regularly.

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20. Whether compliance report from regional office on existing EC is obtained?

Yet not Obtained

20.1. Reason thereof

Not applicable

Enclosures

21. Document to be attached

21.1. Upload Copy of Final EIA/EMP Report

EIA Report.pdf

21.2. Executive summary of feasibility report/project report

Executive Summary - project report.pdf

22. Upload Copy of Final Layout Plan (Upload pdf only)

Master Layout.pdf

24. Additional Information

| S. No. | Document Name | Document | Remark |
|--------|--------------------|--|--------------------|
| 1 | Final DPR - Part 4 | Final DPR-Part-4_compressed-compressed.pdf | Final DPR - Part 4 |
| 2 | Final DPR - Part 3 | Final DPR-Part-3_compressed.pdf | Final DPR - Part 3 |
| 3 | Final DPR - Part 2 | Final DPR-Part-2_compressed.pdf | Final DPR - Part 2 |
| 4 | Final DPR - Part 1 | Final DPR-Part-1_compressed.pdf | Final DPR - Part 1 |

25. Document CheckList

Undertaking

27. I hereby give undertaking that the data and information given in the application and enclosures are true to be best of my knowledge and belief and I am aware that if any part of the data and information is found to be false or misleading at any stage, the project will be rejected and clearance given if any to the project will be revoked at our risk and cost. In addition to the above, I hereby give undertaking that no activity/construction/expansion has been taken up

27.1. Name

Kunal Kumar

27.2. Designation

commissioner

27.3. Company

PUNE MUNICIPAL CORPORATION

27.4. Address

Third Floor, Savarkar Udhog bhavan Pune Municipal corporation, Pune, Maharashtra
411005

27.5. Date

05/04/2023

ANNEXURE-11**Pune River Rejuvenation Project****Hydrology and Hydraulics review****June 2023**

Content

1. Introduction of Expert

2. Project Context

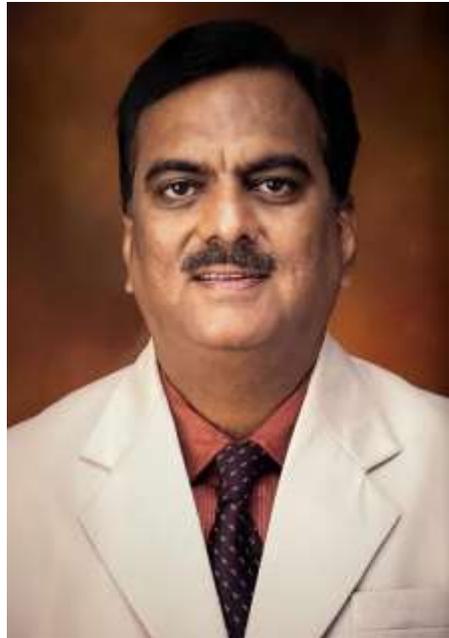
3. Technical Studies

4. Issues and Objectives

5. Sample Stretch Visit

6. Suggestions

7. Conclusions



Mr. Avinash Surve

| | | |
|------------------------------------|---|---|
| NAME | : | AVINASH VAMAN SURVE |
| ADDRESS | : | 17,Ganadhish, Savarkar Society, Sahakar Nagar No.2 PUNE-411009 |
| PERSONAL | : | Male, Indian Born on 10/11/1960 |
| Email | | avisurve@gmail.com |
| EDUCATIONAL QUALIFICATIONS | : | Bachelor of Engineering (Civil) from COEP, batch of 1982, ME Hydraulics PUNE UNIVERSITY (INDIA) |
| PROFESSIONAL QUALIFICATIONS | | 1) Diploma in Information Technology (1999-2000) 2) Short course on "Effective irrigation Management" (1996) 3) Southampton Institute of Irrigation Management, Southampton, U.K. |
| PROFESSIONAL MEMBERSHIPS | : | 1) Vice-President, Institution of Engineers (I), Kolkata 2) Chairman, Institution of Engineers(India), Pune local center. 3) Life Member, Bombay Natural History Society Bombay, Mumbai. 4) Fellow of Institution of Engineers (India) No. F-112479-6. 5) Member, International Association of Small Hydro Project. 6) Member, Earthquake Society of India. |
| PRESENT RESPONSIBILITIES | : | Chairman , Governing Council , Engineering Staff College of India , Hyderabad |
| | : | Secretary , Water Resources Dept, Govt. of Maharashtra |
| FORMER POSITION | | Executive Director, VIDC , Nagpur |
| Professional visits | : | 1) U.K., Southampton for Training in 'Effective Irrigation Management' (1990) 2) U.K. & U.S. – Professional visit (2000) 3) Israel : Visit to BERMAD company and Lift Irrigation & Water Management System in Israel. 4) China : Heavy Construction equipment exhibition & Technical visit to Three Gorges Dam. 5) Australia : Study of Water Management of Murey Darling Basin |
| Honored by | | 1) "Bharat Jyoti Award" in New Delhi for contribution given in Civil Engineering Field. 2) Hon. Governor of Maharashtra for Versatile Engineer for the Year 2004-05 |

Professional qualification and experience

| Sr. No. | During year | Organization | Period | Position | Activities & Responsibilities |
|---------|-----------------------------|---|------------|---|---|
| 1 | 09.10.2018 | Secretary (CADA) | | | |
| 2 | 06.06.2018 to 09.10.2018 | Secretary (CADA) (Addl.Charge) | 04 moths | Secretary (CADA) Mantra Laya, Mumbai | |
| 3 | 08.02.2016 to 09.10.2018 | Secretary & Executive Director, VIDC, Nagpur | 2.8 months | Secretary & Executive Director | |
| 4 | 01.05.2016 to 08.02.2017 | Secretary & Executive Director, VIDC, Nagpur (Addl.Charge) | | Secretary & Executive Director | |
| 5 | 2014 to 2017 | Gosikhurd Project Water Resources Department, Nagpur. | 2.5 Yr. | Chief Engineer | |
| 6 | 2012-2014 | Water Resources Department .Pune | 02 Yr. | Chief Engineer (WR) | Irrigation Management, Construction of Projects, MWSIP Works, for Pune, Sangli, Kolhapur, Satara and Solapur Districts. |
| 7 | 2006-2012 | Pune Irrigation Circle, Pune. | 06 Yr. | Superintending Engineer | In charge Irrigation Management of 6 Major projects, 11 Medium projects 120 M.I. Projects, Rehabilitation work of 17 M.I. Projects works under MWSIP. Assessment & recovery of water cess. |
| 8 | 2003 –2006 | Pune Irrigation Projects Circle, Pune | 3.5 Yr. | Superintending Engineer | In charge of construction of 6 major dams & 4 medium dams (Irrigation & Water Resources Project) To provide irrigation network for 100 Thousand Ha. Land water supply to urban & rural sectors, water supply for industries |
| 9 | 2000-2003 | Maharashtra Krishna Valley Development Corporation | 03 Yr. | Executive Engineer | Technical Scrutiny, Corporate Governance, Financial Management & Monitoring of ongoing 400 + projects of corporation. |

Professional qualification and experience

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| Sr. No. | During year | Organization | Period | Position | Activities & Responsibilities |
|---------|-------------|--------------------------------------|-----------|---------------------|--|
| 10 | 1997-2000 | Minor Irrigation Division No.1, Pune | 03 Yr. | Executive Engineer | Construction of minor irrigation projects for irrigation & drinking water purpose, Planning, Investigation, Estimation, Contract Documentation & Execution of Minor irrigation scheme in Pune District |
| 11 | 1996-1996 | Ahmednagar Irrigation Division | 05 Months | Executive Engineer | Water Management of 4 large irrigation projects |
| 12 | 1995-1996 | Training Programmer | 02 Months | | Institute of Irrigation Management, Southampton, United Kingdom (UK) |
| 13 | 1993-1995 | Chaskaman Project Division | 03 Yr. | Executive Engineer | Construction of 50 mtr. height water reservoir with spillway & irrigation outlet along with Canal & Water Distribution System. |
| 14 | 1989-1993 | Kukadi Project Dn.No.7, Shrigonda | 04 Yr. | Executive Engineer | Construction of Canals, Aqueduct, Bridges & Water distribution system |
| 15 | 1985-1989 | Irrigation Department | 04 Yr. | Executive Engineer | Construction of 10.0 MW Hydro Electric Project construction of canals. |
| 16 | 1983-1985 | Techno Consultants | 02 Yr. | Design Engineer | Structural designing & Construction of large-scale industrial building & process industries like Sugar & Paper. |
| 17 | 1982-1983 | C.Wadia Institute of Technology | 01 Yr. | Assistant Professor | Civil & Structural Engineering |

Appointment of Expert

- The EC was granted by SEIAA Maharashtra in year of 2019.
- SEAC/SEIAA have appointed Mr. Surve as an independent expert to thoroughly review the hydrology and hydraulics report of the Mula, Mutha and Mula Mutha River Rejuvenation Project at Pune.
- During SEAC meeting dated 14th June 23 held for EC amendment, it was recommended by Hon. Chairman, SEAC to get the hydrology and hydraulics report reviewed from Mr. Surve.
- Mr. Surve himself have been independently reviewed the report and his findings and conclusion are mentioned in the subsequent chapters.

1. Introduction of Expert

2. Project Context

3. Technical Studies

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5. Sample Stretch Visit

6. Suggestions

7. Conclusions

Project Area – along 44kms of Mula, Mutha and Mula-Mutha

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Pawana Dam

PCMC

22.2Km
Mula River

11.8Km
Mula-Mutha River

Mulshi Dam

Ram Nadi

PMC

10.4Km
Mutha River

Temghar Dam

Khadakwasla Dam

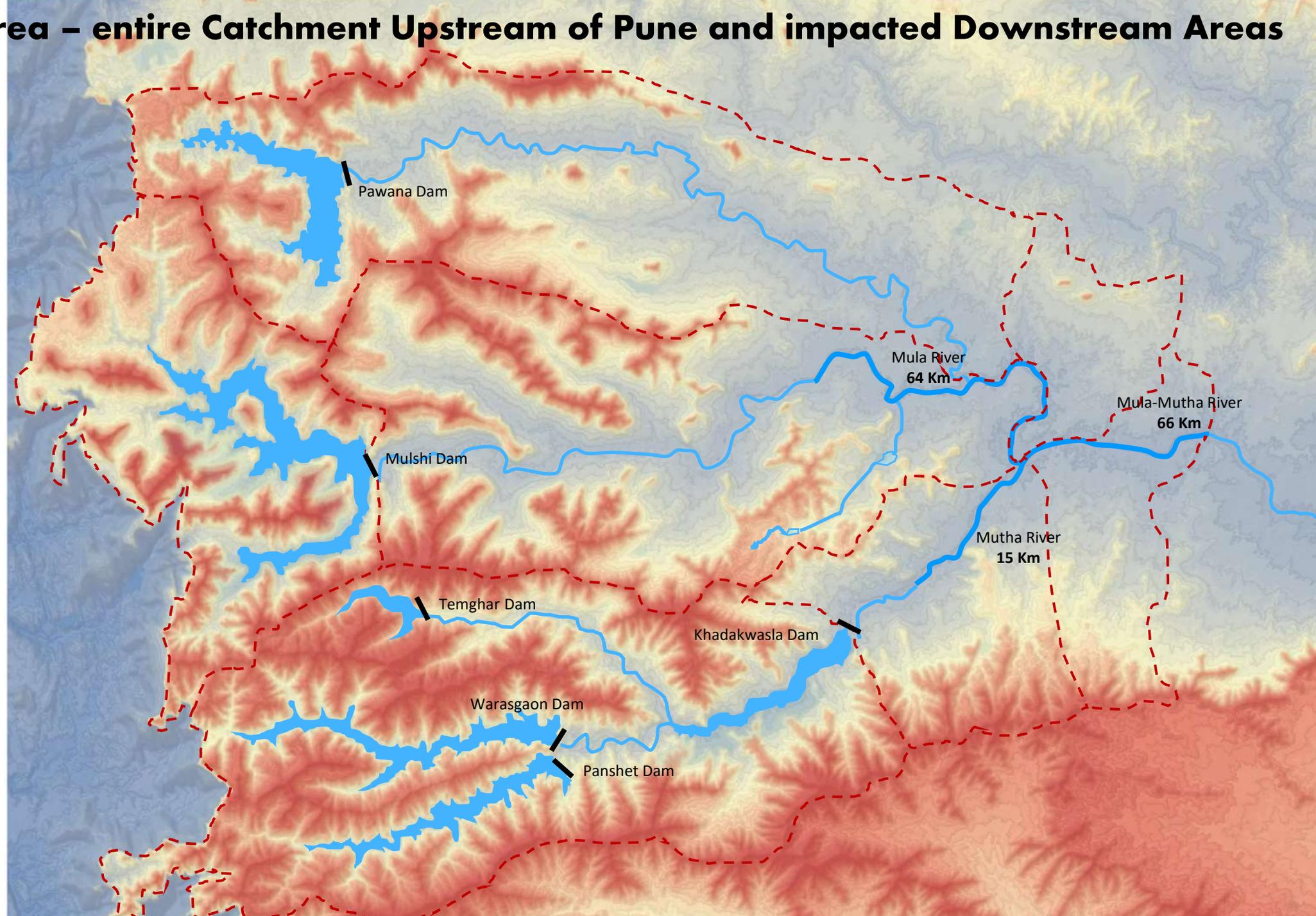
Warasgaon Dam

Panshet Dam



Study Area – entire Catchment Upstream of Pune and impacted Downstream Areas

1173



Content

1174

1. Introduction of Expert

2. Project Context

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Topographical Survey

- To identify all existing physical elements within study area
- To understand the adjoining context.



August 2016

Geotechnical Investigation

- To study the soil conditions for both the river banks along the entire length in existing and proposed scenario



June 2016

Hydrology & Hydraulics

- To understand the rivers' flood carrying capacity and existing inundation scenario
- To prepare proposals to improve the rivers' flood carrying capacity



January 2017

Public Opinion Survey

- To understand the citizens perception about various problems of the river.
- To understand their aspirations from the River Rejuvenation Project



January 2017

Base Map Preparation

- To identify the river land boundary as per Land Records.
- To understand the land ownership of the adjoining lands



February 2017

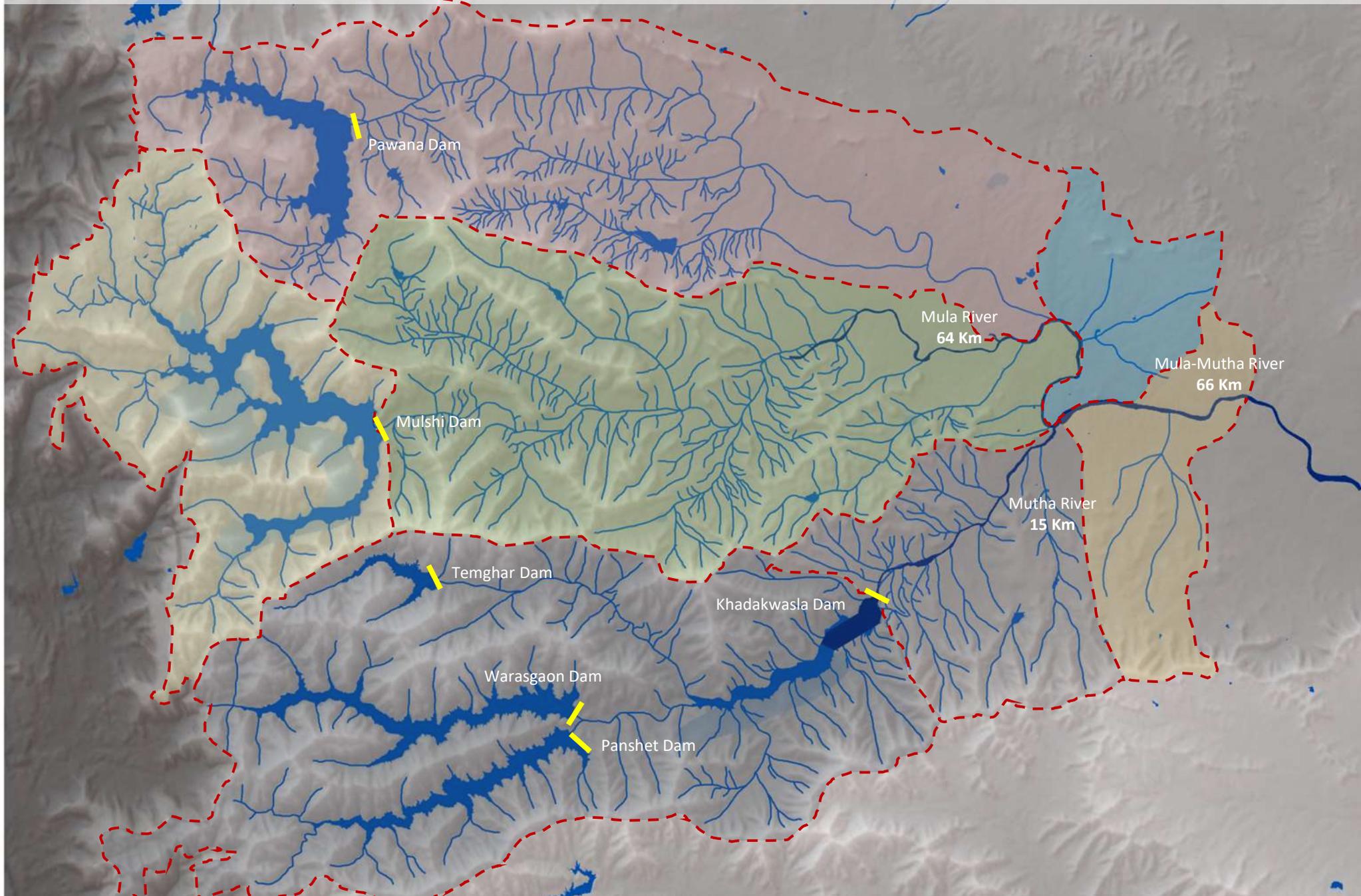
Environment Impact Assessment

- To understand the project features and conduct baseline monitoring &
- To assess environmental impacts & formulate mitigation measures, environmental management plan



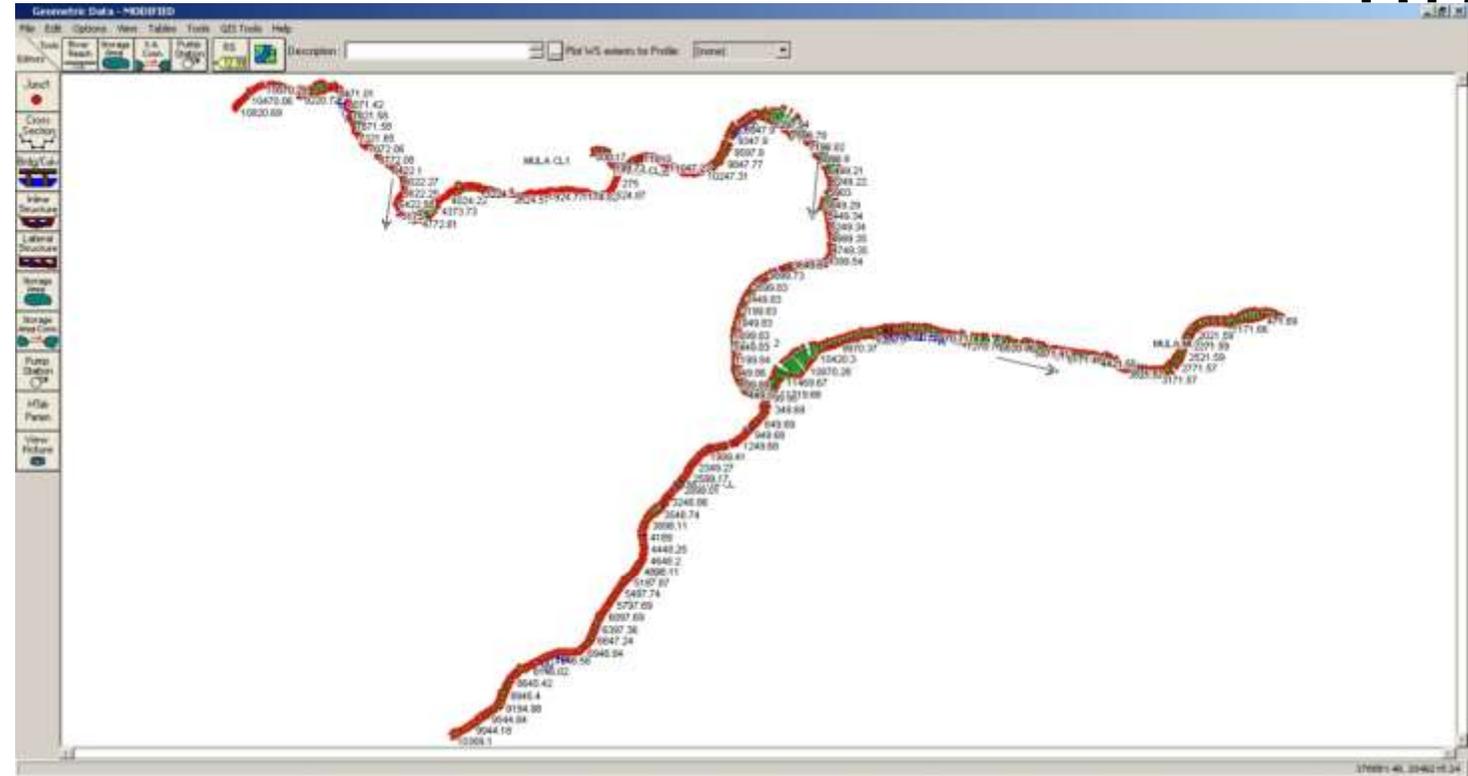
October 2019

Study Area – entire Catchment Upstream of Pune and impacted Downstream

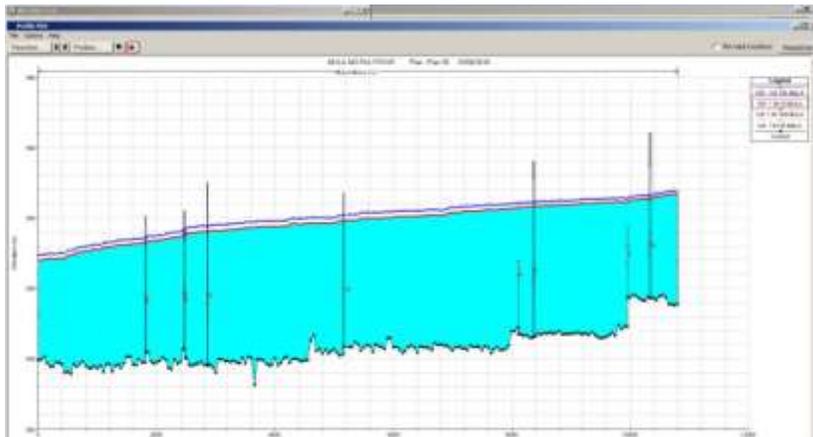


1. For the hydraulics analysis, HEC-RAS program developed by the Hydrologic Engineering Center, U.S. Army Corps of Engineers is used which is worldwide accepted for River Hydraulics.

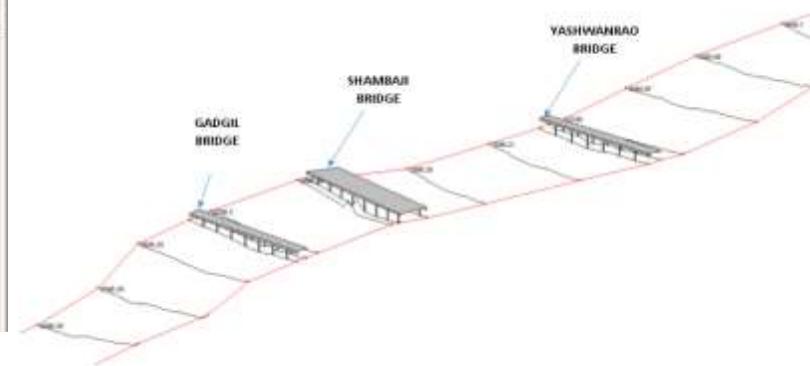
1. HEC-RAS is a mathematical modeling computer program for water surface profile for open channels in project reach.



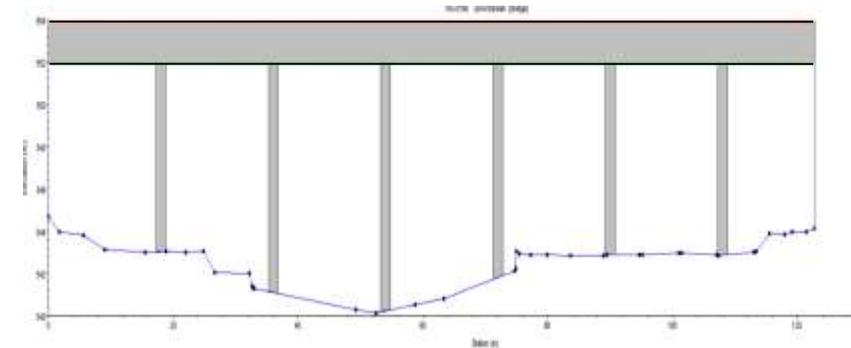
3D Model Generated in HEC-RAS



Existing River Longitudinal Section and cross section



Modeling of existing Bridges in HEC-RAS



Bridge data with respect to river bed in HEC-RAS

1. Introduction of Expert

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ISSUES

OBJECTIVES

Pollution

Clean the River and Make it Pollution Free

1

Risk of Flooding

Reduce Risk of Flooding

2

Inaccessible Banks

Make the Riverbank Accessible to Public

3

Dry Riverbed

Ensure Flowing Water

4

Poor Connectivity

Improve City's Connectivity to the River

5

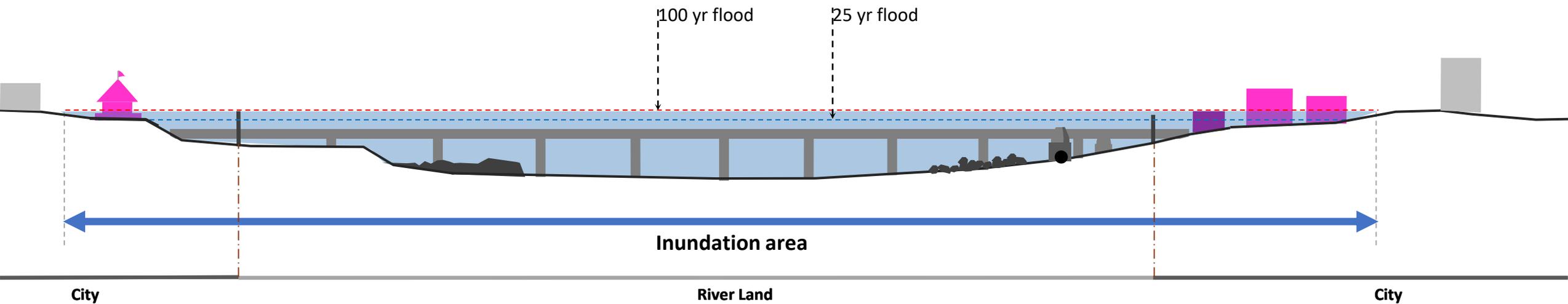
Piecemeal, Haphazard development of Public Amenities

Integrate Existing Heritage Structures, Recreational, Religious and Socio-cultural Activities

6

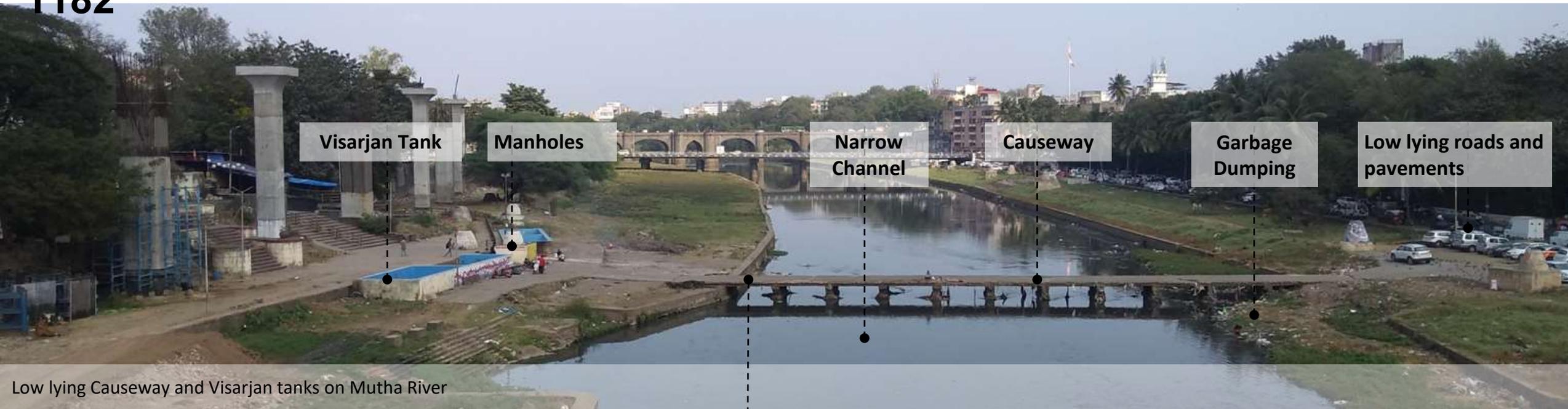
Reduce Risk of Flooding - Frequent flooding

1181

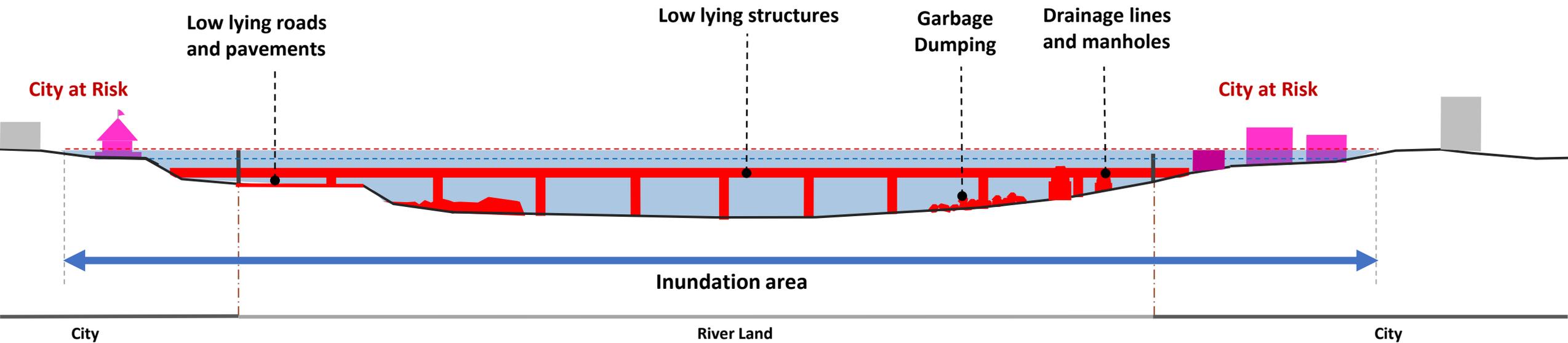


Reduce Risk of Flooding - City at risk

1182



Low lying Causeway and Visarjan tanks on Mutha River



City at Risk

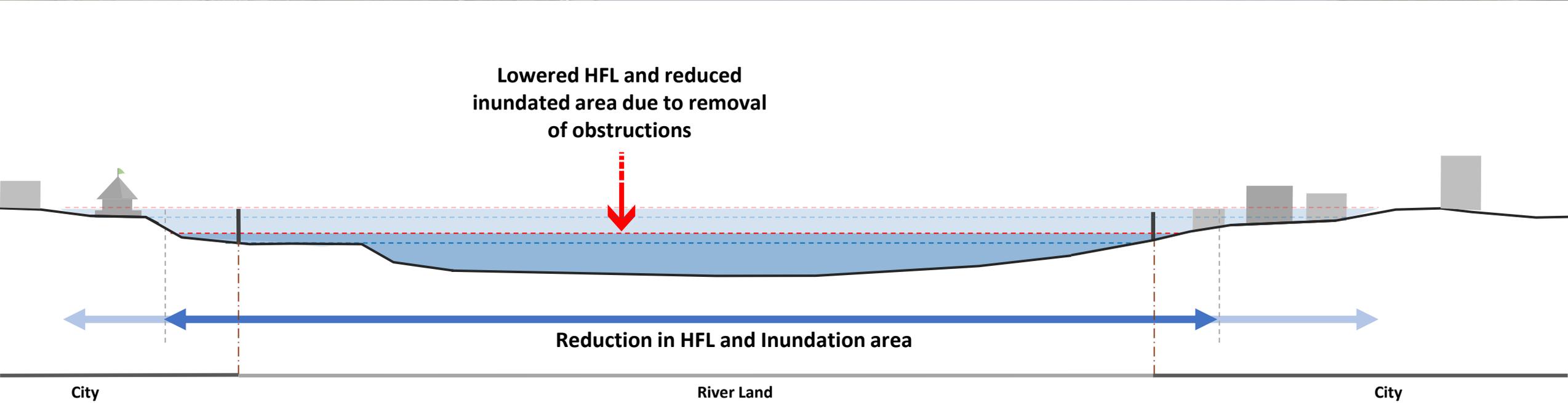
City at Risk

Inundation area

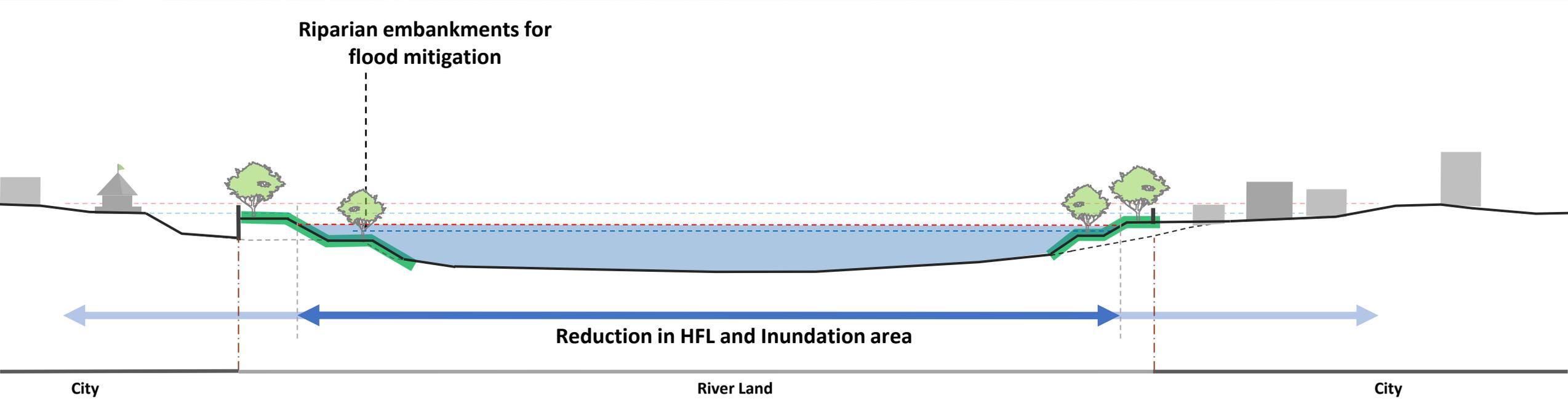
City

River Land

City



Reduce Risk of Flooding - Improving the city's resilience to flood

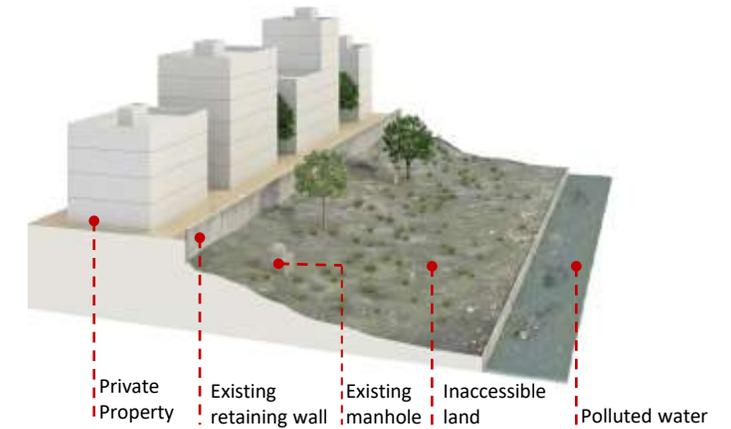
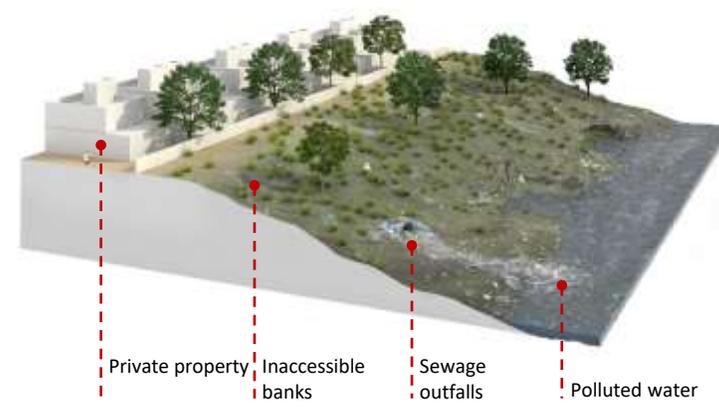
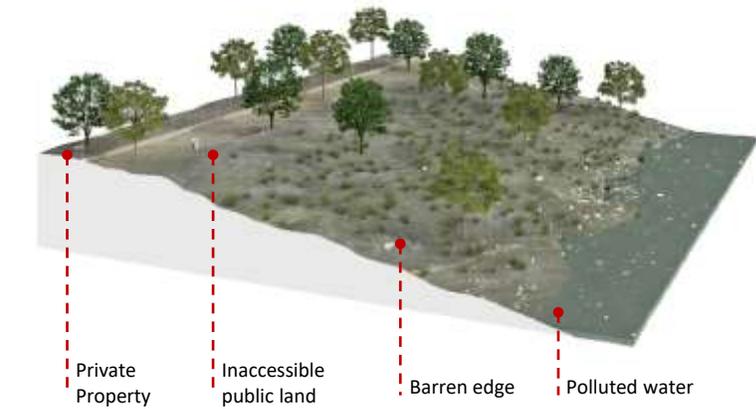


Reduce Risk of Flooding – Defining Embankment Types

Sparsely Developed Areas

Moderately Developed Areas

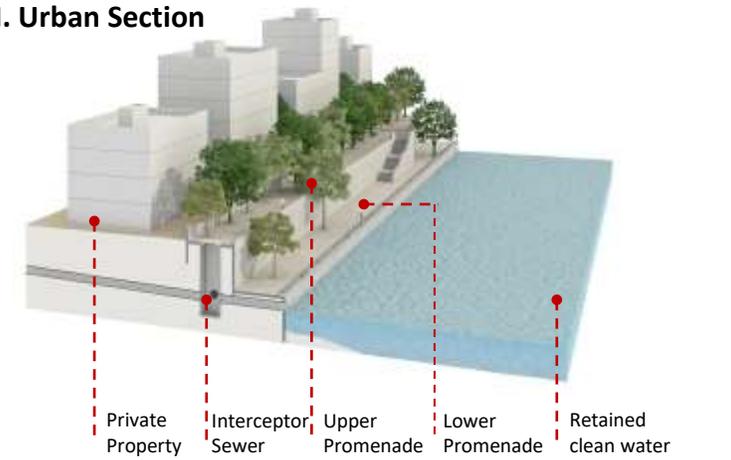
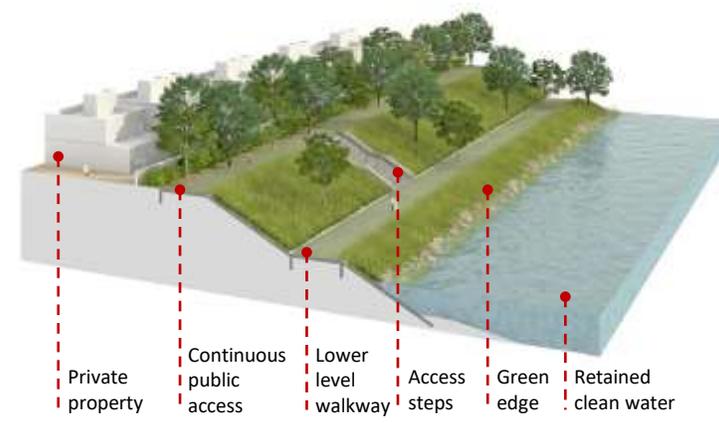
Intensely Developed Areas



I. Rural Riparian Embankment

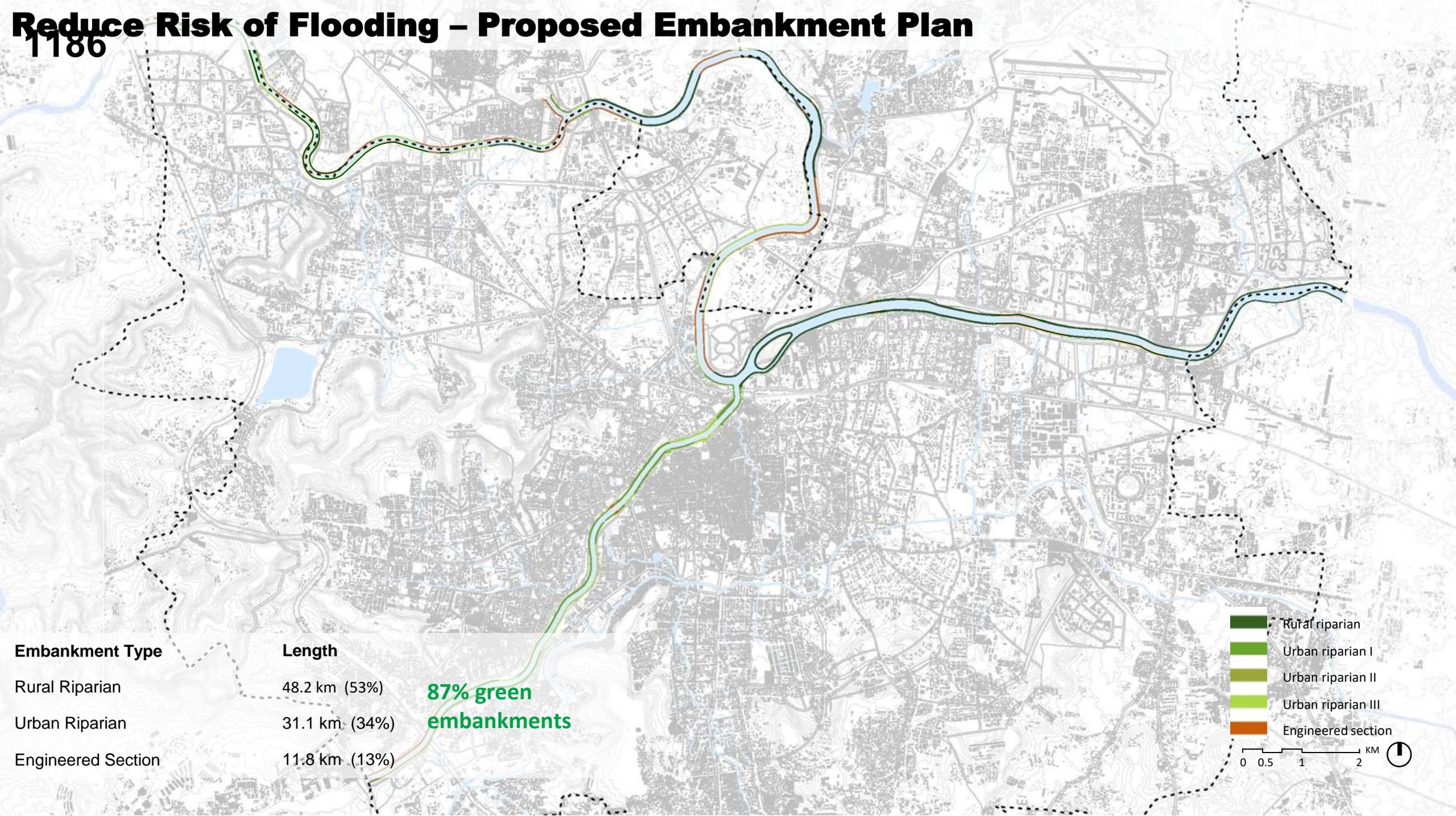
II. Urban Riparian Embankment

III. Urban Section



Reduce Risk of Flooding – Proposed Embankment Plan

1186



| Embankment Type | Length |
|--------------------|---------------|
| Rural Riparian | 48.2 km (53%) |
| Urban Riparian | 31.1 km (34%) |
| Engineered Section | 11.8 km (13%) |

87% green embankments

- Rural riparian
- Urban riparian I
- Urban riparian II
- Urban riparian III
- Engineered section

0 0.5 1 2 KM



Reduce Risk of Flooding – Condition during 100yr flood (near Kalyaninagar Bridge)

1188



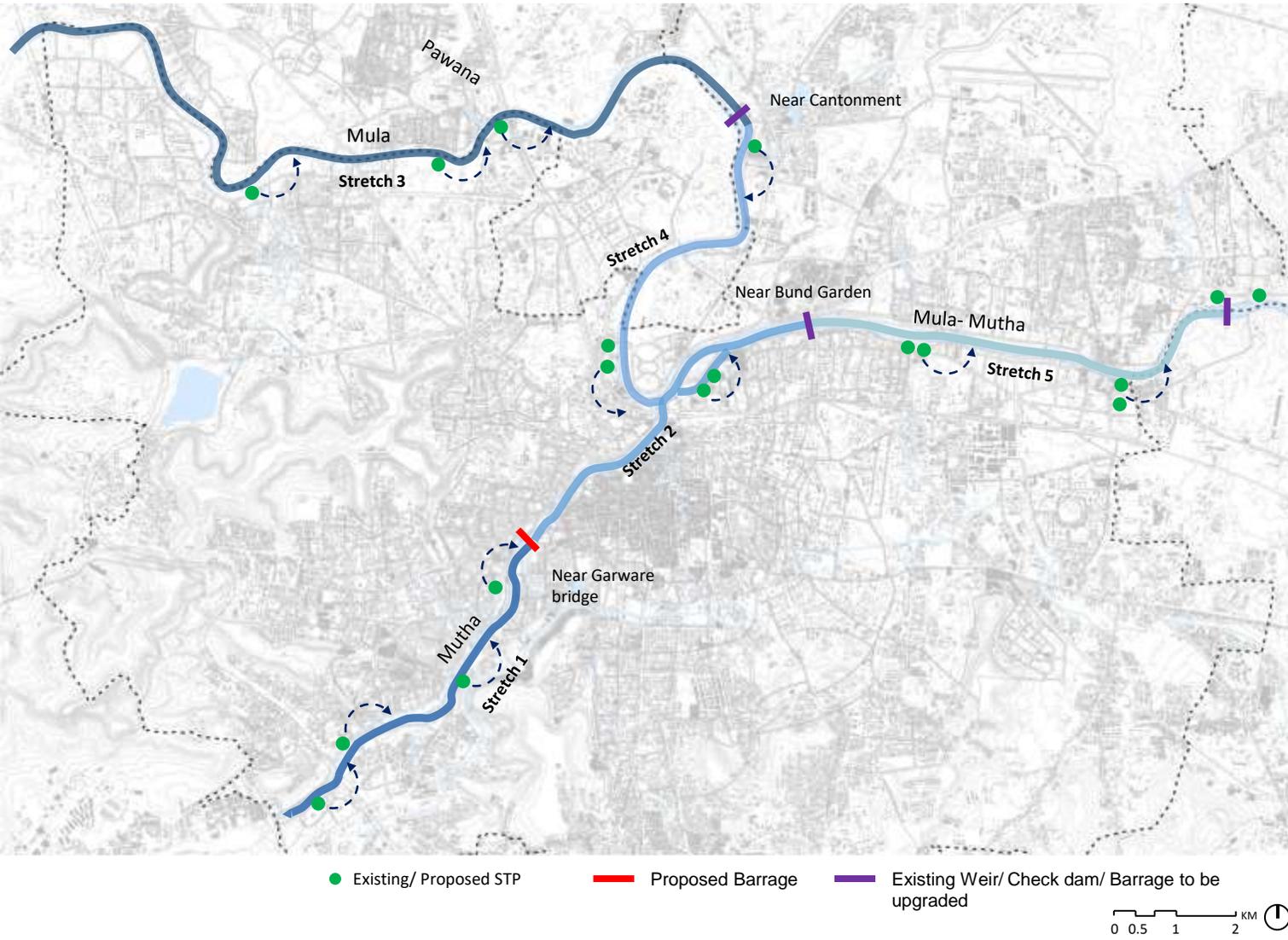


Reduce Risk of Flooding – Proposed Embankment



Retain water through proposed barrages

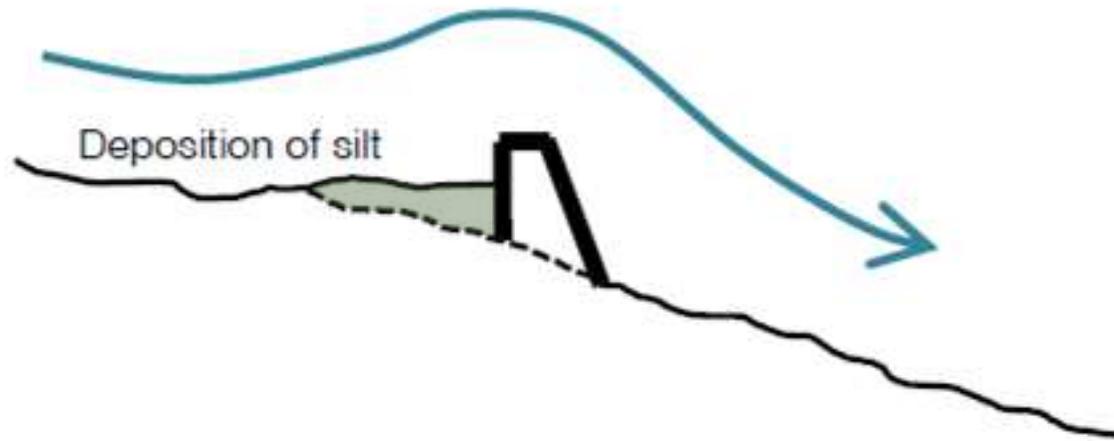
1191



Only 6% of treated water from STP's is sufficient to replenish the evaporation and seepage losses. This replenishment with treated STP water **will keep the water flowing** thereby ensuring ambient water quality.

Retain water through proposed barrages

1192



Deposition of Silt & Increased HFL due to existing solid check dams & weirs

Existing Condition



No Silt formation & Reduction in HFL after upgradation to barrage

Proposed Condition

1. Introduction of Expert

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Slopping Embankment



Slopping Embankment

1195



Walking Promenade

1196





Content

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1. Introduction of Expert

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Observations Related to Hydrology and River Channel Hydraulics study .

- Every year during floods of any magnitude, whenever River water level rises above outfall levels of Natural nallas or storm water drains or drainage pipes, due to backwater effect of fluvial floods (floods in Rivers) the same water level will be achieved in Nallas and pipes ,which will create inundation in urban areas. It is suggested to plan a flood protection works such critical confluences as a part of RFD project.
- Effects of dismantling of suggested bridges and cross weirs and streamlining of river profiles shall definitely help in lowering Fluvial flood levels and shall help in reducing inundation caused due to back water if any.
- During high floods , River Guage periodic observations at every specified stations along the entire length of the river within the project area shall be recorded every year.
- Considering those observations, the River channel hydraulic characteristics shall be reviewed and any modification if required shall be incorporated in the project subsequently.

Continued. Observations Related to Hydrology and River Channel Hydraulics study

- The riprap or pitching work shall be designed to envisage velocity and design discharge thereby ensuring 'n' values considered in the design.
- There will be further improvement in 'n' value in proposed scenario considering streamlined and well profile surface of embankments which will further decrease the present estimated HFL. However the encroachments in river cross-sections shall be minimal and surface transitions, slope transitions be planned instead of attempting same cross sections in a stretch, this will help in accommodating flood lifts in transitions of flows.
- The adequacy of the proposed barrages is found in line with the project requirement, however the barrages will be designed in such a way that no obstructions will be created and sufficient flow section shall be provided to avoid flood lift. Before execution stage, design shall be vetted by competent authority.

1. During Monsoon even if there are no much floods in rivers due to existing dams and controlled releases from upstream reservoirs ,now a days high intensity short duration events like 2019 pluvial floods , (floods in city area due to direct surface runoffs and natural drainages in city area) are occurring frequently , Hence after raising Embankments above ground levels, the arrangements for storm water drains must be ensured with planning of connecting surface water to nearest nalla/ drains and direct surface access towards rivers must be ensured with provision of water entry points in design of parapet walls and raised embankments. To avoid such city surface runoff inundations, thought must be given to limit height of embankments wherever possible and avoid embankments above the ground level.
2. Proposed trails on sloping portion of embankment shall be designed in such as way that it shall allow the movement of water to flow during high flood time and not create obstructions.
3. PMC to monitor the flood discharge levels at every 100m in the executed stretches and monitor same at every 1km for the remaining project length during the flood periods.
4. Understanding that the high flood (i.e., 100-year flood) may occur for very few days of the year, therefore reduction in height of embankments raised above ground shall be considered wherever possible.
5. The stone rip rap shall be placed in the paneling form to sustain the sudden draw-down hydraulic conditions during floods.
6. PMC shall ensure the specified density of the boulders in rip rap to avoid flying of stones due to the flood pressures and negative suction.

Content

1202

1. Introduction of Expert

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5. Sample Stretch Visit

6. Suggestions

7. Conclusions

- The Hydrology and Hydraulics report is thoroughly reviewed for entire catchment area considering upstream of dam, free catchment of all rivers up to project end.
- It has been also vetted and checked by CWPRS in the year of 2017 and cleared by Irrigation Department in the year of 2021.
- Aspects of upgradation, alteration and addition of new barrages have been thoroughly reviewed and same are even considered in the HEC-RAS model also. These Barrages shall not act as dam but as water diversion and retention structure. Barrages proposed are having automatic gates with sill levels at river bed, hence shall have no impact on bio-diversity.
- Suitable provision of free board is also mentioned and considered in calculations shall help to contain any change in rainfall pattern within river prism with constructed embankment.
- Overall, there is no likely aggravation of floods considering the existing HFL and proposed embankment. Hence, there will be no rise in flood levels due to the project, subject to timely dismantling of existing bridges and obstructions in river as envisaged in hydraulic design of river channel.
- Red lines and blue lines levels will not change here, however the discharges defined by Irrigation Department corresponding to Red line and Blue line shall flow within the river prism.

Continued. Conclusions

- No deepening of the riverbed is proposed while minor cutting necessary for profiling of embankment as per required hydraulics are taken into consideration.
- Suitable action required for the bridges are mandatory for improving the conveyance carrying capacity of river.
- Re-charging of ground water if any shall take place at longer run after the construction of embankment. The permeable material used for embankment shall help for percolation of water.
- Proper care in hydraulic design has been taken for Confluence effect at Sangam of Mula and Mutha.
- There will be positive impact in reducing the 'n' value , post construction of embankment. However in the report on safer side 'n' value is taken as 0.03.
- The cross section of embankment have been thoroughly reviewed in drawing as well as on site, the total material of embankment is kept permeable with use of natural elements only. Toe wall made of Plum Concrete/PCC is used in minimalistic manner to retain the earth and embankment edges.

Hence looking at the over all conclusion and suggestions, the Hydrology and Hydraulics report is reviewed. The report is found OK for further action. Project proponent shall also take note of necessary suggestions and implement them during actual execution at site and submit timely compliances as needed for the overall benefit of the project.