

BEFORE THE NATIONAL GREEN TRIBUNAL,
WESTERN ZONE BENCH AT PUNE

Original Application No. 06 /2023

Mrs. Patricia Pinto & Ors. .. Applicants

Versus

State of Goa & Ors. .. Respondents

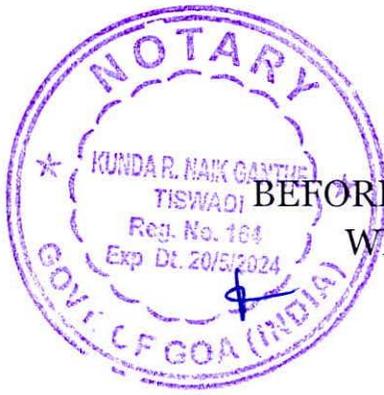
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Panaji, Goa.

25th March 2023.


Advocate for Respondent
No. 7



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BEFORE THE NATIONAL GREEN TRIBUNAL,
WESTERN ZONE BENCH AT PUNE

Original Application No. 06/2023

Mrs. Patricia Pinto & Ors. .. Applicants

Versus

State of Goa & Ors. .. Respondents

AFFIDAVIT IN REPLY ON BEHALF OF RESPONDENT
NO. 7

I, Shri Harish Adkonkar, Managing Director of the Respondent No. 7 above named, major of age, Indian National, having office at 7th and 8th Floor, EDC Building, Dr. Atmaram Borkar Road, Panaji, Goa, do hereby on solemn affirmation state and submit as under:

1. I say that I have read and understood the contents of the Original Application. I say that I have access to the records of the Respondent No. 7 pertaining to the subject matter of the said Original Application and therefore I am

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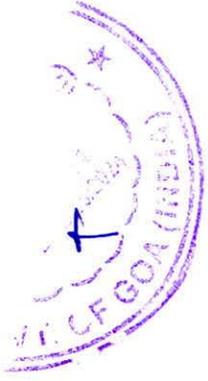
competent to depose on behalf of the Respondent No. 7. I deny all and singular averments in the Original Application. Nothing stated in the said Original Application is admitted or be deemed to be admitted although the same may have escaped specific denial.



2. At the outset, I raise the following Preliminary objections, which are urged in the alternate and without prejudice to one another:

- a) The Original Application does not challenge the permission dated 28.04.2022 issued by the Respondent No. 2. The said permission approves application No. GSIDC/Engg/Works/1485/6054 dated 27.01.2022, which pertains to construction of the bridge. Therefore, the Original Application is liable to be dismissed as no foundational relief is claimed;
- b) The Applicants failed to challenge permission/NOC dated 28.04.2022 u/s 16 of the National Green Tribunal Act, 2010 ('NGT Act' or 'the said Act'). The

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Original Application is therefore misconceived and liable to be dismissed at the threshold;

- c) The Original Application is barred by limitation in as much as the limitation u/s 14 of the NGT Act is six months. The said period of six months has expired on 29.10.2022. Under proviso to Section 14(3) of the NGT Act, this Hon'ble Tribunal has powers to extend the limitation by another 60 days. Such period of 60 days also expired on 29.12.2022. At any rate, the Original Application, which is filed on 15.01.2023, is not supported by any prayer for condonation of delay. Therefore, the Original Application is liable to be dismissed;
- d) The Applicants have approached this Hon'ble Tribunal with unclean hands in as much as the Applicants having failed to file an appeal u/s 16 of the NGT Act, within 60 days, have filed the present Original Application u/s 14 and have deliberately not challenged the permission dated 28.04.2022 by Respondent No. 2.

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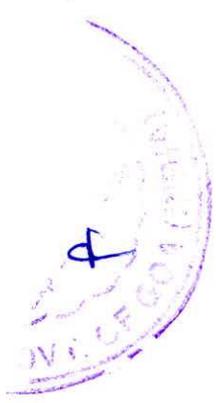
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3. Without prejudice to the above preliminary objections, I say that I am filing the present reply to oppose grant of any interim reliefs in the matter. I crave leave to file a detailed reply, if necessary. I further say that this Hon'ble Tribunal vide its Order dated 30.01.2023 has constituted a Committee comprising of one Member each of (i) the GCZMA, (ii) MOEF and (iii) National Institute of Ocean Technology and has further directed the said Committee to visit the site and submit an Action Taken Report within one month. I crave leave to file objections on behalf of Respondent No. 7 to such report, if necessary.

4. I say that the Respondent no. 5 issued a letter dated 18.06.2021 to the Respondent no. 7 wherein it was mentioned that the Board of Directors of Respondent no. 5 in its 12th meeting held on 28.05.2021 had accorded in principle approval to the project in question to be executed through Respondent no. 7. Thereafter, vide letter dated 08.07.2021 an administrative approval to carry out tendering of the project other than the bridge was

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communicated by Respondent no. 5 to Respondent no. 7. Thereafter, vide another letter dated 03.03.2022, the Respondent no. 5 also conveyed administrative approval for construction of bridge under the said project. Annexed hereto and marked as **Exhibit A** colly are copies of the said communication dated 18.06.2021, 08.07.2021 and 03.03.2022.

5. I say that the Respondent No. 7 submitted an application in prescribed format vide application No. GSIDC/Engg/Works/1485/6054 dated 27.01.2022. Perusal of the said application in prescribed format clearly reveals that the said includes the work of construction of pedestrian bridge from Mandovi Promenade to D.B. Bandodkar Road near ESG Building. I say that the application also has drawings of pedestrian bridge attached thereto with all the specifications. The Respondent no. 7 also enclosed an EIA study with the said application. Annexed hereto and marked as **Exhibit B** is a copy of application No. GSIDC/Engg/Works/1485/6054



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dated 27.01.2022 and all the annexures, plans and drawings, EIA study etc. enclosed therewith.



6. The Respondent No. 2 has considered and approved the said pedestrian bridge which is evident from the stamp of GCZMA and the NOC reference number endorsed on the on the drawings. I say that this is evident from perusal of document at page 131, forming a part of Annexure I colly annexed to the application of the Applicant. Annexed hereto and marked as **Exhibit C Colly** is a copy of the NOC issued by the Respondent No. 2 along with all the approved drawings duly stamped by the Respondent no. 2 and also with an endorsement of NOC number.

7. I say that the entire project is of less than 50 hectares. Therefore, under the EIA Notification, 2006, the said project is classified as 'B2' Category project and does not require an Environment Impact Assessment Report to be done. Thus, the question of the EIA Report being done through a non-accredited agency is not of any significance in the facts of the present case. I say that the project

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consultant has issued certificate dated 23.03.2023 inter alia certifying the area of promenade to be 30,926 sq. meters and area of bridge to be 348 sq. meters and collective area of the entire project to be 31,324 sq. meters (3.13 hectares). Thus, it is evident that the project is classified as "B-2" category project under the EIA Notification of 2006. Annexed hereto and marked as **Exhibit D** is a copy of Certificate dated 23.03.2023 issued by the Consultant inter alia certifying the area of the bridge.

8. I say that construction of bridge is a permissible activity in CRZ -I area under the CRZ Notification. I say that in the River Mandovi, the third Mandovi Bridge was constructed in CRZ -I area, which was also challenged before this Hon'ble Tribunal, this Hon'ble Tribunal has been pleased to dismiss the said challenge vide its Judgment & Order dated 07.04.2016 passed in Application No. 85/2015(WZ). Annexed hereto and marked as **Exhibit E** is a copy of the said Judgment & Order dated 07.04.2016.



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9. I say that this Hon'ble Tribunal in the matter of Vikrant Kumar Tongad V/s Delhi Tourism & Transport Corporation in Original Application No. 137/2015, has ruled that construction of bridge is a permissible activity. Annexed hereto and marked as **Exhibit F** is a copy of the Judgment dated 12.02.2015 in Original Application No. 137/2015.

10. I say that as on the date of filing of this affidavit, the construction of the said bridge is already complete and the Consultant appointed by the Respondent No. 7 in respect of the said project has issued a Certificate of Completion of construction of the said bridge. Annexed hereto and marked as **Exhibit G** is a copy of the Completion Certificate dated 23.03.2023.

11. Without prejudice to above, I now crave leave to para-wise deal with the contents of Original Application as under:



12. With reference to paras I and II, the Respondent No. 7 does not offer any comments.

13. With reference to para III, I deny that the construction of the bridge connecting walkway cum cycling track to footpath on Dayanand Bandodkar Marg, is illegal, as alleged. I specifically deny that the said construction is done without any permission/NOC/licenses/EIA by Respondent No. 2 under CRZ Regulations or the Environment (Protection) Act, 1986 or in a manner detrimental to ecology of the area.

14. With reference to paragraphs pertaining to facts and brief, I crave leave to reply as under:

15. With reference to paras 1 and 2, I do not admit the dimensions of the said creek as stated in para 1. I further do not admit the contents of para 2 in the manner stated.

16. With reference to para 3, I do not admit that the NOC dated 28.04.2022 issued by the Respondent No. 2 to Respondent No. 7 does not contain approval for the bridge.



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In this regard, I say that the NOC is granted pursuant to the application in prescribed format made by Respondent No. 7 vide application No. GSIDC/Engg/Works/1485/6054 dated 27.01.2022 to Respondent No. 2. Perusal of the said application clearly reveals that the work pertained to construction of bridge and the necessary specifications and drawings of the proposed bridge were a part of the said application dated 27.01.2022.



17. With reference to paras 4 and 5, the same pertain to Respondent No. 5 and therefore no comments are offered by me on behalf of Respondent No. 7.

18. With reference to para 6, the contents thereof are denied in the manner stated. I say that Respondent No. 7 implements projects of State of Goa or its instrumentalities. I say that the Respondent No. 7 received a proposal from Respondent No. 5 vide letter dated 08.07.2021 for promenade and dated 03.03.2022 for Bridge inter alia

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requesting the Respondent No. 7 to implement the project approved by the Board of the Respondent No. 5.

19. With reference to para 7, I deny the contents thereof in the manner they are stated. I say that the project is classified under "B-2" category under EIA Notification 2006. and therefore no EIA study is required to be done. Nonetheless, the Respondent No. 7 has caused such study to be done, which was placed before Respondent No. 2. Therefore, the allegation that the NOC dated 28.04.2022 is issued by Respondent No. 2 to the Respondent No. 7 without any study is false.

20. With reference to para 8, I deny the contents thereof in the manner they are stated. However, as the contents thereof pertain to records of the Respondent No. 2, no comments are being offered by me on behalf of Respondent No. 7.

21. With reference to para 9, I deny the contents thereof in the manner they are stated. In this regard, I say that the



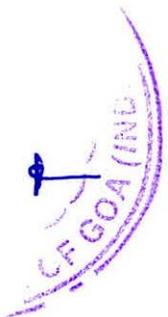
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embankments already had concrete retaining walls which were not in good condition. The present work involves reconstruction as a preventive measure against soil erosion. Such activity is permitted under the CRZ Notification.

22. With reference to para 10, I specifically deny that Respondent No. 7 under the guise of NOC issued by Respondent No. 2 is also carrying out an illegal construction of bridge connecting the walkway cum cycling track to the footpath of Dayanand Bandodkar Marg. In this regard, it is stated that perusal of the application dated 27.01.2022 clearly reveals that the bridge was part of the project. Further, the documents relied upon in COMPILATION II, more particularly documents at Annexure I Colly by the Applicants clearly falsify the claims of the Applicants. I say that the document at page 131 contains the drawing of the pedestrian bridge. Further, at page 138, the Applicants have produced 'Form I' for seeking clearance for the project attracting CRZ Notification. Item No. 1.11 in the tabulated chart pertains



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to the construction work and that clearly says that the promenade from the Miramar Circle through Mahavir Garden connected to ESG with cycling lane, which will be part for future pedestrian itenary between Ribandar and Dona Paula. It also says that the promenade would be continuous and connecting to existing road. It also mentions that there will be continuous retaining wall along the coast for protection, wherever the existing wall has collapsed, it would be restored and in some areas new retaining wall are proposed to prevent soil erosion. I therefore deny the contents of para 10 in the manner stated.

23. With reference to para 11, I say that the contents thereof are thereof are denied in the manner they are stated. I deny that no bridge can be constructed in CRZ-I Area.

24. With reference to para 12, I say that the Applicants have quoted Regulation 8 Clause I of the CRZ Notification, 2011. I say that Clause (ii)(b) of Clause I specifically permits construction of bridges.



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25. With reference to para 13, I deny that the Memorandum dated 29.11.2022 would be applicable in the present matter. This is because the Respondent No. 7 applied for permission on 27.01.2022 and the permission was granted by the Respondent No. 2 on 28.04.2022. I say that this is prior to issuance of Memorandum dated 29.11.2022.

26. With reference to para 14, the Applicants have reproduced contents of Regulation 4.2 of CRZ Notification, 2011. In this regard, I say that Clause 3(iv)(a) of the 2011 Notification clearly permits construction of bridge. I say that the application was duly made in the prescribed format by the Respondent No. 7 to Respondent No. 2 and that the said application is in conformity with Clause 4.2.

27. With reference to para 15, I once again reiterate that the Memorandum dated 29.11.2022 was not in existence when the permission was granted for the said project and



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therefore the same is not attracted or the same is irrelevant in the present matter.

28. With reference to para 16, I state that the contents of para 16 are totally misconceived and misleading. I say that Respondent No. 7 has duly complied with Regulation 4.2 of CRZ Notification, 2011. I once again reiterate that the permissions were granted for the said project by the Respondent No. 2 on 28.04.2022, which was prior to the Memorandum dated 29.11.2022. I say that the bridge is permitted to be constructed in CRZ-I Area.

29. With reference to para 17, I specifically deny that the Respondent No. 7 has violated the terms and conditions of NOC dated 28.04.2022 issued by Respondent No. 2. I specifically deny that the said NOC does not permit the Respondent No. 7 to carry out any construction of bridge, as alleged. I say that the NOC grants permission for the project as applied vide application dated 27.01.2022.

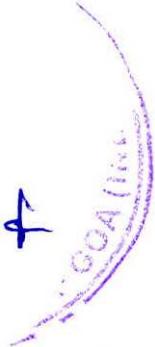
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30. With reference to para 18, the contents thereof are totally irrelevant and the allegations therein appear to be in respect of some obsolete wooden jetty at Ribandar. This has absolutely no connection with the construction of bridge. The alleged Ribandar jetty is far away from Panaji and in a different town of Ribandar. Ribandar is located at least 5 to 6 kms. away from the said bridge.

31. With reference to para 19, I say that no approval for construction of bridge is required to be taken from Respondent No. 6. At any rate, Respondent No. 6 has representation in the Board of the Respondent No. 5 which has approved the project. Assuming without admitting that the Respondent No. 7 was required to take license from Respondent No. 6, the said issue would not come under the jurisdiction of this Hon'ble Tribunal. The Respondent No. 6 is fully empowered to initiate action against illegal construction under the City Corporation of Panaji Act. Thus, the contents of para 19 are liable to be ignored as irrelevant.

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32. With reference to para 20, I deny the contents thereof in the manner they are stated. I say that the project comes under B-2 Category under the EIA Notification, 2006 and therefore the same does not require any EIA study. I say that notwithstanding the above, the Respondent No. 7 caused the study to be done and place the same before the Respondent No. 2. I say that the said bridge is not obstructing the flow of water at all. I say that on one side 4 piles and pile cap thereon pier and cap is constructed on the land abutting the embankment and on the other side, the pier and cap for resting the steel bridge is constructed abutting the retaining wall on the Dayanand Bandodkar Marg side. The construction ensures free flow of water in the Creek. I say that the distance between the piers on opposite banks is almost 23.5 mts. This is clear from the photographs annexed hereto and marked as Exhibit I Colly.

33. With reference to para 21, the Applicants have failed to show that under which of the Scheduled Acts under the



NGT Act, there is a requirement for display of boards. As such, the contents of para 21 are denied.

34. With reference to para 22, I do not admit the contents of complaint dated 13.12.2022 made by the Applicants to Respondent No. 2. I once again deny that there is any illegal construction of bridge or that Respondent No. 2 failed to conduct site inspection and issue stop work notice to Respondent No. 7.

35. With reference to para 23, the contents thereof are baseless and devoid of merit and therefore denied. I deny that the project or the bridge is without following due process of law. I deny that the Respondent Nos. 1 to 7 have illegally allowed construction of structures within ecologically sensitive areas without compliance of CRZ Notification, 2011.

36. With reference to para 24, the contents thereof are false. I deny that any illegal construction is being carried out by the Respondent No. 7. I further deny that the



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construction is being carried out between High Tide Line and Low Tide Line of River Mandovi. I say that the construction is in the creek and not in the river. I say that under CRZ Notification 2011, construction of bridge is permitted in CRZ-I area and appropriate permission dated 28.04.2022 is taken from the Respondent No. 2 by Respondent No. 7.

37. With reference to para 25, the contents thereof are denied. I deny that Applicants' first notice that Respondent No. 7 was preparing to construct bridge at the mouth of St. Inez creek on 01.12.2022 when a group of citizens noticed some concretization going on around the river bank in front of Maquinez Palace at Panaji and feared that these works would lead to blockage of flow of water in and out of mouth of St. Inez creek. With reference to the other allegations about plans of Smart City mission not being shown to the citizens by the MLA and Representative of Panaji or Mayor of CCP or by the Collector (North) do not



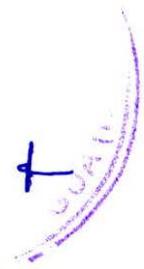
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pertain to this Respondent No. 7, however, as and by way of abundant caution, I deny the contents thereof.

In this regard I say that the bridge does not in any manner obstruct flow of water through the mouth of St. Inez creek. There is a clear unobstructed opening of about 23.00 mts. under the bridge for free flow of water. The only pile cap constructed on 4 piles are constructed in water is touching the retaining wall on the side of footpath of Dayanand Bandodkar Marg. The other pillar is constructed on land and not in water. This is clear from the photograph produced on record at Exhibit H above by the Respondent No. 7.

38. With reference to para 26, it is true that the Applicants through their advocate issued Legal Notice on 05.01.2023 and say that the said notice is misconceived in law and on facts. However, I deny the contents of the said Legal Notice dated 05.01.2023.



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39. With reference to para 27, I once again deny that the bridge is illegally constructed or that authorities are required to take action against the bridge.

40. With reference to para 28, I deny the contents thereof in the manner they are stated. I say that the construction work is already complete and that the photograph produced by Respondent No. 7 at Exhibit H Colly above clearly shows free flow of water without any obstruction.

41. With reference to para 29, the contents thereof are not admitted by me on behalf of Respondent No. 7. At any rate, the contents thereof pertain to Respondent No. 2 and thus Respondent No. 7 does not require to offer any comments.

42. With reference to para 30, I deny the contents thereof in the manner they are stated. In this regard I say that the project does not in any manner adversely impact either upstream or downstream where the erosion starts.

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43. With reference to para 31, I deny that the order of this Hon'ble Tribunal in Original Application No. 4/2013 (SZ) - C.H. Balamohan V/s Union of India has any application in the present matter. I further crave leave to deal with the same during oral arguments.

44. With reference to para 32, I deny that an independent EIA study was required to be done before granting the NOC. I once again reiterate that under the EIA Notification, 2006, the project is classified as B-2 project which does not require any EIA study.

45. With reference to para 33, I deny that in the absence of Notification of CZMP for Goa, which is prepared now, no permission could have been granted. I submit that clearance can be granted as per the existing Rules and Regulations.

46. With reference to para 34, the contents thereof are incorrect and therefore not admitted by Respondent No. 7. I have already narrated the location of the pile cap foundation for the bridge.



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47. With reference to para 35, the contents thereof are true and correct.

48. With reference to para 36, I deny that the bridge is in deviation of the plan or that plans are not certified by Respondent No. 2. The plans bear seal of GCZMA and approval number on it.

49. With reference to paras 37 and 38, the contents thereof are matters of record. However, I say that the inspection team physically traversed the entire project site including the location of the bridge at the time of inspection. It is specifically denied that the EIA Report submitted by the Consultant does not mention bridge. *'Table 1: Stage-wise construction activities'* - In Clause 3.7 of the Report, mentions about the bridge.

50. With reference to paras 39 and 40, the contents thereof are irrelevant because the project comes under B-2 category of EIA Notification, 2006, which does not require



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an EIA Report. At any rate, there is no mandate that the agency doing EIA is required to be accredited agency



51. With reference to para 41, the opinion of the expert stated therein is not admitted by me. I say that the opinion is without site visit or without studying the project properly. The opinion is based on conjectures and surmises and therefore liable to be rejected. It is very clear that the opinion has been given in response to an email by the Advocate for the Applicants. It is also clear that the email did not enclose any approved drawings or documents appended to the application of Respondent No. 7 or the permission by GCZMA. Thus, the opinion is given without reference to any drawings or relevant material. Further, it must be noted that the project involved only repair of the retaining walls, are preexisting and additional construction of a bridge. There are four piles of 1.00 mt. diameter on which a pile cap is constructed on either sides. Below the pile caps, there is free flow of water through the piles as well. The design is done in such a manner to offer minimum obstruction to flow of water. The individual

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piles are circular in shape so that they offer least resistance to flow of water either during high tide or low tide. There is absolutely no opinion by the expert pertaining to design. Further, the expert also does not consider any of the provisions of either CRZ Notification 2011 or under the EIA Notification, 2006. I therefore most humbly submit that no credence be given to the said opinion.

52. With reference to Grounds in para 42, I submit as under:

a) With reference to Ground A, I specifically deny that the construction of bridge is illegal. I further deny that bridge will destroy eco sensitive area or will lead to alarming consequences or soil erosion or pollution or disturbance of ecological balance of the coastal area or damage biodiversity of River Mandovi or City of Panaji;

b) With reference to Ground B, I once again deny that that the walkway cum cycling track are unlawfully developed. I further deny that flooding will be

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caused because of interruption of flow of tidal waters. I once again reiterate that the bridge is designed in a manner in which there is hardly any hindrance to the natural flow of water;



c) With reference to Ground C, it is denied that the Respondent No. 2 has issued the NOC to Respondent No. 7 in casual or highhanded manner or without complying with due procedures or process of law. I further deny that there is no EIA study carried out by Respondent No. 7. I say that the project is classified as B-2 project under the EIA Notification, 2006 and therefore does not require EIA study. At any rate, such study has been furnished to Respondent No. 2 by Respondent No. 7, enclosed with the application dated 27.01.2022;

d) With reference to Ground D, I deny that the work is carried out amounts to contempt of this Hon'ble Tribunal, more particularly contempt of Order dated 11.04.2022 passed by this Hon'ble Tribunal in

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Original Application No. 4/2013(SZ) C.H. Balamohan V/s Union of India. I say that the Respondent No. 7 was not a party to the said petition and no direction has been given to the Respondent No. 7;

- e) With reference to Ground E, the contents thereof are denied by me. I say that the application was made in prescribed form I by Respondent No. 7 to Respondent No. 2;
- f) With reference to Ground F, I deny that the bridge is illegally constructed. I specifically deny that the bridge is constructed in gross violation of CRZ Notification, 2011 or other statutes such as Environment (Protection) Act, 1987. I submit that Memorandum dated 29.11.2022 has been issued after obtaining of the permission on 28.04.2022 and therefore the said Memorandum is not attracted in the present matter;



- g) With reference to Ground G, the contents thereof are denied. It is a patently false statement on behalf the Applicants that the plan proposes only walking track. I say that the plan annexed to the application clearly shows bridge to connect the walkway to footpath on Dayanand Bandodkar Marg near ESG;
- h) With reference to Ground H, I deny the contents thereof in the manner they are stated. I say that under the EIA Notification, 2006, the project is classified under B-2 category for which no EIA study is required. I therefore submit that the Respondent No. 2 was not required to consider any such study before granting the NOC dated 28.04.2022. I say that there is no infirmity in the process for granting NOC dated 29.11.2022;
- i) With reference to Ground I, I deny that the Respondent No. 7 is acting in high handed manner by proceeding with construction work without obtaining requisite permission under the law. I once



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and deny

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again reiterate that the work was undertaken only after by proceeding with construction work without obtaining requisite permission under the law. I once again reiterate that the work was undertaken only after obtaining the requisite permission and NOC from GCZMA;

j) With reference to Ground J, I deny the contents thereof in the manner they are stated.

53. With reference to para 43, I deny that cause of action arose on 14.12.2022. I say that the Respondent No. 7 had published Notice Inviting Tender in the newspaper for the said project and the bridge on 30.11.2021 and 11.03.2022, respectively. The Notice Inviting Tenders were published in the local newspapers Navhind Times, Gomantak, Pre Press Journal, Mumbai and Times Day All Edition. Thereafter the Respondent No. 7 applied for permission/NOC from GCZMA on 27.01.2022 and the permissions was obtained on 28.04.2022 after which the work started. I therefore say that cause of action arose on

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28.04.2022. I say that the cause of action pleaded in para 43 is illusory and not the real cause of action. I say that as stated in the preliminary objections above, the Applicants have failed to challenge the permission in an appeal u/s 16 of the National Green Tribunal Act, within the prescribed limitation. Therefore, the illusory cause of action is concocted for the present matter but the present application also is beyond limitation prescribed /s 14 of the National Green Tribunal Act. I most humbly urge that this Hon'ble Tribunal be pleased to dismiss the application on this ground alone.



54. With reference to para 44, for the reasons stated in the preliminary objections, I deny that the application is filed within limitation.

55. With reference to the prayers in para 45, I most humbly urge this Hon'ble Tribunal to dismiss the application with exemplary costs.

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56. I say that the contents of paras 1 (part), 2 (a) (part), 3, 10 (part), 11, 12, 13 (part), 14, 15(part), 17, 23 (part), 28(part), 30, 33, 34 (part), 37 (part), 38 (part), 39 (part), 40, 41, 42, 44, 46, 47, 48, 49 (part), 50 (part), 51 (part), 52 (a), 52 (b) (part), 52 (g) (part), 52 (i) (part), 52 (j) and 54 (part) of the accompanying reply are true to my own knowledge, contents of paras 1 (part), 2 (a) (part), 4 to 7, 10 (part), 13 (part), 15 (part), 16, 18, 19 (part), 20, 21, 22, 25, 26, 27, 28 (part), 29, 31 (part), 32, (part), 34 (part), 35 (part), 36, 37 (part), 38 (part), 39 (part), 49 (part), 50 (part), 51 (part), 52 (b) (part), 52 (c) (part), 52 (e), 52 (f) (part), 52 (g) (part), 52 (i) (part), 53 (part), are based on the official records, maintained by this Respondent and the contents of the remaining paras, viz. 2 (a) (part), 2 (b), 2 (d), 8, 9, 19 (part), 23 (part), 24, 28 (part), 31 (part), 32 (part), 35 (part), 43, 45



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50 (part), 51 (part), 52 (d), 52 (f) (part), 52 (h), 53 (part), 54 and 55 are in the nature of legal submissions, which I believe to be true.

Solemnly affirmed at Panaji, Goa on this 25th day of March 2023.

DEPONENT.



Identified by me:

(Adv. for Resp. No. 7)



SOLEMNLY AFFIRMED AND VERIFIED BEFORE / ME BY Hovist Adlonk WHO IS IDENTIFIED BEFORE / ME BY por no ACVP A 6520A WHOM I KNOW SERIAL No. 456/2023 DATED 25/3/2023

KUNDA R. NAIK GANTHE
NOTARY AT PANAJI
STATE OF GOA, INDIA

BEFORE THE NATIONAL GREEN TRIBUNAL,
WESTERN ZONE BENCH AT PUNE

Original Application No. 06 /2023

Mrs. Patricia Pinto & Ors.

.. Applicants

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State of Goa & Ors.

.. Respondents

LIST OF DOCUMENTS RELIED BY RESPONDENT
NO. 7

<u>Sr. No.</u>	<u>Particulars</u>	<u>Pg. No.</u>
1.	Copies of communication dated 18.06.2021, 08.07.2021 and 03.03.2022. (<u>Exhibit A colly</u>)	244 to 250
2.	Copy of application No. GSIDC/Engg/Works/1485/6054 dated 27.01.2022 and all the annexures, plans and drawings, EIA study etc. (<u>Exhibit B</u>)	251 to 295

3.	Copy of the NOC issued by the Respondent No. 2 along with all the approved drawings duly stamped by the Respondent no. 2 and also with an endorsement of NOC. (Exhibit C Colly)	296 to 299
4	Copy of Area Certificate dated 23.03.2022 issued by the Consultant (Exhibit D)	300 to 301
4.	Copy of Judgment & Order dated 07.04.2016 in Application No. 85/2015(WZ) (Exhibit E)	302 to 304
5.	Copy of the Judgment dated 12.02.2015 in Original Application No. 137/2015 (Exhibit F)	345 to 377
6.	Copy of the Completion Certificate dated 23.03.2023 (Exhibit G)	378-379

7	Photograph (Exhibit I)	
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Any other documents with the leave of this Hon'ble Tribunal that may be produced.

Panaji, Goa.

March ____, 2023.

Advocate for Respondent
No. 7

Exhibit A copy
21/6/21



IMAGINE PANAJI SMART CITY DEVELOPMENT LTD (A Government of Goa Undertaking)

Adil Shah Palace, Old Secretariat, Panaji, Goa 403 001
Tel +91 (832) 222 0440
Email: office@imaginepanaji.com | CIN No. U74999GA2016SGC012967
Web: www.imaginepanaji.com

Smart City
MISSION TRANSFORMATION

Ref No:IPSCDL/Engg(Civil)/F-879/2020-21/2761

18th June, 2021

To,
The Managing Director,
Goa State Infrastructure Development Corporation Limited,
7th Floor, EDC House,
Panaji, Goa.

Inward No. 2856
Date: 22/6/21
GSIDC LIMITED

Sub: In-principle Approval accorded by IPSCDL Board and subsequent action by executing agency.

Sir,

Imagine Panaji Smart City Development Limited (IPSCDL) in its 12th Board Meeting held on 28th May 2021 has accorded in-principle approval to take up the following projects under the Smart Cities Mission:

Sr. No.	Project	Estimated Block Cost (Cr.)	Executing Agency
1	Pedestrian Bridge Linking Central Library and Creek	5.00	GSIDC
2	Extension of Mandovi River Promenade on either sides to create a continuous Pedestrian Spine from Mirmar Beach to ESG Building	20.00	GSIDC
3	Redesigning and Upgradation of Traffic Circles at KTC Bus stand, Divja and Mercedes Junction	20.00	PWD/GSIDC

In pursuance of the above, it is requested that GSIDC may take necessary steps to undertake the process of preparation of detailed estimates of the projects mentioned at Sr. No. 1 and 2 by following all due Codal Formalities and the same be submitted to IPSCDL at the earliest. In regards to project mentioned at serial no 3, it is requested that GSIDC may share proposal/DPR, if any, with the PWD for the preparation of detailed estimates by PWD which will be the executing agency. Further, it is proposed to place the detailed project costs before IPSCDL Board in its next Board Meeting to be conducted shortly and once final approval is communicated, the tender should to be floated immediately.

Your kind action in this matter will be highly appreciated in the best public interest.

Yours sincerely,

Ravi Dhawan, IAS
Managing Director & CEO



Copy to: The Principal Chief Engineer, PWD, Head Office, Altinho, Panaji, Goa

Handwritten: In on 9/7/21

Handwritten: 248

IMAGINE PANAJI SMART CITY DEVELOPMENT LTD (A Government of Goa Undertaking)

Adil Shah Palace, Old Secretariat, Panaji, Goa 403 001
Tel: +91 (832) 222 0440
Email: office@imaginepanaji.com | CIN No. 1174909GA2016SCC012967
Web: www.imaginepanaji.com

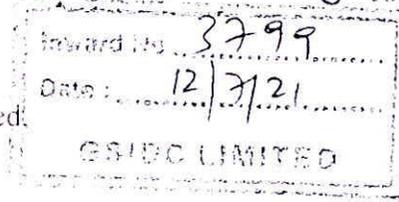


Smart City
MISSION TRANSFORMATION

Ref No: IPSCDL/Engg(Civil)/F-879/2020-21/ **2809**

8th July, 2021

To,
The Managing Director,
Goa State Infrastructure Development Corporation Limited,
7th Floor, EDC House,
Panaji, Goa.



Sub: Administrative Approval accorded by IPSCDL Board and subsequent action by executing agency.

Sir,

Imagine Panaji Smart City Development Limited (IPSCDL) in its 13th Board Meeting held on 30th June 2021 has accorded Administrative approval to take up the "Pedestrian Bridge Linking Central Library and Creek" and "Extension of Mandovi River Promenade on either sides to create a continuous Pedestrian Spine from Miramar Beach to ESG Building" projects. The Board has resolved the following:

1. "Resolved that project under this title 'Pedestrian Bridge Linking Central Library and Creek' under Smart Cities Mission be and is hereby considered and administrative approval is hereby accorded for the work to be taken up by GSIDC at an estimated cost of Rs.8,82,44,764/-. Further, post tendering, the same shall be submitted for according expenditure sanction."
2. "Resolved that project under this title 'Extension of River Mandovi River Promenade on either side to create a continuous pedestrian spine from Miramar Beach to ESG Building' under Smart Cities Mission be and is hereby considered and administrative approval is hereby accorded for the work to be taken up by GSIDC at an estimated cost of Rs.24.62 Crores. Further, post tendering, the same shall be submitted for according expenditure sanction."
3. "Resolved that a maximum upto 5(five)% of the total project cost be and is hereby marked as centage/departmental charges to be paid to executing agencies/departments/corporations for work taken up under Smart Cities Mission and that this 5% centage/departmental charges shall include the professional/consultancy fees for consultant engaged by the executing agencies/departments/corporations and also should include the fees charged by the agencies/departments/corporations by way of department charges/administrative charges/office expenses etc."

In pursuance of the above, it is requested that GSIDC may take necessary steps to undertake the process of tendering the abovementioned works by following all due Codal Formalities and submit the same to IPSCDL at the earliest for according Expenditure Sanction.

Your immediate action in this matter will be highly appreciated in the best public interest.

Yours sincerely,

Ravi Dhawan, IAS
Managing Director & CEO



GSIDC

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Office

From: Office <office@imaginepanaji.com> 14047 Shri Churni A/S
Sent: 13 January 2022 11:22
To: 'email@gsidcltd.com'; 'vishwanath.kubasad@gsidcltd.com'
Cc: 'sameuddin.sheikh@imaginepanaji.com'; 'prayag.phadte@imaginepanaji.com'
Subject: Protection and Restoration of Mandovi River Coastline from Miramar Circle to Youth Hostel and from Kala Academy to ESG
Attachments: 19 BoD minutes_ES Mandovi promenade.pdf

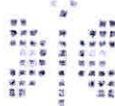
Forward No. 12238
Date: 13/1/22
GSIDC LIMITED

Sir,

This is in reference to this Corporation's letter No. IPSCDL/ENGG(CIVIL)/F-879/2020-21/4011 dated 31-12-2021, please find attached the extract of approved 19th Board Minutes regarding revised Administrative Approval and Expenditure Sanction for your information and necessary action.

Regards,

Imagine Panaji Smart City Development Limited (IPSCDL)
Adil Shah Palace, Old Secretariat, Panaji - Goa 403001
IPSCDL Office: 0832 222 0440
Website: www.imaginepanaji.com
Facebook: www.facebook.com/imaginepanaji



Smart City

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Item No.8: Project "Protection & Restoration of Mandovi River Coastline from Miramar circle to Youth Hostel and from Kala Academy to ESG" - Post facto approval and expenditure sanction

Managing Director explain the Board that IPSCDL in its 13th Board Meeting held on 13/06/2021 accorded administrative approval for the project "Extension of River Mandovi River Promenade on either side to create a continuous pedestrian spine from Miramar Beach to ESG Building" to be taken up by GSIDC at an estimated cost of Rs.24.62 Crores.

This Corporation is now in receipt of a letter No. GSIDC/Engg/Works/5459 from GSIDC dated 24th December, 2021 informing that the name of the work was revised to "Protection & Restoration of Mandovi River Coastline from Miramar circle to Youth Hostel and from Kala Academy to ESG" during the presentation held on 24th November, 2021 at GSIDC which was also attended by Managing Director & CEO and Secretary (Urban Development). As per the minutes of the meeting submitted by GSIDC, as regards to the ongoing Mandovi River Promenade Phase 1 being executed under AMRUT Mission, it was informed by GSIDC that for approximately 700 m, i.e. from Kala Academy to Children's Park was supposed to be retained and developed over existing promenade developed with WRD. However, over period of time it is observed that the stretch near Kala Academy & forest area has eroded and the laterite boulders laid by WRD has washed into river thus forming cavities in these areas. Therefore, GSIDC submitted that the said area has to be protected by laying of granitic boulders before developing the land side area. As such, GSIDC has proposed for laying of riprap boulders for protecting the affected area. However, laying of riprap boulders for protection is not in the scope of the existing tender under AMRUT which is awarded to M/s. Krishna Builders, and it is not advisable for development of the land side area without protecting the coastline with some defense macadam.

It may be noted that SLHPC, AMRUT had directed GSIDC not to deviate the quantity/ execute any items other than tender items. Hence, it was proposed by GSIDC to descope the land development work i.e. Footpath, cycle track, electrification, landscaping etc. for stretch from Kala Academy to Children's Park (i.e. 700m) from the existing tender and to include the quantities & items of this balance work from Kala Academy to Children's Park along with new tender

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CHAIRPERSON'S INITIALS

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proposal from Miramar Beach to Youth Hostel & Children's Park to ESC Building. This will result in substantial savings in the original tender awarded to M/s. Krishna Builders. The said amount/scope has now been included in the new tender. Therefore, the estimated cost of the new tender has increased from the original administrative approval of Rs.24.62 Crores accorded in 13th Board Meeting which did not include the 700 m stretch.

Further, it may be noted that the estimated cost put to tender by GSIDC vide NIT No.GSIDC/ENGG/NIT-111/2021-22 dated 30/11/2021 is Rs.33,30,23,654.55 and accordingly, the tender was opened & scrutinized for technical & financial bids as scheduled. Upon scrutiny it is observed that M/s DHIPL Projects Pvt. Ltd. has quoted lowest which is amounting to Rs.33,68,06,755.11 (i.e. 1.14% above Estimated Cost and 3.60% below the Reasonable Cost).

In view of the above, GSIDC has requested this Corporation for Expenditure Sanction as mentioned below:

Sr. No.	Particular	Amount (Rs.)
1	Civil & Electrical Works (LI bidder)	336,806,755.11
2	Add GST 12% i.e. of (1)	40,416,810.61
3	Sub Total	377,223,565.72
4	Consultancy fee @ 3.75% of cost of the work i.e. of (3)	14,145,883.71
5	Add GST 18% i.e of (4)	2,546,259.07
6	Sub Total (B)	16,692,142.78
7	Total (A+B)	393,915,708.51
8	Add Contingencies @ 3 % of Total (A+B)	11,817,471.26
9	Sub Total (C)	405,73,179.76
10	Add Developmental Charges @ 1% of Sub Total (C)	4,057,331.80
11	Grand Total	409,709,511.56

After deliberations the Board passed the following resolution;

“Resolved that the facts and figures given under this item be and is hereby considered and placed on record.

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"Resolved further that post-facto revised administrative approval for the Protection & Restoration of Mandovi River Coastline from Miramar circle to Youth Hostel and from Lala Academy to ESC' amounting to Rs.33,68,06,755.11 and approval for expenditure sanction at the cost of Rs.40,97,90,512.00, to be executed by GSIDC under Smart Cities Mission be and is hereby ratified and approved."

"Resolved further that Managing Director & CEO be and is hereby accorded power to comply with requirement."



h on 4/3/22

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IMAGINE PANAJI SMART CITY DEVELOPMENT LTD (A Government of Goa Undertaking)

Adil Shah Palace, Old Secretariat, Panaji, Goa 403 001
Tel: +91 (832) 222 0440
Email: office@imaginepanaji.com | CIN No. U74999GA2016SGC012967
Web: www.imaginepanaji.com

Amal Singh



Smart City
MISSION TRANSFORMATION

Ref No: IPSCDL/Engg(Civil)/F-879/2020-21/ 4134

3rd March, 2022

To,

✓ **The Managing Director,**

Goa State Infrastructure Development Corporation Limited,
7th Floor, EDC House,
Panaji, Goa.

Inward No.	14173
Date:	4/3/22
GSIDC LIMITED	

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7/3/22

Sub: Administrative Approval accorded by IPSCDL Board and subsequent action by executing agency.

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7/3/22

Sir,

Imagine Panaji Smart City Development Limited (IPSCDL) in its 20th Board Meeting held on 28/02/2022 has accorded Administrative approval to take up the "Construction of arch bridge connecting New Mandovi River Promenade to DB Road over St. Inez Creek, near ESG Building, Panaji" project. The Board has resolved the following:

"Resolved that administrative approval is hereby accorded for the project 'Construction of arch bridge connecting New Mandovi River Promenade to DB Road over St. Inez Creek, near ESG Building, Panaji' at the cost of Rs.5,95,94,700/- to be executed by GSIDC under Smart Cities Mission."

In pursuance of the above, it is requested that GSIDC may take necessary steps to undertake the process of tendering the abovementioned works by following all due Codal Formalities and submit the same to IPSCDL at the earliest for according Expenditure Sanction before 31-03-2022.

Yours sincerely,

Vijaykumar Honawad
Vijaykumar Honawad
Chief General Manager, IPSCDL



27th January 2022

Ref. No.: GSIDC/Engg/Works/1485/ 6054

To
The Member Secretary,
Goa Coastal Zone Management Authority
C/o Department of Science, Technology & Environment
Govt. of Goa, Dempo Tower, 3rd Floor
Patto- Panaji- Goa

Sir,

Sub: "Protection & Restoration of Mandovi River Coastline from Miramar Circle to Youth Hostel and from Kala Academy to ESG".

With reference to the above mentioned work, this is to inform you that GSIDC has been entrusted with the above mentioned work under Smart City Scheme. The work of protection & restoration of Mandovi River Coastline from Miramar Circle to ESG Building is taken up, for which we request CRZ clearance under Clause 4 (f) erosion control measures. The copy of the following documents are attached herewith:

1. Form-1 (Annexure-IV)
2. EIA Report
3. Project layout superimposed on CRZ map indicating HTE and LTI.

It is kindly requested to issue No Objection Certificate (NOC) for execution of the above mentioned work.

Thanking you

Your faithfully

(Harish Adconkar)
Managing Director
Encl:As above

Copy to:

1. The Managing Director & CEO : For information
Imagine Panaji Smart City Development Limited
Adil Shah Palace,
Old Sec.ariat,
Panaji, Goa.

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Annexure-IV

Form-I for seeking clearance for project attracting CRZ notification

(I) Basic information:

Name of the Project: -*“Protection and Restoration of Mandovi river Coastline from Miramar Circle to Youth Hostel and from Kala Academy to ESG”*

Location or site alternatives under consideration: - *Miramar Circle to Youth Hostel and from Kala Academy to ESG*

Size of the project (in terms of total area):- *Approximate area of 18,434 sq.m.*

CRZ classification of the area: - *CRZ II*

Expected cost of the project: - *Rs. 33,68,06,755.11*

Contact Information: - *Goa State Infrastructure Development Corporation Limited*

(II) Activity

1. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, and the like)

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)	No	
1.2	Details of CRZ classification as per the approved Coastal Zone Management Plan?		CRZ-II
1.3	Whether located in CRZ-I area?	No	
1.4	The distance from the CRZ-I areas.		Not Applicable
1.5	Whether located within the hazard zone as mapped by Ministry of Environment and Forests/National Disaster Management Authority?		Part area of 295 sqm near Miramar circle is located within hazard line.
1.6	Whether the area is prone to cyclone, tsunami, tidal surge, subduction, earthquake etc.?	No	
1.7	Whether the area is prone for saltwater ingress?	Yes	Area from Kala Academy till Children Park is prone to ingress of saltwater. Retaining wall with rip rap is proposed. Refer drawings Annexure A

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S. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.8	Clearance of existing land, vegetation and buildings?	Yes	Overgrown Shrubs, wherever necessary.
1.9	Creation of new land uses?	No	Not Applicable
1.10	Pre-construction investigations e.g. borehole, soil testing?	No	
1.11	Construction works?	Yes	<p>In this proposal there will be a continuous retaining wall along the coast for protection. Wherever the existing one has collapsed, it will be restored, and missing walls will be built.</p> <p>In some stretches the embankment have settled and some areas eroded. In such situation, new retaining wall or trough have been proposed respectively.</p> <p>It is proposed to create a promenade that would link Miramar Circle and Mahaveer Garden and ESG with a cycling lane that will be part of the future pedestrian itinerary between Ribandar and Dona Paula.</p> <p>The promenade will be continuous and will be connected to the existing roads and maintaining traditional pedestrain & fishing boat access.</p> <p>Public Washrooms are proposed. One near Light House located near Youth Hostel and second is an existng dilapidated structure located near Mahaveer Garden to be renovated and used as Washroom.</p>
1.12	Demolition works?	Yes	Wherever the existing retaining walls have collapsed, it will be rebuilt.
1.13	Temporary sites used for construction works or housing of construction workers?	Yes	Temporary shed for housing site Office.
1.14	Above ground buildings, structures or Earthworks including linear structures, cut and fill or excavations	Yes	Wherever required earth fill to be done for maintaining uniform leveling above HTL.
1.15	Underground works including mining or tunneling?	No	Not Applicable
1.16	Reclamation works?	Yes	In some parts wherever required reclamation of eroded Government acquired lands to maintain uniform access.
1.17	Dredging/reclamation/land filling/disposal of dredged material etc.?	Yes	Existing lateritic rubble embankments and collapsed retaining walls to be reused.
1.18	Offshore structures?	No	Not Applicable

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.19	Production and manufacturing processes?	No	Not Applicable
1.20	Facilities for storage of goods or materials?	Yes	Temporary sheds will be constructed for necessary storage of materials during construction period. For Logistics 3 locations have been identified. (i) Open area near Forest Department Nursery; (ii) Kala Academy parking area (iii) Govt. of Goa land near Miramar Residency.
1.21	Facilities for treatment or disposal of solid waste or liquid effluents?	No	Solid waste- The construction debris will be transported via closed trucks to avoid fugitive dust emission. Liquid effluent- Portable toilets, will be provided which are cleaned by suction pump
1.22	Facilities for long term housing of operational workers?	No	Not Applicable
1.23	New road, rail or sea traffic during construction or operation?	No	The existing infrastructure facilities will be used during the construction.
1.24	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No	Not Applicable
1.25	Closure or diversion of existing transport Routes or infrastructure leading to changes in traffic movements?	No	Not Applicable
1.26	New or diverted transmission lines or pipelines?	No	Not Applicable
1.27	Impoundment, damming, culverting, Realignment or other changes to the hydrology of watercourses or aquifers?	No	All existing drainage outlets will be maintained.
1.28	Stream and river crossings?	No	Not Applicable
1.29	Abstraction or transfers of water form ground or surface waters?	No	Not Applicable
1.30	Changes in water bodies or the land surface affecting drainage or run-off?	No	Not Applicable
1.31	Transport of personnel or materials for construction, operation or decommissioning?	Yes	The construction materials shall be brought to construction site in covered vehicles.
1.32	Long-term dismantling or decommissioning or Restoration works?	Yes	Wherever the existing retaining walls have collapsed will be rebuilt.
1.33	Ongoing activity during decommissioning which could have an impact on the environment?	No	Not Applicable

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S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.34	Influx of people to an area in either temporarily or permanently?	Yes	There will be temporary influx of laborers and site personnel during construction phase. A steady increase in commuters expected during the operation phase of the project. Proposed Promenade purpose is to attract local people for walking, cycling and leisure activity.
1.35	Introduction of alien species?	No	Not Applicable
1.36	Loss of native species or genetic diversity?	No	Natural ground cover/sand will be maintained.
1.37	Any other actions?	No	Not Applicable

2. Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):

S. No.	Information/checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
2.1	Land especially undeveloped or agricultural land (ha)	No	Not Applicable
2.2	Water (expected source & competing users) unit: KLD	No	Source –Water requirement for construction activities will be met using tanker water whereas potable water requirement for washrooms will be met through PWD supply.
2.3	Minerals (MT)	No	Not Applicable
2.4	Construction material–stone, aggregates, sand/soil (expected source – MT)	Yes	Granitic/Basaltic boulders for coastline protection & soling-66,750MT (Maharashtra). Laterite stone- 170MT (Pernem) Laterite Rubble- 3000 MT (available at site) Aggregate- 17,000MT (Dodamarg) Crush sand- 2500MT (Dodamarg) Sand- 3000MT (Kudal, Colvale) Granite for flooring - 1800MT (Andhra Pradesh, Karnataka)
2.5	Forests and timber (source – MT)	No	Not Applicable.
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel(MT), energy (MW)	Yes	During Construction Electricity- 5000kWh Fuel for Machinery – 80L/D
2.7	Any other natural resources (use appropriate standard units)	No	Not envisaged

3. Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
3.1	Use of substances or materials, which are hazardous(as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies)	No	Not Applicable
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	Not Applicable
3.3	Affect the welfare of people e.g. by changing Living conditions?	Yes	The promenade connecting youth hostel and Forest Department's Children's Park is a stretch of a longer pedestrian itinerary proposed in the Holistic masterplan to connect Dona Paula and Ribandar. After completion the promenade will be accessible by main road and it will attract local people for walking, cycling and leisure.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,	No	Not Applicable
3.5	Any other causes, that would affect local communities, fisherfolk, their livelihood, dwelling units of traditional local communities etc	No	All fishing activities and access will be maintained.

4. Production of solid wastes during construction or operation or decommissioning (MT/month)

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
4.1	Spoil, overburden or mine wastes	No	Not Applicable
4.2	Municipal waste (domestic and or commercial wastes)	Yes	Public Washroom waste will be connected to nearest municipal sewer line.
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	No	Not Applicable
4.4	Other industrial process wastes	No	Not Applicable
4.5	Surplus product	No	Not Applicable

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S. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
4.6	Sewage sludge or other sludge from effluent treatment	No	Portable toilets will be provided which will be cleaned by suction pump and Public Washroom waste will be connected to nearest municipal sewer line.
4.7	Construction or demolition wastes	Yes	Construction debris will be disposed off at designated place authorized by the local body. Existing embankment material will be utilized.
4.8	Redundant machinery or equipment	No	Not Applicable
4.9	Contaminated soils or other materials	No	Not Applicable
4.10	Agricultural wastes	No	Not Applicable
4.11	Other solid wastes	No	Not Applicable

5. Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)

S. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	Yes	The operation of various equipments during construction phase shall require combustion of fuel. Vehicles older than 5 years are not used and 'green tag' labeling will be used to keep vehicular pollution to a bare minimum through proper maintenance and upkeep.
5.2	Emissions from production processes	No	Not Applicable
5.3	Emissions from materials handling including storage or transport	Yes	Speed limits, sprinkling of water for roads, covered transportation, barricading, green belt etc. are practiced for reduction in SPM. Materials are stored in covered areas to prevent fugitive emissions.
5.4	Emissions from construction activities including plant and equipment	No	
5.5	Dust or odours from handling of materials including construction materials, sewage and waste	Yes	Water sprinkling will be carried on site regularly. Within permissible limits.
5.6	Emissions from incineration of waste	No	Not Applicable
5.7	Emissions from burning of waste in open air(e.g. slash materials, construction debris)	No	Not Applicable
5.8	Emissions from any other sources	No	Not Applicable

6. Generation of Noise and Vibration, and Emissions of Light and Heat

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	Yes	All construction equipment will be properly maintained so as to minimize noise and vibration levels. Acoustics done, Equipments shall generate noise not greater than 90 dB (A).
6.2	From industrial or similar processes	No	Not Applicable
6.3	From construction or demolition	Yes	No heavy/ loud machinery will be used.
6.4	From blasting or piling	No	Not Applicable
6.5	From construction or operational traffic	Yes	During construction phase, construction material will be brought to the project site mainly by road. This will lead to increase in trucks and other vehicle movements which could increase noise levels. This is minimized as the interstate materials are allowed in night only.
6.6	From lighting or cooling systems	No	Not Applicable
6.7	From any other sources	No	Not Applicable

7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
7.1	From handling, storage, use or spillage of hazardous materials	No	Waste oils are stored in covered areas with a concreted base. No manual filling of fuel will be done onsite.
7.2	From discharge of sewage or other effluents to Water or the land(expected mode and place of discharge)	No	Not Applicable
7.3	By deposition of pollutants emitted to air into the land or into water	No	Not applicable
7.4	From any other sources	No	Not Applicable
7.5	Is there a risk of long term buildup of pollutants in the environment from the resources?	No	Not Applicable

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8. Risk of accidents during construction or operation of the Project, which could affect human health or the environment

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances	No	Training for effective use and safe handling of diesel and any hazardous material including waste/spent oil will be provided to site staff. First aid facility at site office.
8.2	From any other causes	No	Not Applicable
8.3	Could the project be affected by natural disasters causing environmental damage (e.g., floods, earthquakes, landslides, cloudburst etc)?	No	Not Applicable

9. 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

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
9.1	Lead to development of supporting facilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) housing development extractive industries supply industries other	No	Panaji and its surroundings are already developed. The Mandovi promenade is connected through main road.
9.2	Lead to after-use of the site, which could have an impact on the environment	No	Not Applicable
9.3	Set a precedent for later developments		Not Applicable
9.4	Have cumulative effects due to proximity to other	No	Not Applicable

III. Environmental Sensitivity

S. No.	Areas	Name/ Identity	Aerial distance(within15 km.) Proposed project location boundary
1	Areas protected under international conventions, National or local legislation for their ecological, landscape, cultural or other related value	No	
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Yes	The proposed development is along the Mandovi river bank.
3	Areas used by protected, important or sensitive Species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	No	
4	Inland, coastal, marine or underground waters	No	Not Applicable
5	State, National boundaries	No	Not Applicable
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	No	Not Applicable
7	Defense installations	No	Not Applicable
8	Densely populated or built-up area	No	Not Applicable
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	No	Not Applicable
10	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	No	Not Applicable
11	Areas already subjected to pollution or Environmental damage. (those where existing legal environmental standards are exceeded)	No	Not Applicable
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No	The Proposal is to protect the coastline from erosion.

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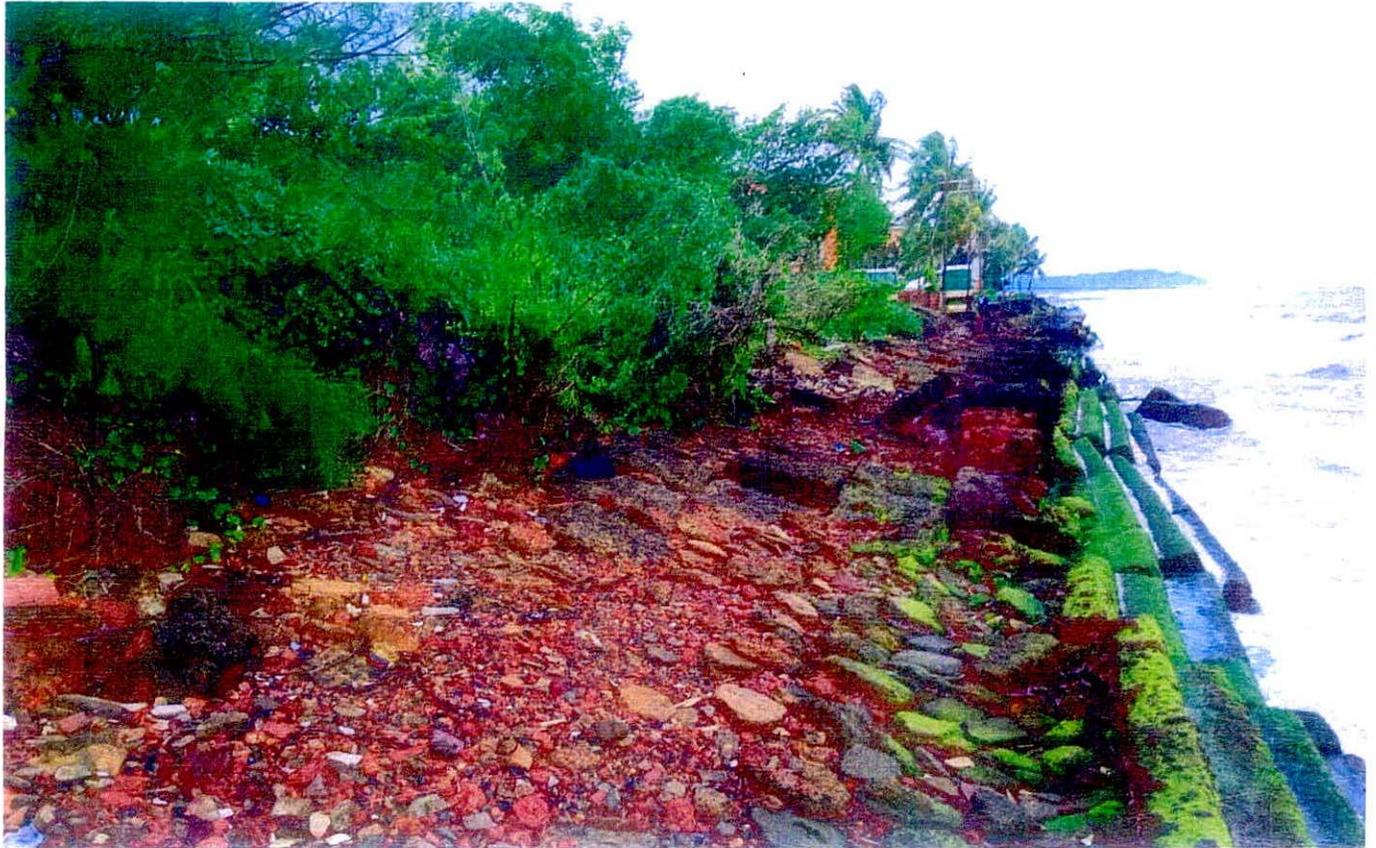
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ENVIRONMENTAL IMPACT ASSESSMENT REPORT

**Protection and Restoration of Mandovi River Coastline
from Miramar Circle to Youth Hostel and Kala Academy to ESG.**

Project Owner:

GSIDC



January 2022



PROJECT REPORT:

Protection and Restoration of Mandovi River Coastline from Miramar Circle to Youth Hostel and Kala Academy to ESG

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- 4 ANTICIPATED ENVIRONMENTAL IMPACT AND MITIGATION MEASURES**
- 5 SCOPE OF BASELINE STUDIES**
- 6 CONCLUSION**

ANNEXURE A

ANNEXURE B

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1 SITE DESCRIPTION & LOCATION

The Mandovi river front between Miramar Beach and Forest Department's Childrens' Park is a beautiful spot of Panaji city. Several city amenities are located along it, like the Senior citizen Park, the indoor stadium, skating rink, basketball court, Kala academy and the Forest Department Children's Park.



Figure 1: Location plan

The stretch is very pleasant due to the marine breeze, and the amazing river and sea views. Currently, there is a short promenade by the Mandovi River, along Kala academy, which people visit all day long and a well developed promenade with coastline protection in the stretch from Youth Hostel till Kala Academy. Although the rest of the area is not properly developed for pedestrians, people visit on their own risk. It is a spot for fishing, jogging and related activities.

Currently, a main concern in that area arises when surveying and analysing the Coastline morphology evolution, which shows a severe erosion and accretion in the coastline during the latest years.

The main objective of the project is to protect the shoreline from erosion and to restore the river bank and Government land. Another secondary objective of the project is to further open the City to the River, while generating a promenade with cycling lane along the Mandovi River that will allow people to properly enjoy the beauty and connect all the previously said city amenities.



Extension plan view with main surrounding landmarks

2 PROPOSAL

The concept theme of the proposal derives from giving priority to protect the coast and restoration of river bank while place making in order to give own identity to every corner created; providing space for enhancing exiting activities, like fishing, cycling and skating and fostering a safe public space for citizens' leisure and sports for all age groups, while opening the city to the river. The proposal includes the following features:

2.1 PROTECTION OF THE COAST AND RESTORATION OF RIVER BANK

- Continuous protection retaining wall along the coast to arrest erosion and settlement of the existing embankment.
- Rebuilt the protection retaining wall wherever the existing one has collapsed.
- In stretches where there is no retaining walls and the embankments have settled or eroded, in such situation, new retaining wall or trough will be built respectively

2.2 LEISURE & SPORTS

- Enhancing Senior Citizen's park
- Improving and extending the existing Skating area
- Providing safe Fishing spots
- Creating a small Amphitheater to guarantee best river bank views from the promenade
- Equipping the public area with Seating and eating area, along with public facilities of washrooms.

2.3 EDUCATION & CREATIVITY

- Providing area for local artists to develop their creations through a public competition.
- Learning on some Goan architectural features
- Learning on Goan customs and traditions related to fish.

3 DESCRIPTION OF THE ENVIRONMENT

3.1 Socio-economic Environment

Panaji is the capital of Goa and the headquarters of North Goa district. It is the centre of socio- economic and political existence of the state. A city with great heritage values gradually assuming increasing relevance among the cities of the world. The Capital city is located on the banks of Mandovi River and is bound by the Rua de Ourem creek on the East that has been artificially trained to flow along its east side, the Mandovi river on the North, the hillock of Altinho on the south east and the St. Inez Creek and Taleigao village on the west.

The area of the city is approximately 8.12 Sq. Km. with a population of around 70,091 people and floating population of 1,50,000 people.

3.1.1 City Profile Snapshot

1.	Location	:	Panaji, Goa
2.	City Area	:	8.12 Sq. Km
3.	Population	:	70091 (2011 Census – provisional data)
4.	Population density	:	8742/km ²
5.	Nearest Railway Station	:	Karmali (~ 10 km)
6.	Nearest Airport	:	Dabolim Airport (~ 30 km)
7.	Access Roads	:	NH-4A connects to the NH-17 from Panaji
8.	Longitude	:	73° 49' 40" E
9.	Latitude	:	15° 29' 56" N
10.	Elevation	:	7 m (23 ft) from sea level
11.	Temperature	:	Tropical monsoon climate (Köppen climate classification <i>Am</i>). generally hot in summer and equable in winter. During summers (from March to May) the temperature reaches up to 32 °C and in winters (from December to February) it is usually between 31 °C and 23 °C.
12.	Humidity	:	Varies from 67% to 89% through out year, max. during monsoon period.
13.	Rainfall	:	The monsoon period is from June to September with heavy rainfall and gusty winds.
14.	Annual Average Rainfall	:	2932 mm (115.5 inches).
15.	Basic wind speed	:	39 km/hr
16.	Seismic Zone	:	Zone III

This report should satisfy the coastal regulation department, unless it cannot be permitted. Since Mandovi River falls under the CRZ II classification in Coastal Regulation Zone, Impact assessment report is more essential to assess. This project encloses the entire details regarding the spot, the projects to be carried out, the assessment part due to each and every project etc. The preliminary investigations are conducted and the datas are prepared. The environmental impact due to every project was analysed and discussed. The required tests to assess the projects are conducted, refered and finalized. The standard values and test results are compared to assess the impact of activies on the environment. Central Water and Power Research Station, Pune has prepared a study for WRD on the impacts of demolition of the retaining wall built by WRD in 1978. The Mathematical model studies on hydrodynamics and sedimentation for demolition of the retaining wall along stretch of Marriot Hotel, Goa has been referred to for preparation of this report.

3.2 Physical Environment-

After a thorough site inspection of the area, and further surveying, there are some straight forward conclusions, which can be drawn, namely:

- When surveying and analysing the Coastline morphology and the development of the Erosion & Accretion in the latest years there is need to protect the shore line and restore the river bank wherever possible. The existing retaining wall has disappeared, there is settlement in mayor areas of the embarkment earlier executed by WRD. Figure 1 shows the change in Shorline due to erosion /accretion which has been studied by National Center for Sustaibile Coastal Mangement (MoEF) .

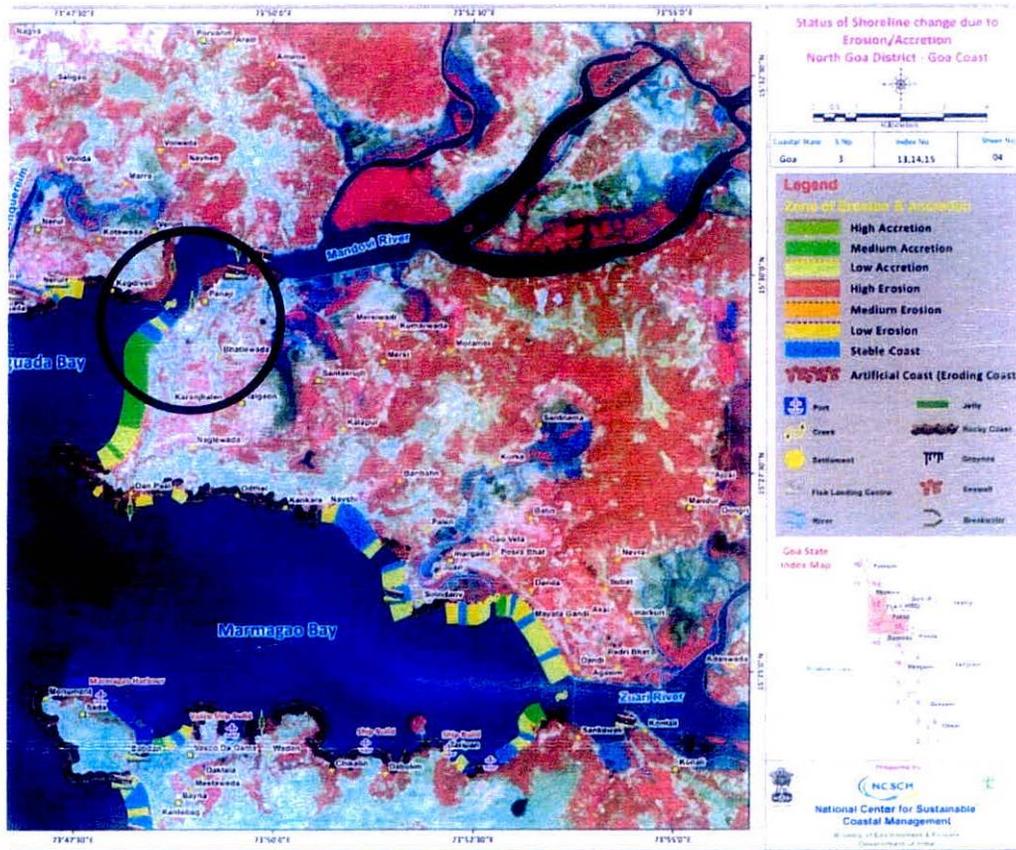


Figure 1: Shoreline change due to Erosion/Accretion.

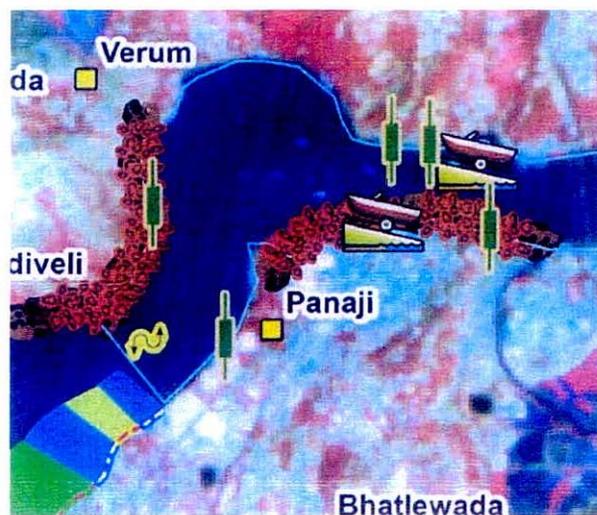


Figure 2: Shoreline change due to Erosion/Accretion along Panaji coastline.

- There is a receding tree line and loss of Government acquired land.

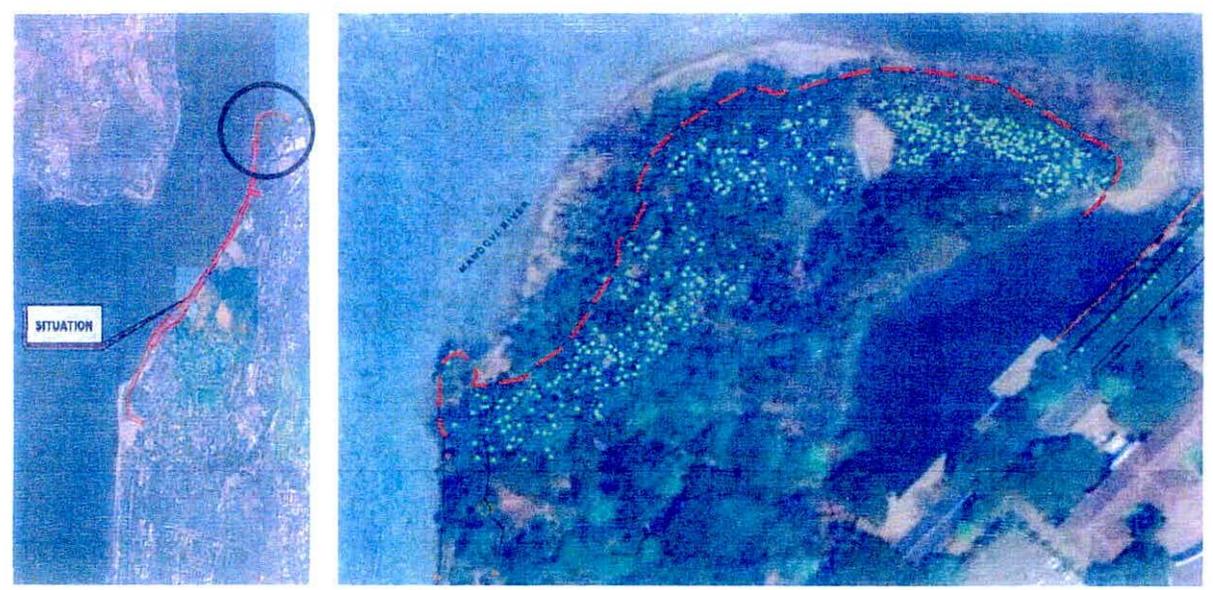


Figure 3. Coastline morphology. Erosion areas by Childrens' Park.



Figure 4: Coastline morphology. Erosion areas by youth Hostel and Marriot Hotel



Figure 5: Coastline morphology. Erosion/ Accretion areas by Miramar Beach

- The river bank from near Miramar Beach and Kala Academy to the area near Mahaveer Garden next to Children’s Park is not protected with retaining walls or rip rap boulders
- There is a 2m wide sidewalk approximately length of 180 m along the Kala Academy. When comparing the rivershore line along the already protected stretch from Indoor Stadium till Kala Academy with the Kala Academy stretch and surroundings, it is observed a severe settlement in the shore, which calls for an urgent need to restore the existing retaining wall, mainly dilapidated and protect the coastline urgently.
- The impact on the Environment should be assessed.
- The full stretch considered for protection, shows few areas accessible for visitors. In some spots many people walk at their own risk.
- In a different note, the river front is unknown for many panjimites and tourists and its used for fishing and other sportive activities, without adequate lighting and safe access.
- The Forest Department Childrens’ Park is located very close to the river, but it is not properly connected to it.

- There is no pedestrian connection between the existing landmarks and the main general road which has got a lot of traffic.



Figure 6: Existing Condition of Stretch 1



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Figure 7: Existing Condition of Stretch 2



Figure 8: Existing Condition of Stretch 3

3.3 Physiographic and Hydraulic Conditions

The width of the Mandovi estuary at the entrance is 3300 m and natural depths are about 8 to 9 m below CD (Fig.9) which reduces to about 1km across Hotel Marriott and Youth Hostel and keeps on reducing to 600m width near Panjim Gymkhana in a stretch of 1400 m. A sharp band can also be seen in the estuary 2000m upstream from Hotel Marriott. Estuary flow gets diverted towards left bank due to sharp band making left bank more vulnerable for erosion. It is also evident from the bathymetry of the area which shows that deep channel is very close to left bank. The hydraulic conditions of the area were not available, a large area was modelled which comprises the Mormugao port area for which hydraulic parameters like velocities, hydrographs, wave, tide etc. Hydrographs of both the rivers namely Mandovi and Zuari are shown in Fig. 10. The peak discharge in Mandovi river is about 1600 m³/s for those respective years. In general, the discharges in the Mandovi river are about 4-5 times more than those in Zuari river. The peak discharge in the Mandovi river has been estimated as about 5000 m³/s. The same was used for the model studies by CWPRS.

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The peak tidal currents in the offshore region are of the order of 0.25 m/s. Offshore wave data reported in Indian daily weather chart reports published by Indian Metrological Department (IMD) are shown in following rose diagrams (Fig.11) and the same have been used to simulate MIKE-21 SW module by CWPRS. (A. K. Agrawal, 2020)

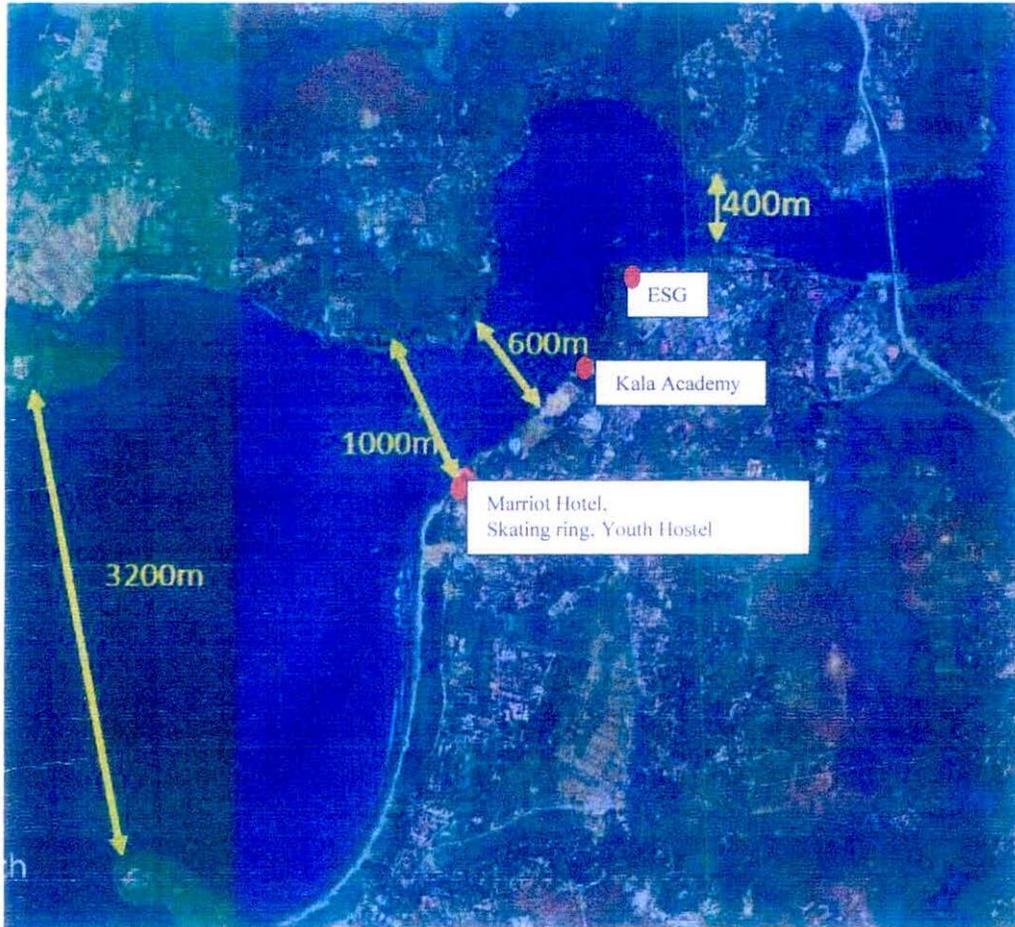


Figure 9: Physiographic of Mandovi estuary

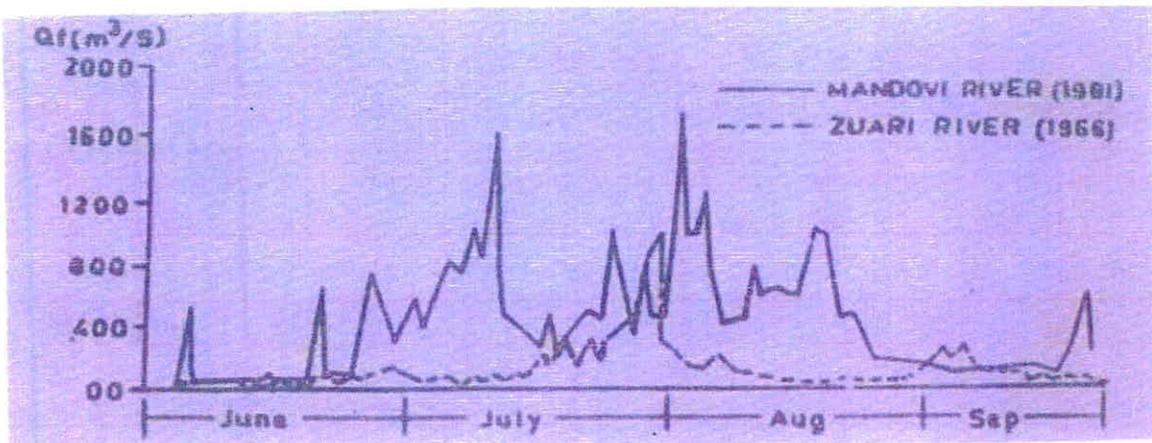


Figure 10: Hydrographs of Mandovi and Zuari River

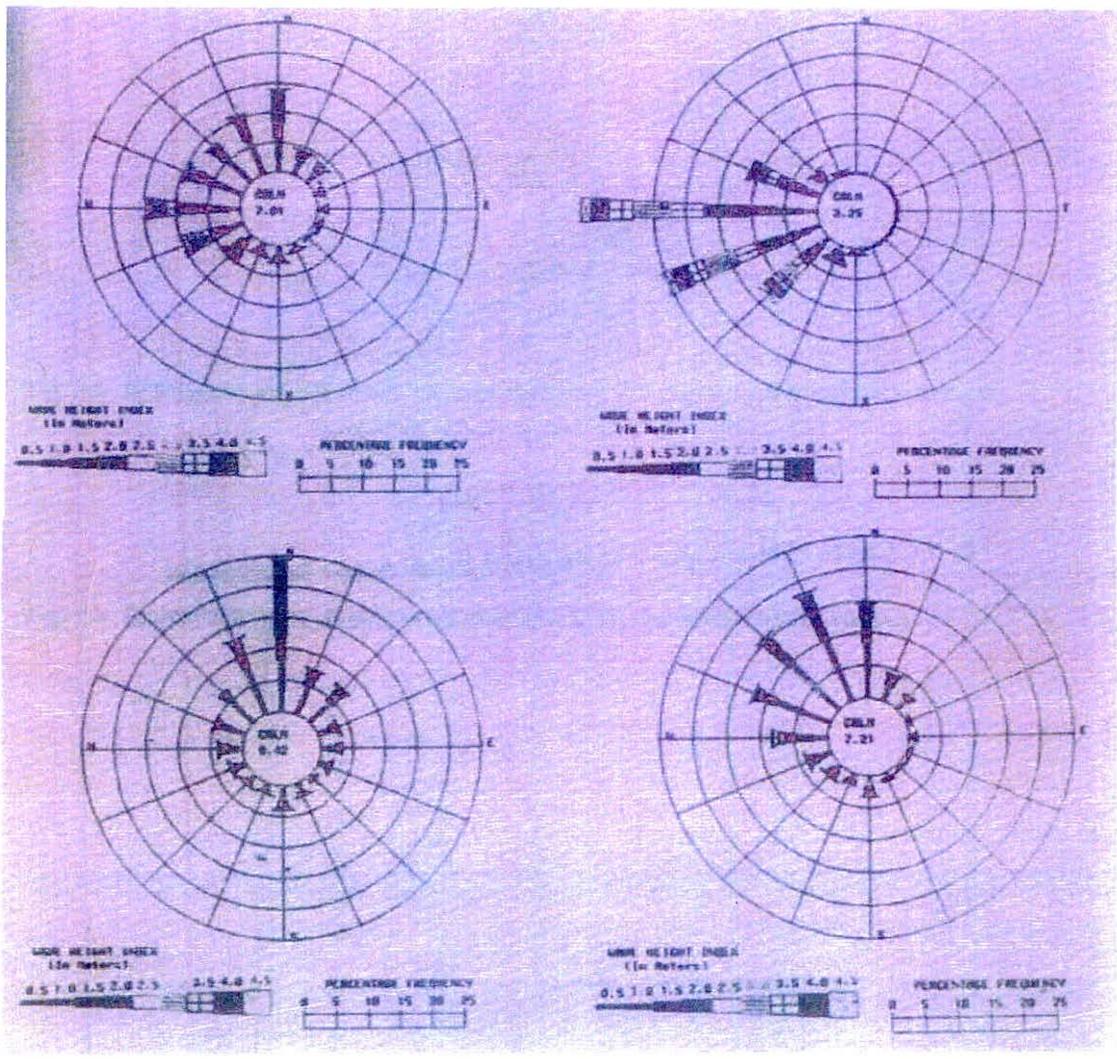


Figure 11: Offshore Wave Data Rose Diagrams

Bathymetry is one of the most important input for the model adopted by CWPRS. Bathymetry was obtained from available hydrographic charts as supplied by the MPT and from MIKE-21 C map data. The bathymetry covers an area of 40kmX40km. The model area includes major stretch of Zuari and Mandovi rivers. Towards sea side, it covers soundings up to(-) 56 m depth contours below CD. Figure 12 shows the 2-D view of the model area and bathymetry while Figure 13 indicates bathymetry in the vicinity of area of study. A deep channel can be observed near the left bank of river. This is caused due to sharp bend of river 1.5 km upstream of river as flow gets deflected towards left bank. The flow velocity increases on the outer curvature of bend causing erosion which in turn creates deep channel near outer curvature bank. Thus, the flow attacks the left bank at an angle making it more vulnerable for erosion. On the other hand near the right bank (opposite to Marriott hotel), the depths are shallow. This can be seen in Fig. 14 which shows cross-section L1-L2 across River Mandovi near Marriott Hotel. It can be observed that deep channel is at a distance of about 900 m from right bank while from left bank it is just about 150 m. Large model area has been considered to incorporate Mormugao port where observed hydraulic data was available which has been used to calibrate hydraulic conditions in the model by CWPRS. (A. K. Agrawal, 2020)

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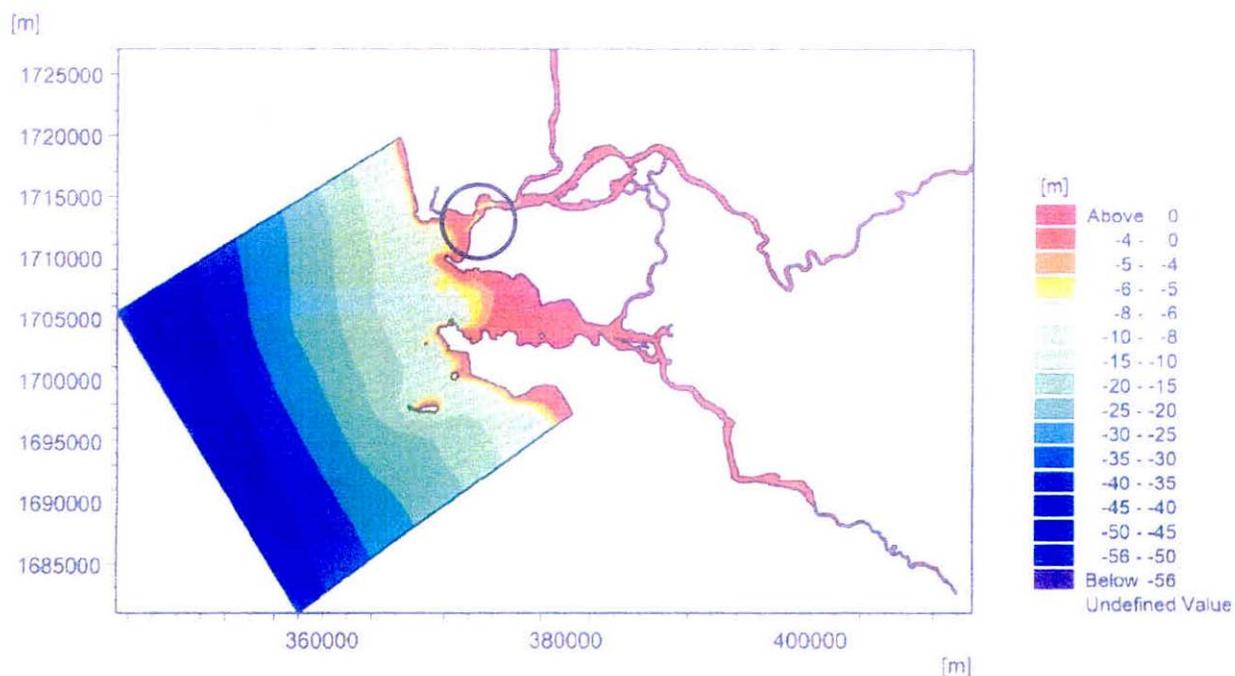


Figure 12: 2-D View of Bathymetry in modelled area

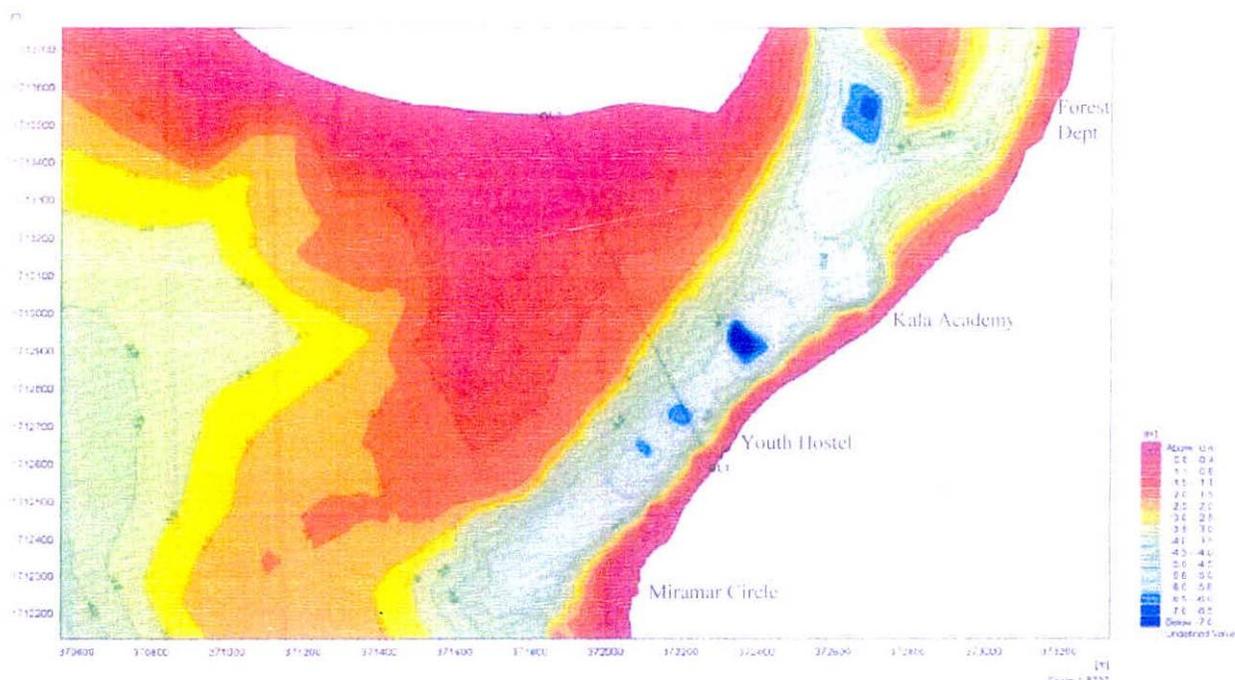


Figure 13: 2-D View of Bathymetry in the vicinity of Miramar beach near Marriot Hotel till Forest Department

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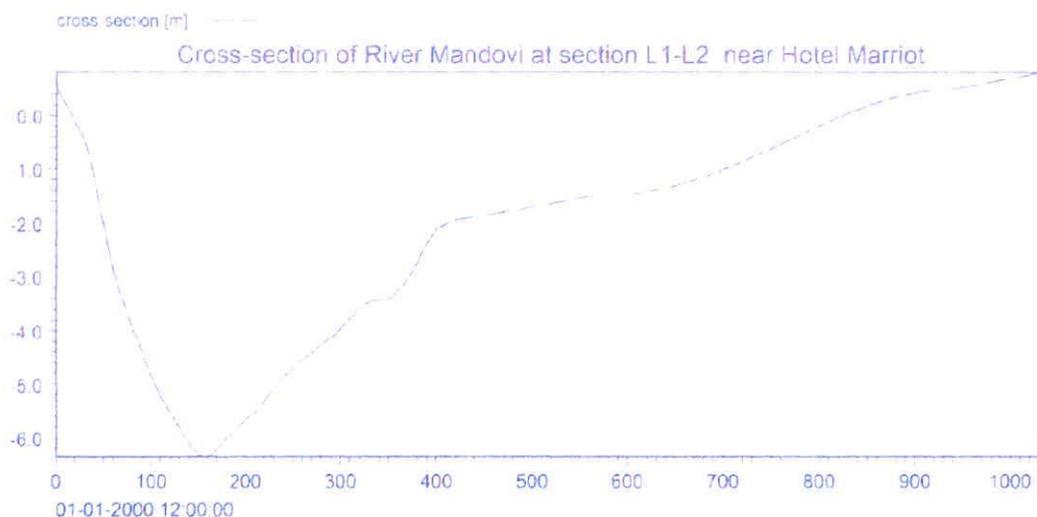


Figure 14: Mandovi River Cross-section near Hotel Marriott

The region is subjected to incident short period waves of significant height of 2.0m from the directions north to northwest during the non-monsoon season (October to May) and from the directions between southwest and west of significant height of about 4.0m during the southwest monsoon season i.e. from June to September. (A. K. Agrawal, 2020)

3.4 Wave Transformation Studies

The computational model considered by CWPRS for wave transformation, covered an area of 40 km x 40 km and the same has been used to for hydrodynamic and sedimentation studies. The model area covers the entire proposed port area upto (-) 56 m depth contour. Mesh and bathymetry files were generated using MIKE-21 tools. Model was simulated for both SW and NE monsoon period. The significant waves are shown in Fig. 15-18. It could be seen from figure that significant wave height during monsoon period is 0.8m at Miramar beach near Miramar Residency and 0.3m at Children's Park while during non-monsoon period it is only 0.2m at Miramar beach near Miramar Residency and 0.05m at Children's Park. (A. K. Agrawal, 2020)

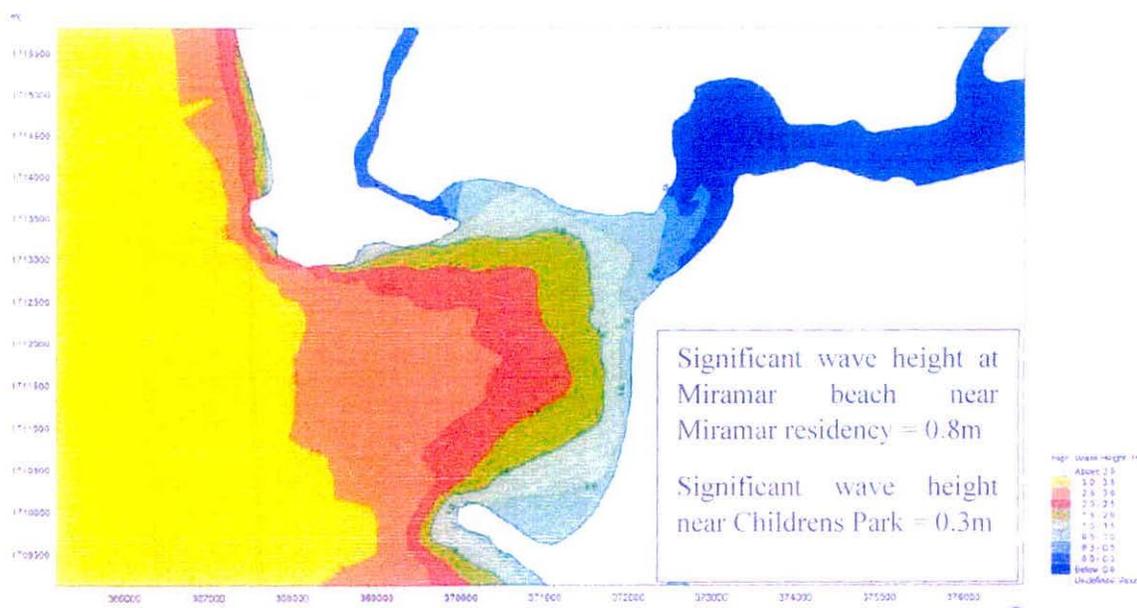


Figure 15: Significant wave Height during SW Monsoon (Wave Direction 2500)

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3.5 Hydrodynamic and sedimentation studies

3.5.1 Existing Hydrodynamic Condition

The computational model considered by CWPRS for tidal flow simulation covered an area of 40 km x 40 km. The model area covers the entire proposed port area up to (-) 56 m depth contour. Mesh and bathymetry files were generated using MIKE-21 tools. In the vicinity of Marriott hotel, fine mesh was generated while in remaining model area, coarse mesh was generated to reduce the simulation time. The model area consists of 5 open boundaries: two river boundaries and three sea boundaries. Predicted tidal levels obtained from C-map were supplied at north and south boundaries with appropriate level differences. As the flow is almost parallel to the contours along western boundary, no cross flow condition was provided at this boundary. At remaining two open boundaries, hydrographs of Mandovi and Zuari River were provided. The model parameter like bottom roughness coefficient, surface elevation etc. were adjusted to get the required prototype conditions in the model (available in vicinity Mormugao port). The model was simulated for peak river discharge condition. The simulations were repeated by changing model parameters until the computed values matched with the field observed data. The changes in flow fields were computed every time step of 30 sec and results are recorded at every 30 minutes time interval. The computed values of currents were compared with the field observed data. The studies were repeated by changing model parameters until the computed values matched well with the field observed data. Typical flow behavior is shown in Fig.19. The length of vector shows the magnitude of current and arrowhead of vector indicates the direction of flow. (A. K. Agrawal, 2020)

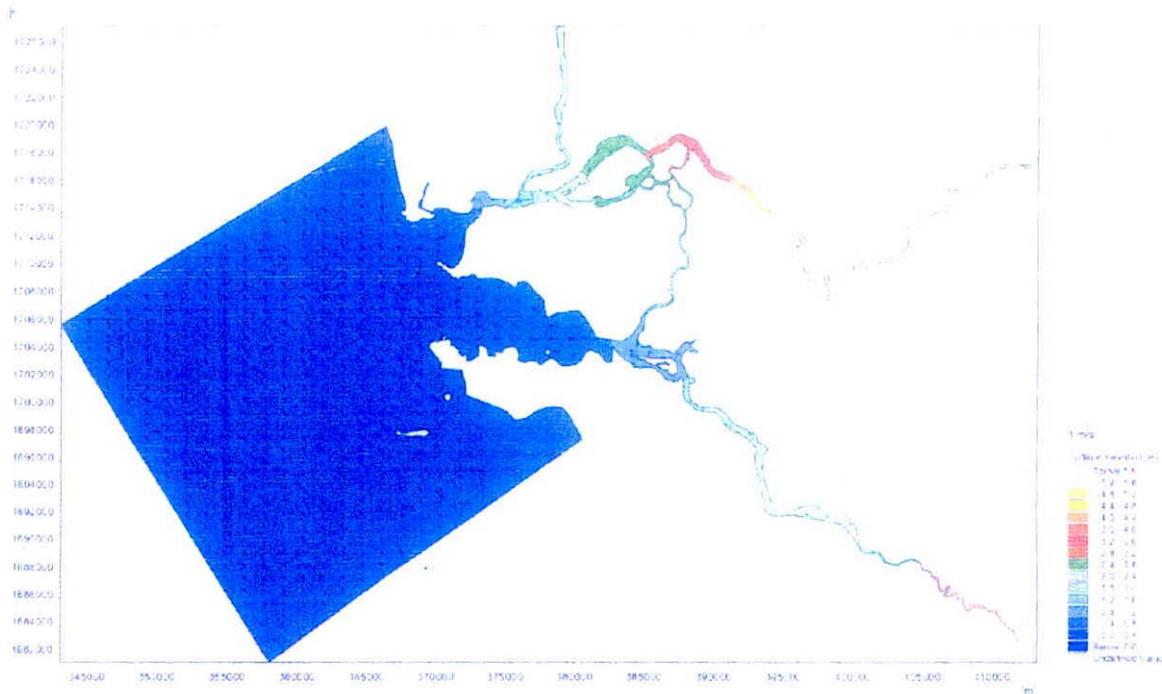


Figure 39: Flow Pattern in Model Area during peak river Discharge

In order to examine flow behavior in the vicinity Mandovi River, this river portion was model zoomed and flow behavior was studied in two conditions namely, high tide and low tide. The typical plots are shown in Fig. 20 to 21 and proposed coast for protection and restoration works has indicated in red. The length of vector shows the magnitude of current and arrowhead of vector indicates the direction of flow. It could be observed that during low tide magnitude of current is higher in river compared to during high tide. This is due to the fact that during low tide, level difference surface water is more. (A. K. Agrawal, 2020)

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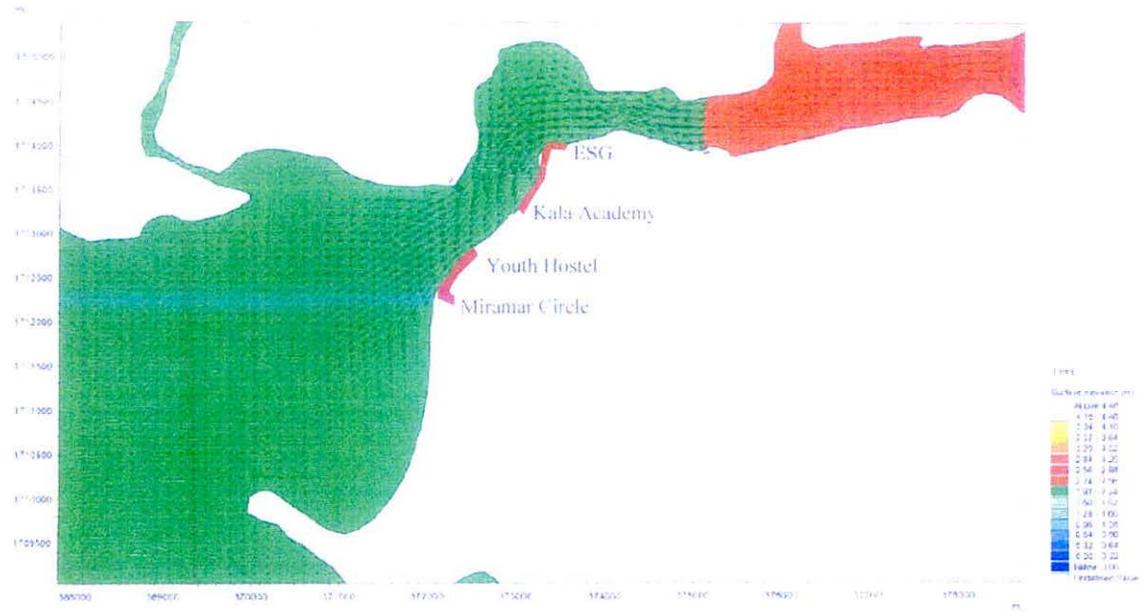


Figure 20: Flow Pattern during High Water

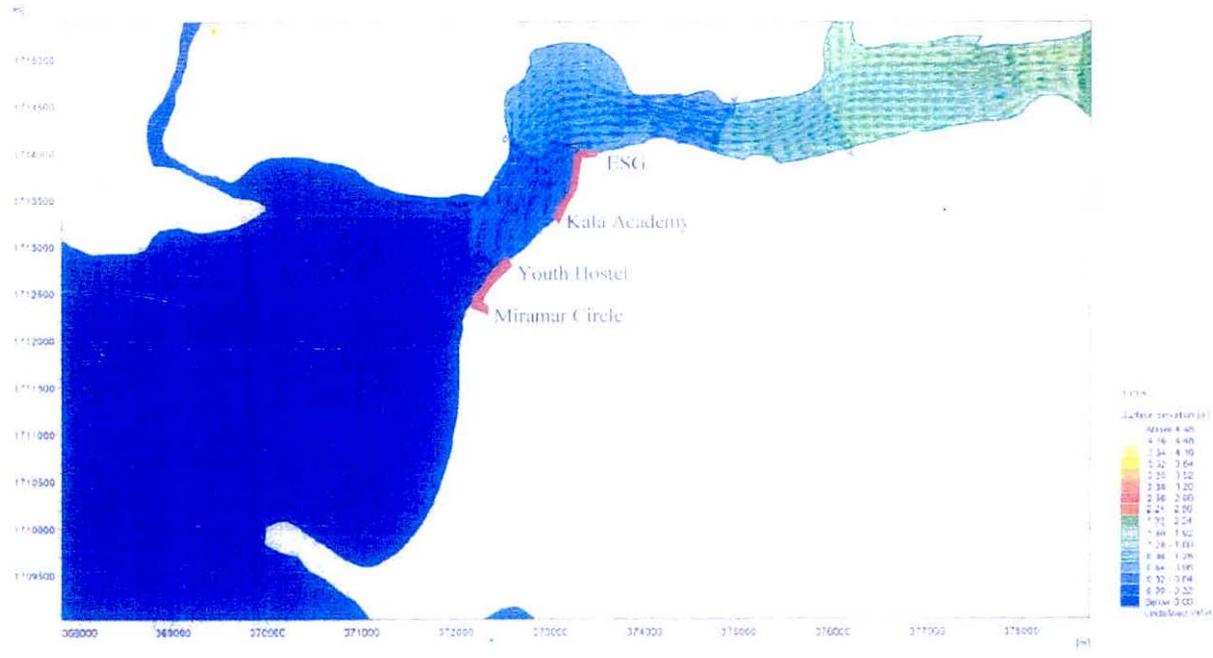


Figure 214: Flow Pattern during Low Water

The typical plots during high tide and low tide are further zoomed to examine current pattern from Miramar beach near Miramar Residency to Children’s park are shown in Fig. 22 to 23 and proposed coast for protection and restoration works are indicated in red. It can be observed that the flow is oblique to left bank upstream of Miramar beach. It could cause addition impact on the bank and can cause more erosion in this area. (A. K. Agrawal, 2020)

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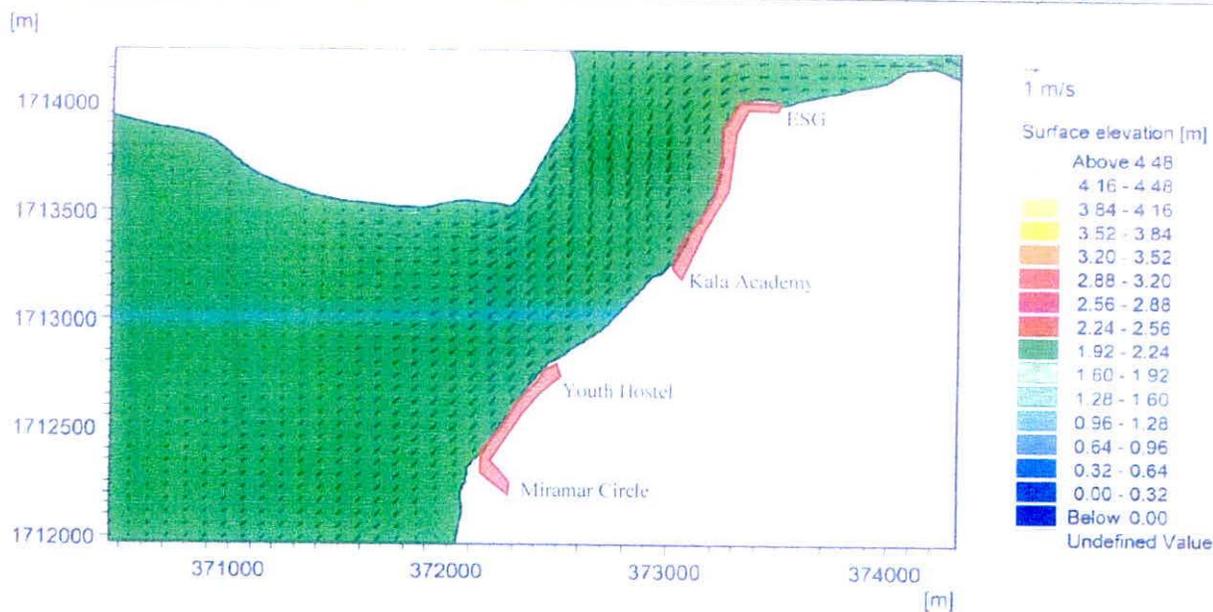


Figure 22: Flow Pattern during High Water

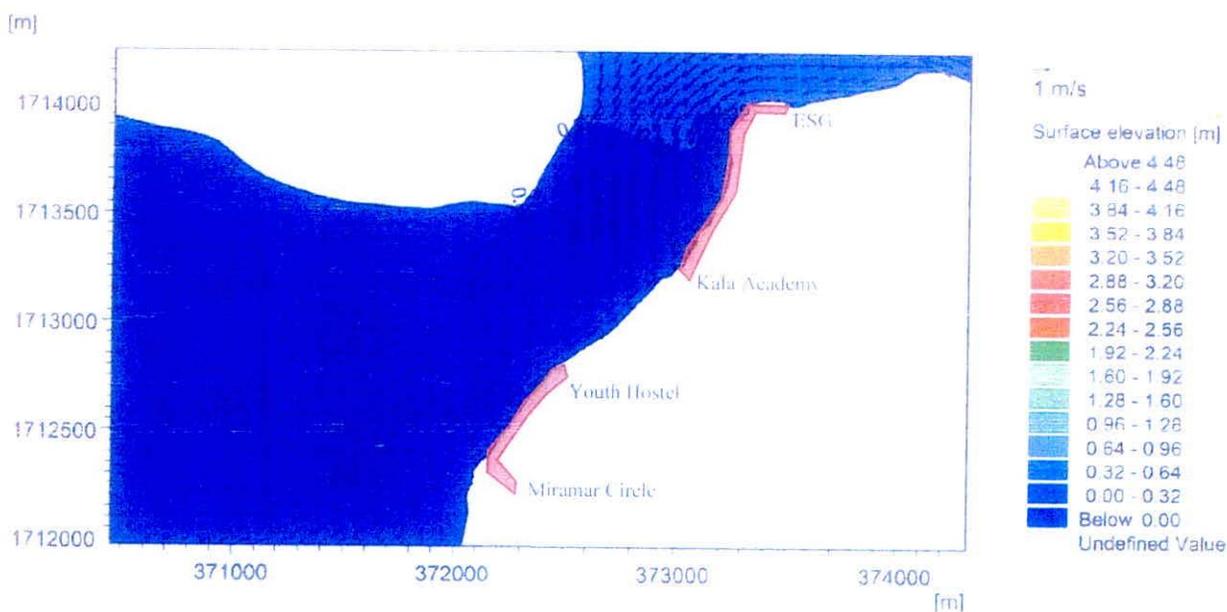


Figure 23: Flow Pattern during Low Water

3.5.2 Existing Condition sedimentation

CWPRS modelled the simulation for the existing condition using MIKE 21 MT software for peak river discharge in the rivers. Model was simulated during monsoon period and suspended sediment concentration values were adopted as per the prototype data available with CWPRS. Typical plot of sedimentation/erosion is shown in Fig. 24. It could be seen from figure that during high river discharge condition erosion takes place in the vicinity of hotel along the retaining wall. The erosion varies from 0.5 m to 1.2 m in the region. (A. K. Agrawal, 2020).

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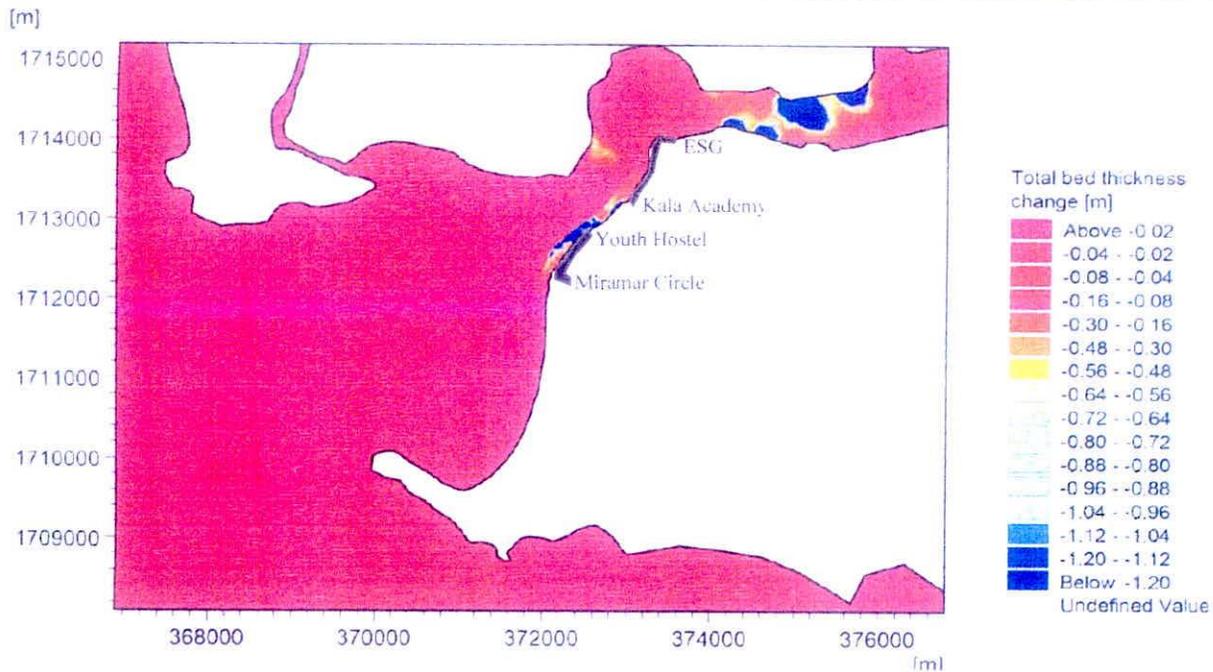


Figure 54: Sedimentation and Erosion

3.6 Inferences and Proposals

As per the studies conducted by CWPRS for WRD, it can be inferred that the high river discharges and waves and oblique flow towards left bank due to land outcrop at Reis Magos fort site (right bank site) play major important roles in erosion of bank. Lesser at ESG, children's park and increasing towards Miramar. Shifting of left bank would increase the curvature of river resulting in more erosion at left bank.

The existing retaining wall arrests the shifting of channel towards left bank, as such reducing the situation of erosion, as angle of oblique current would further increase if the wall is demolished and the wave forces would be borne by bank alone.

Therefore, **providing a continuous retaining wall along the coastline will reinforce and protect this river bank.**

Other observations that can be inferred is that during low tide magnitude of current is higher in river compared to during high tide, which is due to the fact that during low tide, level difference surface water is more. Also during peak river discharge, the existing retaining wall is in some parts are partially submerged due to which this wave does not break and attacks the vertical wall causing huge force on the wall and also overtop it. During low river discharge condition, breaking waves hit the retaining wall. These breaking waves have impact on both bed erosion and retaining wall thrust. Depending upon type of waves; breaking or non breaking, the thrust varies.

Therefore **providing rip rap along the retaining wall will decipate the wave energy or thrust, thus protecting the retaining wall from scour and erosion of coastline.**

3.7 Ecological Environment

Majority casuarina trees planted by Forest department to retain the soil can be found along the coastline. Other trees that found here are acasia, badam and cocunut trees.

Traces of *Ipomoea pes caprae* can be found growing on the surface of the beach stretches.

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4. ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The relationship between the three project phases (pre-construction, construction and post-construction & operation) and components and the environment established to identify anticipated environmental impacts are given below in table 1. General construction activities typical of a retaining wall and promenade construction have been considered. Each anticipated environmental impact was assessed for significance based in intensity, duration, and scope. Mitigation measures were identified to reduce the significant adverse impacts including residual effects.

Table 1: Stage wise construction activities

I. Pre-construction Stage	
a.	Site mobilization and erection of temporary facilities - land clearing, installation of construction trailers, electricity and other utility connections, perimeter fencing, establishment of storage areas, waste disposal, pre-fabricated components, installation of production equipment (concrete batching, casting), launch and assembly areas, temporary access roads etc.
b.	Relocation and protection of public utility infrastructure
II. Construction Stage	
a.	Land clearing which includes grass clearing, surface stripping, topsoil/sand/rubble storage, excavation, earthwork and other land preparation activities.
b.	Construction of infrastructure on land: 1) retaining wall 2) cycle track and pedestrian footpath 3) bridge 4) installation of precast concrete service trench 5) installation of structures etc.
c.	Management of construction wastes, excavated material and hazardous materials
d.	Transportation of construction materials from quarries and borrow areas
e.	Operation of construction camp sites having: batching plants, storage yards, stockpiles
III. Post -construction and Operation Stage	
a.	Deconstruction of structures: dismantling of steel and concrete structures, and crushing of debris
b.	Demobilization of work site like dismantling of all temporary facilities, restoration of storage and all other areas
c.	Maintenance works

The scale and scope of impact assessment is limited, it also allows a unique opportunity to integrate mitigation and enhancement principles in the design phase of the project to avoid and reduce adverse environmental impacts. The principle environmental impacts from the protection and restoration of coastline of Mandovi River from Miramar Circle to Youth Hostel and Kala Academy to ESG are as follows:

4.1 Physical Environment

Soil, ground and surface water, and ambient air quality. Soil and ground contamination from oil and lubricant spillage and measures must be implemented to immediately avoid the dispersion in the environment. Most of the construction activities will occur near the coast line along Mandovi River and measures and the control of suspended solid and other contaminants must be implemented. Movement of large volume of equipment; emissions from production equipment like cement batching, casting yard, and stone cutting & polishing, unpaved road travel will cause deterioration of the air quality. Measures must also be implemented to control greenhouse gas emissions from the construction activities in addition to national ambient air quality parameters. An emergency response plan will be prepared and implemented by the contractor to contain the harmful effects of accidents and malfunctions of construction equipment and machineries.

4.2 Biological Environment

The project site is known to serve as habitat for the common aquatic species such as fish, crabs, shrimps, clams, turtles, etc. and common birds. Tourist are attracted to these waters due to the boat rides for Dolphin site seeing. Fishing activities take place in the project influence area. Measures must be undertaken to ensure that construction activities and infrastructures do not lead to the reduction in their population. During construction and de-commissioning phases, temporary and permanent structures along the coastline, affect fish habitat, and other animals through disruption of normal activities, deterioration and loss of habitat.

4.3 Human Environment

The main impacts are noise. The surrounding sound environment will deteriorate from the construction operation. A noise management program will be implemented to comply with the GoI guideline. Withstanding all these anticipated impacts, the effects to the human environment are considered as not significant if the mitigation measures are implemented.

4.4 Ecological Environment

No trees will be cut for the construction of the retaining wall, the cycle track and pedestrain footpath. The cycling track will be aligned or bifurcated such that no trees are cut.

For trees to be retained within the footpath by ensuring land and root zones are not damaged open planters will be provided.

Natural excavated sand along the beach streethes will be used for back fill and compaction along with granitic boulders to encourage growth of local vegetation *Ipomoea pes-caprae*.

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5 SCOPE OF BASELINE STUDIES

For the present EIA study, the attributes of environment considered are:

- Air environment (Meteorology, ambient air quality, noise levels, traffic pattern and traffic density)
- Water environment (Hydrodynamic, sedimentation, etc)
- Land environment (Geology, Geo hydrology, land use, solid waste disposal, etc..)
- Biological environment (Flora, fauna, vegetation, ecosystem): and
- Socio economic environment (Demography, occupational structure, leisure, revenue generation etc.)

5.1 AMBIENT AIR QUALITY

Air pollution can cause significant effects on human beings, animals, vegetation and materials. Air environment monitoring covers the parameter for which national ambient air quality standards have been defined by the Ministry of Environment and Forests. Accordingly, parameters monitored were Suspended Particulate Matter (SPM), Respirable Suspended Particulate Matter (RSPM), Oxides of Nitrogen (NOx) and Sulphur dioxide (SO2).

Table 2: Results of ambient air quality

Parameters µg/m3	Mean value of the sampling sites	
	Location: Infront of old GSPCB premises, Panaji	Air Quality
PM 10	51	Satisfactory
PM 2.5	13	Satisfactory
SO2	2	Satisfactory
NOX	25	Satisfactory
AQI	51	Satisfactory

5.2 TESTING OF NOISE

Equivalent sound pressure level (Leq) the Leq is the equivalent continuous sound level, which is equivalent to the same sound energy as the actual fluctuating sound measured in the same period. This is necessary because sound from noise source often fluctuates widely during a given period of time.

This is calculated from the following equation:

$$Leq(hrly) = L50 + (L10 - L90)2/60$$

L day: is defined as the equivalent noise level measured over a period of time during day (6am to 10pm).

L night: is defined as the equivalent noise level measured over a period of time during night (10 pm to 6 am).

Table 3: Ambient noise standards

Category of area	Noise level dB(A)	
	Day time	Night time
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40

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28

5.2.1 Instrument used for monitoring

Sound Pressure Level (SPL) measurements were automatically recorded with the help of an Integrated Sound Level Meter to give the equivalent noise level for every hour continuously for 24 hours in a day. Industrialization has a direct bearing on the noise level of the environment pertaining to such activities. Noise beyond limits interferes with communication in the work spot form annoyance and health hazard. Impact of noise on the environment depends on various factors such as intensity, distance from source, time of exposure and nature, the type of activities etc. The most common and universally accepted scale is the A weighted Scale which is measured as dB (A). This is more suitable for audible range of 20 to 20,000 Hz. The scale has been designed to weigh various components of noise according to the response of a human ear. The impact of noise sources on surrounding community depends on characteristics of noise sources (instantaneous, intermittent or continuous in nature). It can be observed that steady noise is not as annoying as one, which is continuously varying in loudness. The time of day at which noise occurs, for example high noise levels at night in residential areas are not acceptable because it acts as a disturbance to sleep; and the location of the noise source, with respect to noise sensitive land use which determines the loudness and period of exposure. The Environmental Impact of noise can have several effects varying from Noise Induced Hearing Loss (NIHL) to annoyance depending on loudness of noise. The impact of noise from the proposed project can be undertaken by considering various factors like potential damage to hearing, physiological responses, annoyance and general community responses. The noise survey has been conducted at the same locations where data on air quality was collected. Noise monitoring has been undertaken for 24 hrs. The main objective of noise monitoring in the study area is to establish the baseline noise levels and assess the impact of the total noise generated by the operation of the proposed project activities around it.

5.3 WATER QUALITY

Water is a vital commodity for the survival of vegetation, animals and human beings and for the proper balance of the eco-system itself. As such, any adverse impact on water quality due to the industrial activity will have serious consequences on the environment. Hence it is imperative to study the water quality of the regime likely to be influenced by public activities. Effects can be represented by quantity and quality changes, these changes can in turn, have aquatic faunal or floral species and aquatic species systems implication.

Table 4: water quality standards

Parameters	Units	SI: River Mandovi Near Hotel Marriott	Standards
pH	-	7.81	6.5-8.5
Dissolved Oxygen	Mg/l	6.4	4
BOD	Mg/l	BDL	3
Fecal Coliform	MPN/100ml	170	100 or less
Total Alkalinity	Mg/l	50	290

Source: NAMP Annual data 2020-21, GISPCB

6 CONCLUSION

The site is influenced by waves, tide and large river discharge conditions. River discharges and waves play an important role in erosion of bank along the site. This stretch is prone to erosion. Other major cause of erosion at the left bank is bending of river which is result of a large land outcrop towards Reis Magos fort site (right bank site) and flow gets deviated towards the left bank, which can also be correlated with the number of protective/anti-erosion works implemented by the state since 1978 all along the left bank.

In light of the technical, institutional measures recommended it is expected that the project will avoid severe, permanent and regional impacts. There will be no net loss in biodiversity. Tremendous social and economic benefits will be generated in Panaji by the development of promenade creating the reliable, sustainable and safe public activities.

BIBLIOGRAPHY

A. K. Agrawal, (2020). *Mathematical Model studies on Hydrodynamics and sedimentation for demolition of Retaining Wall at Marriot Hotel, Goa*. Department of Water Resources, River Development and Ganga Rejuvenation, Central Water & Power Research Station Khadakwasla, Pune.

DESCRIPTION OF MODULES OF MODEL MIKE-21

In the present study, 2-Dimensional hydrodynamic model MIKE 21 HD and mud transport Model, MIKE 21 MT have been used to simulate the flow field and sediment transport in the existing and the proposed scenario under prevailing tidal and wave conditions. Brief description of scientific background of MIKE 21 HD model and MIKE 21 MT model is given in following paragraphs as below.

1.1 MIKE 21HD Module

In order to simulate dynamics of cohesive sediment, it is necessary to initially compute the hydrodynamics of water body in terms of velocity and water level fluctuations. Appropriate governing equations for hydrodynamics in tidal areas are given by the shallow water wave equations. These two dimensional shallow water equations are derived from Navier Stokes equations of motion with the simplified assumptions. MIKE 21 Flow Model FM is based on a flexible mesh approach and it has been developed for applications within oceanographic, coastal and estuarine environments. The modelling system may also be applied for studies of overland flooding. The system is based on the numerical solution of the two- dimensional incompressible Reynolds averaged Navier-Stokes equations invoking the assumptions of Boussinesq and of hydrostatic pressure. The spatial discretization of the primitive equations is performed using a cell-centred finite volume method. The spatial domain is discretized by subdivision of the continuum into non-overlapping elements/cells. In the horizontal plane an unstructured grid is used while in the vertical domain in the 3D model a structured mesh is used. In the 2D model, the elements can be triangles or quadrilateral elements. The spatial discretization of the primitive equations is performed using a cell-centered finite volume method. The basic equations are derived from conservation equation for spectral wave action density, and are represented as under:

$$\frac{\partial(C_{gx}m_0)}{\partial x} + \frac{\partial(C_{gy}m_0)}{\partial y} + \frac{\partial(C_\theta m_0)}{\partial \theta} = S_0 \quad (4)$$

$$\frac{\partial(C_{gx}m_1)}{\partial x} + \frac{\partial(C_{gy}m_1)}{\partial y} + \frac{\partial(C_\theta m_1)}{\partial \theta} = S_1 \quad (5)$$

Where,

- $m_0(x,y, \theta)$: Zeroth moment of the action spectrum (m^2)
- $m_1(x,y, \theta)$: First moment of the action spectrum ($m^2 \cdot s$)
- C_{gx}, C_{gy} : Components in the x and y direction of the group velocity (c_g), (m/s)
- c : propagation speed representing the change of action in the θ dir. (m/s)
- θ : direction of the wave propagation (degree)
- S_0, S_1 : source terms ($m^2, m^2/s$)

The moments $m_n(\theta)$ are defined

$$m_n(\theta) = \int_0^\infty \omega^n \Lambda(\omega, \theta) d\omega$$

where, ω is the absolute frequency (S^{-1}), and Λ is the spectral wave action density ($m^2 \cdot s$). The propagation speed c_{gx}, c_{gy} and c are obtained using linear wave theory.

The left hand side of the basic equations takes into account the effect of refraction and shoaling. The source terms S_0 and S_1 take into account the effect of local wind generation and energy dissipation due to bottom

friction and wave breaking. The effects on current on these phenomena are included.

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The spatial discretisation of the basic partial differential equations is performed using Eulerian finite difference technique. The zeroth and the first moment of the action spectrum are calculated on a rectangular grid for a number of discrete directions. In the X-direction, linear forward differencing is applied while in both the Y and \square directions it is possible to choose between linear up-winded differencing, central differencing and quadratic up-winded differencing. The best results are usually obtained using linear up-winded differencing in both the Y and \square directions. The non-linear algebraic equation system resulting from the spatial discretisation is solved using a once-through marching procedure in the X-direction (the predominant direction of wave propagation) restricting the angle between the direction of wave propagation and the X-axis to be less than 90° .

The discretization in geographical and spectral space is performed using a cell-centred finite volume method. In the geographical domain, an unstructured mesh is used. The spatial domain is discretized by subdivision of the continuum into non-overlapping elements.

The sediment transport (MIKE-21 MT) formulations are built into the advection-dispersion module, MIKE 21 AD, which solves advection-dispersion equation:

$$\frac{\partial c}{\partial t} + u \frac{\partial c}{\partial x} + v \frac{\partial c}{\partial y} = \frac{1}{h} \frac{\partial}{\partial x} \left(h D_x \frac{\partial c}{\partial x} \right) + \frac{1}{h} \frac{\partial}{\partial y} \left(h D_y \frac{\partial c}{\partial y} \right) + Q_L C_L \frac{1}{h} - S \quad (6)$$

The following symbols are used in the equation:

- c : compound concentration (arbitrary units)
- u,v : horizontal velocity components in x, y directions (m/s)
- h : water depth (m)
- D_x, D_y : dispersion coefficients in the x,y directions (m^2/s)
- S : accretion/erosion term ($kg/m^3/s$)
- Q_L : source discharge per unit horizontal area ($m^2/s/m^2$)
- C_L : concentration of source discharge (kg/m^3)

The advection-dispersion equation is solved using an explicit, third-order finite differences scheme, known as the ULTIMATE scheme.

1.2 MIKE 21 MT Module

The sediment transport studies were carried out using MIKE 21 MT model. This model simultaneously solves hydrodynamic and sediment transport equations. The calibration of sediment transport model is difficult because morphological changes are too slow and temporal bed changes are too variable to measure anything significant for comparison. The sediment fluxes at various locations may differ and the following factors contribute for these variations:

- Unsteadiness of flow,
- Mixtures of sediment in suspension,
- Variability of supply of mobile sediment on the bed,
 - Presence of sandy (non-cohesive) sediment,
 - Omission of depth variation,

Effect of wave stirring.

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The erosion, transport and deposition of silt, mud and clay particles under action of currents and waves can be best described by the multi-layers mode of the mud transport module of MIKE 21. The sediment transport module is dynamically coupled with the 2-dimensional hydrodynamic module, MIKE 21 HD. The module solves the primitive equations in two dimensions using finite difference methods by Alternating Direction Implicit technique and the Double Sweep algorithm. Following are the relationships used in the module.

The sediment transport formulations are built into the advection-dispersion module, MIKE 21AD, which solves advection-dispersion equation:

$$\frac{\partial c}{\partial t} + u \frac{\partial c}{\partial x} + v \frac{\partial c}{\partial y} = \frac{1}{h} \frac{\partial}{\partial x} \left[h D_x \frac{\partial c}{\partial x} \right] + \frac{1}{h} \frac{\partial}{\partial y} \left[h D_y \frac{\partial c}{\partial y} \right] + Q_t C_t \frac{1}{h} - S \quad (6)$$

The following symbols are used in the equation:

- c : compound concentration (arbitrary units)
- u, v : horizontal velocity components in x, y directions (m/s)
- h : water depth (m)
- D_x, D_y : dispersion coefficients in the x, y directions (m^2/s)
- S : accretion/erosion term ($kg \cdot m^{-3} \cdot s^{-1}$)
- Q_t : source discharge per unit horizontal area ($m^3 \cdot s^{-1} \cdot m^{-2}$)
- C_t : concentration of source discharge ($kg \cdot m^{-3}$)

The advection-dispersion equation is solved using an explicit, third-order finite difference scheme, and known as the ULTIMATE scheme.

ANNEXURE B

Wave Transformation Studies at Hotel Marriott

A. K. Agrawal. (2020). *Mathematical Model studies on Hydrodynamics and sedimentation for demolition of Retaining Wall at Marriot Hotel, Goa.*

Details of retaining wall at six sections at Hotel Marriott are shown the below figure. The thickness of wall is 50 cm and its top levels are varying at different sections. The water levels at different tidal levels are marked in the figure. During peak river discharge, the retaining wall is partially submerged due to which this wave does not break and attacks the vertical wall causing huge force on the wall and also overtop it. During low river discharge condition, breaking waves hit the retaining wall. These breaking waves have impact on both bed erosion and retaining wall trust. Depending upon type of waves; breaking or non breaking, the thrust varies. (A. K. Agrawal, 2020).

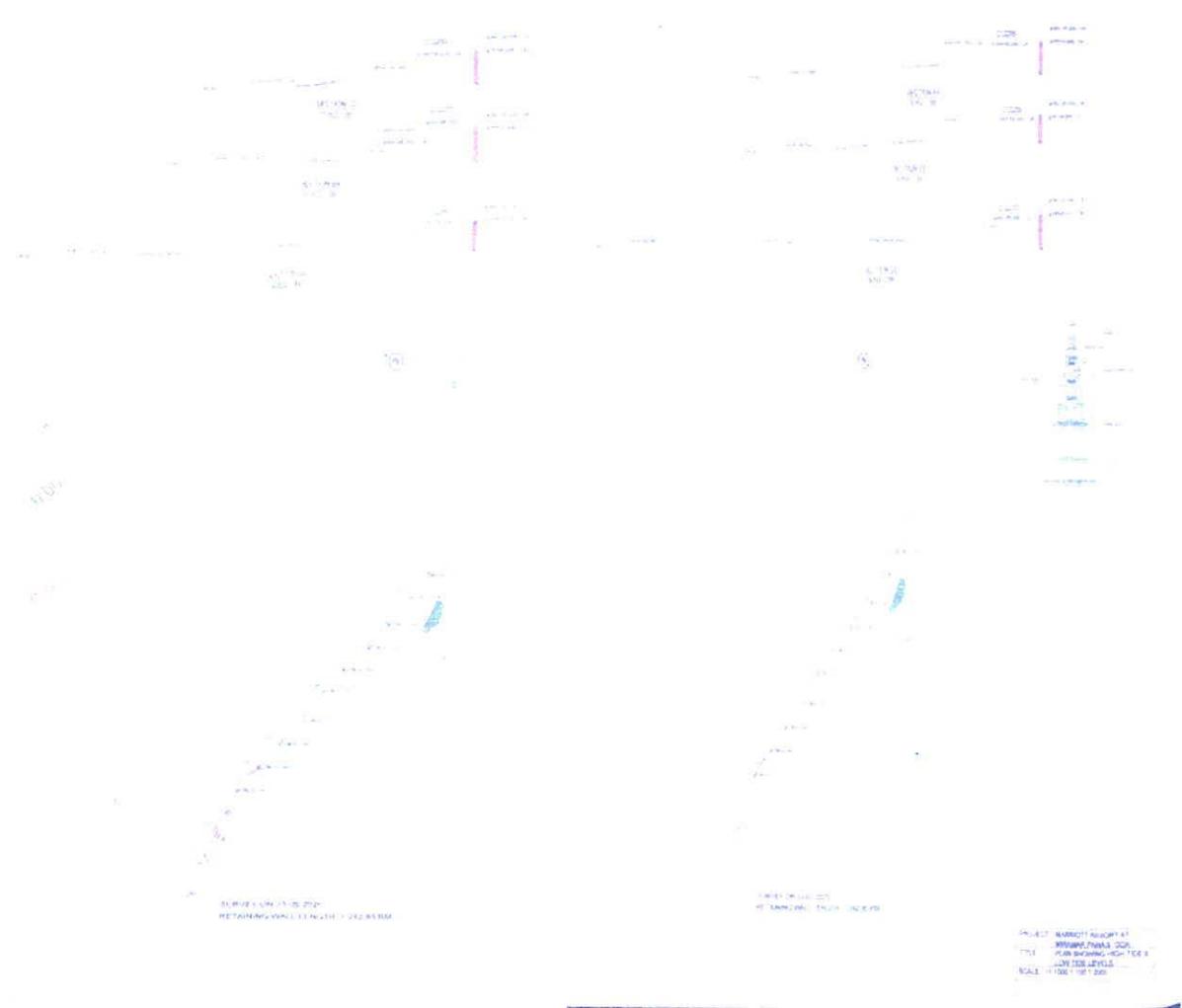
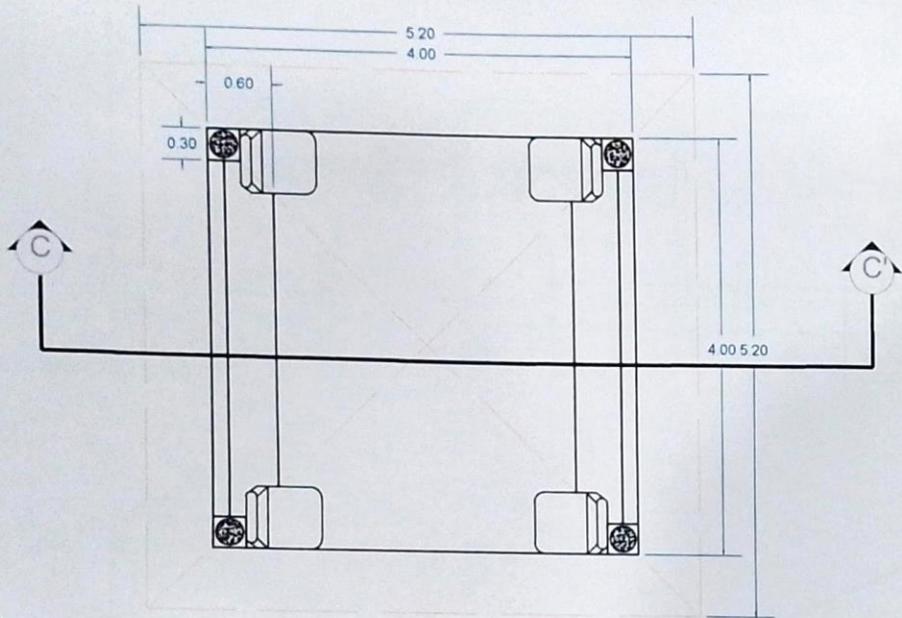
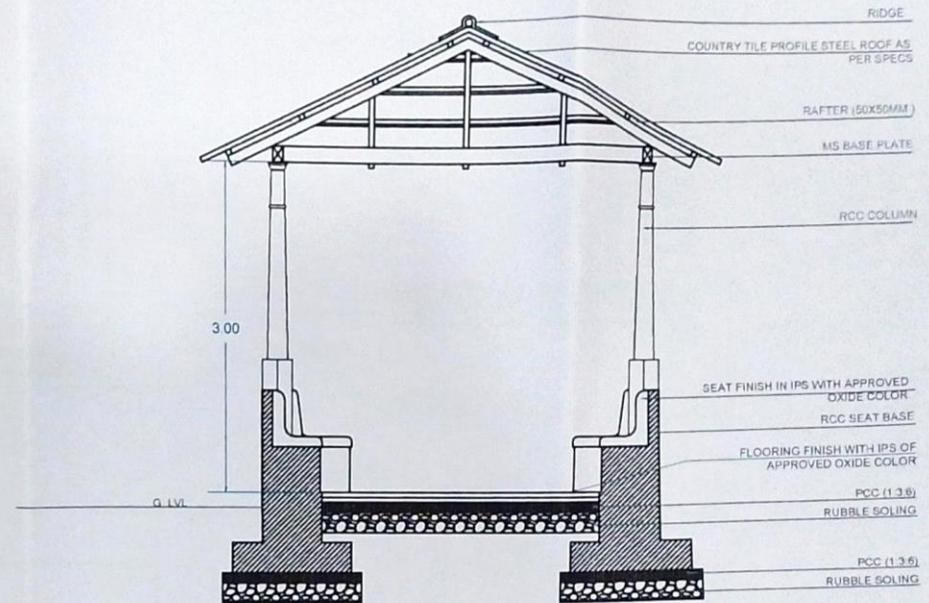


Figure: Plan showing High, Low Tide Levels and Top Level of Wall at Marriott Hotel



TYPICAL BALCAO LAYOUT



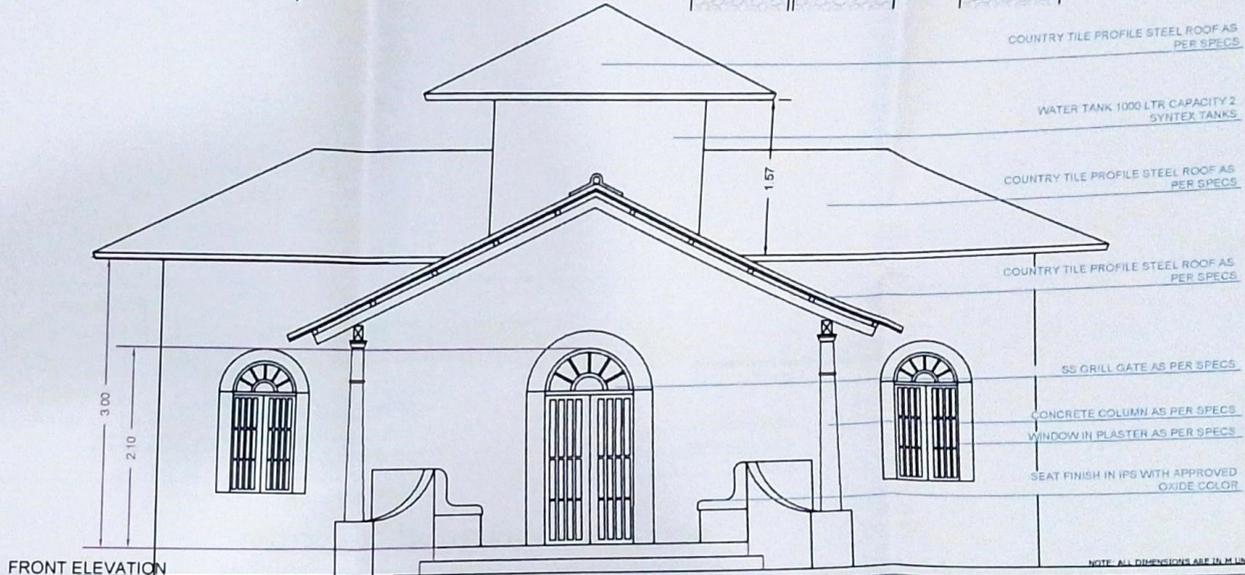
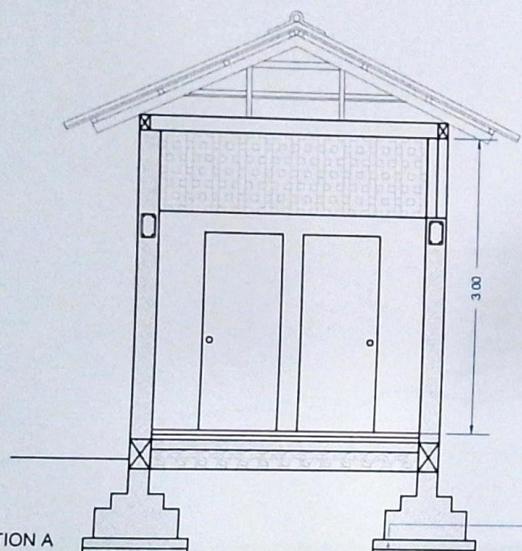
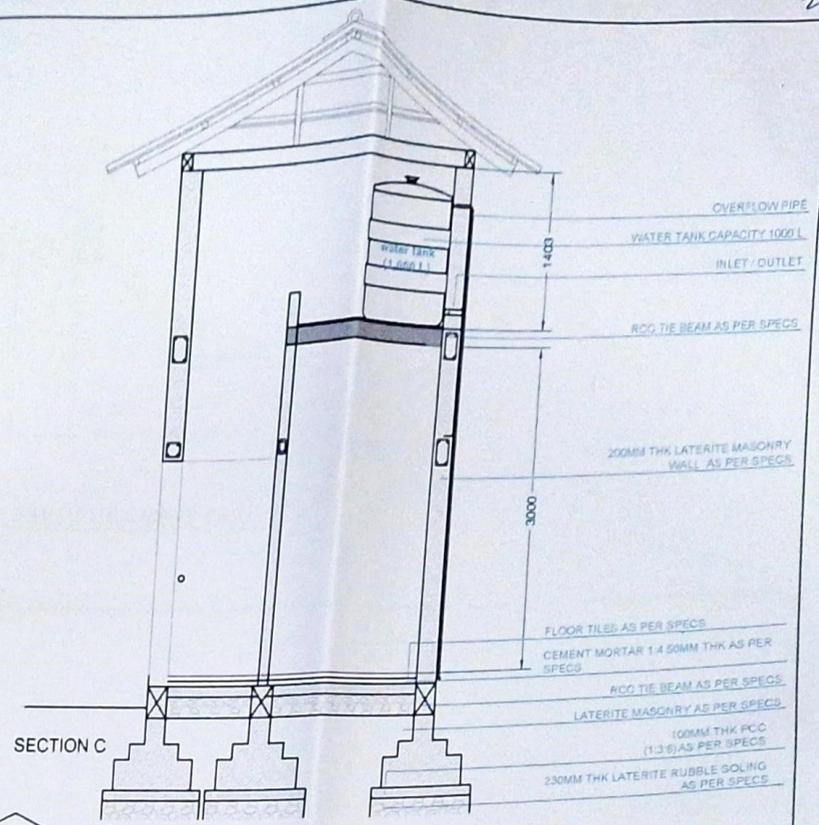
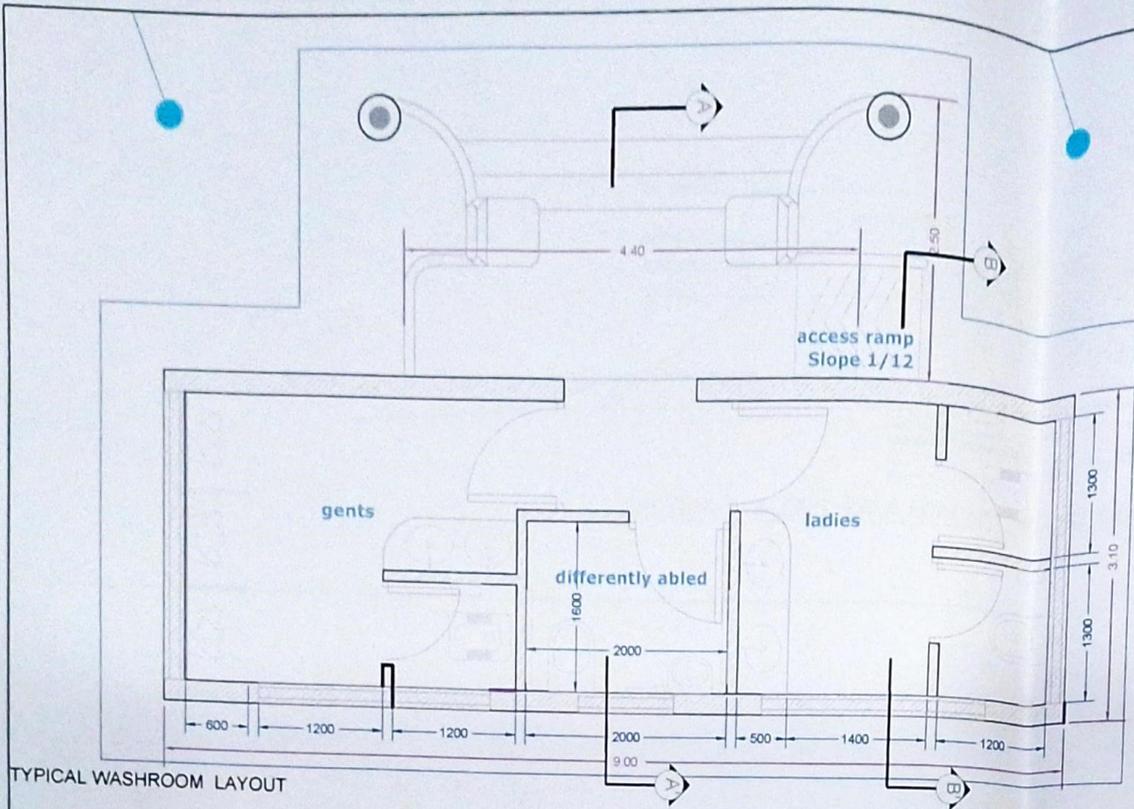
SECTION CC'



NOTE: ALL DIMENSIONS ARE IN M UNLESS OTHERWISE SPECIFIED

 <p>PROMOTER GOA STATE INFRASTRUCTURE DEVELOPMENT CORPORATION</p>	<p>CLIENT IMAGINE PANAJI SMART CITY DEVELOPMENT LIMITED (IPSCDL) Smart City</p>	<p>PROJECT PROTECTION AND RESTORATION OF MANDOVI RIVER COASTLINE FROM MIRAMAR CIRCLE TO YOUTH HOSTEL AND FROM KALA ACADEMY TO ESG</p>	<p>DATE DEC 2021</p>	<p>TITLE TYPICAL BALCAO DETAILS</p>	<p>DRAWING NUMBER AD-CRZ-7</p>	<p>DEALT BY NIMISHA</p>	<p>Parag Office 2/A, 23/18, Second Floor, Bunk No. 3, Near Raj Market, Panaji 403002, Goa. Ph: +918278866429 2270000@paragoffice.com</p>
			<p>SCALE 1:100</p>		<p>SHEET 01 of 01</p>	<p>CREED BY GAYLE</p>	

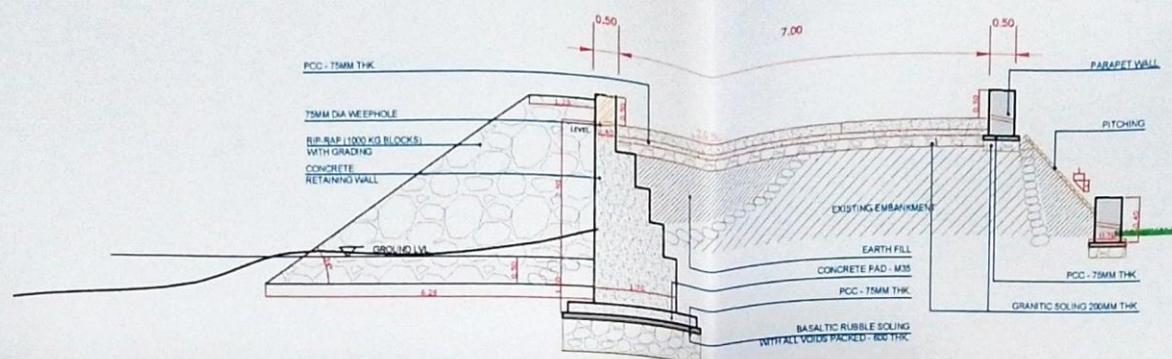




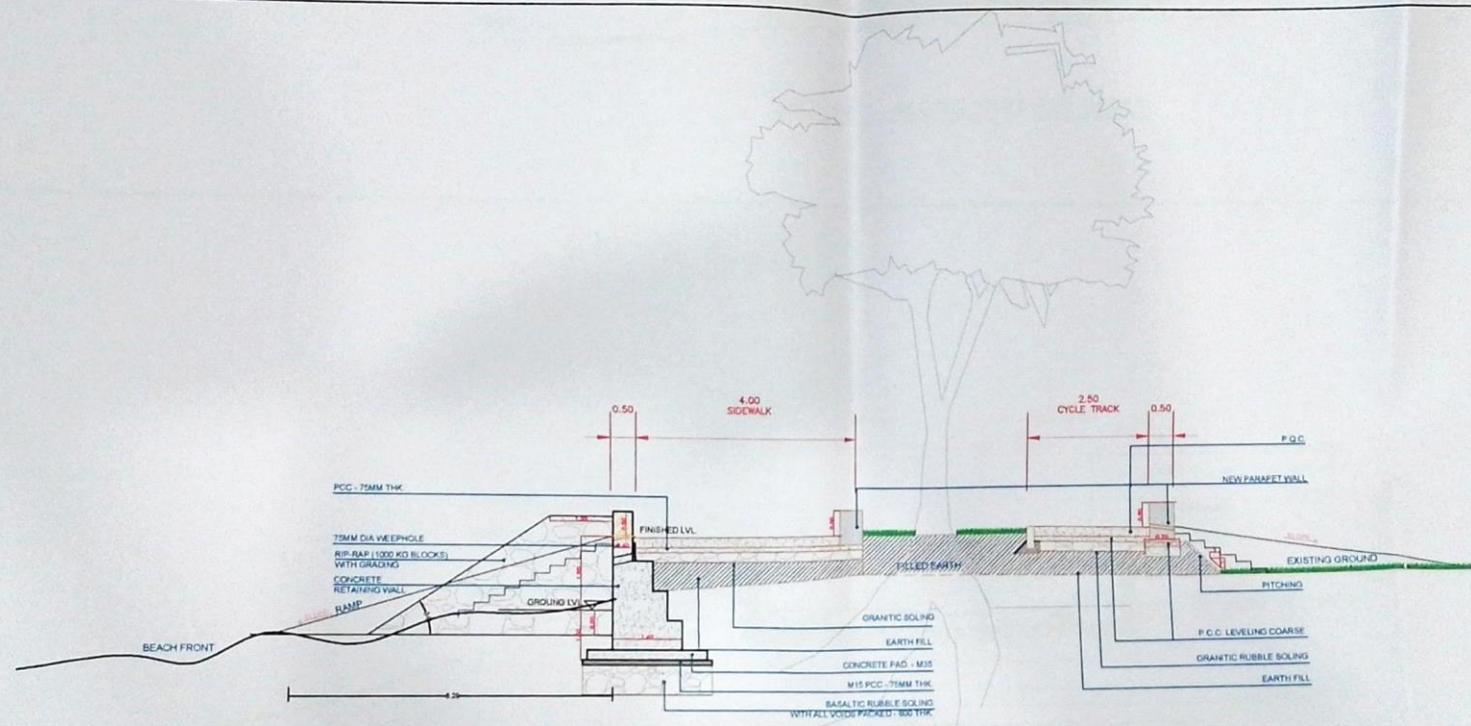
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- WATER TANK 1000 LTR CAPACITY 2 SYNTEX TANKS
- COUNTRY TILE PROFILE STEEL ROOF AS PER SPECS
- COUNTRY TILE PROFILE STEEL ROOF AS PER SPECS
- SS GRILL GATE AS PER SPECS
- CONCRETE COLUMN AS PER SPECS
- WINDOW IN PLASTER AS PER SPECS
- SEAT FINISH IN IPS WITH APPROVED OXIDE COLOR



<p>PROMOTED GOA STATE INFRASTRUCTURE DEVELOPMENT CORPORATION</p>	<p>CLIENT IMAGINE PANAJI SMART CITY DEVELOPMENT LIMITED (IPSCDL) Smart City</p>	<p>PROJECT PROTECTION AND RESTORATION OF MANDOVI RIVER COASTLINE FROM MIRAMAR CIRCLE TO YOUTH HOSTEL AND FROM KALA ACADEMY TO ESG</p>	<p>AUTH DEC 2021</p>	<p>TITLE TYPICAL WASHROOM DETAILS</p>	<p>DRAWING NUMBER AD-CRZ-6</p>	<p>DEALT BY SHIPRA</p>	<p>PROJECT OFFICE C/A, 232/B, Second Floor, Block No. 3, Airport Road, Panaji-403003 Tel: +91937096429 www.goaipc.com</p>
			<p>SCALE 1:100</p>		<p>SHEET 01 of 01</p>	<p>CHECKED BY GAYLE</p>	



SECTION 3- ALONG KALA ACADEMY, FOREST DEPARTMENT/ PART CHILDRENS PARK



SECTION 4- ALONG CHILDREN PARK TILL ESG

NOTE: ALL DIMENSIONS ARE IN M UNLESS OTHERWISE SPECIFIED



PROMOTER
GOA STATE INFRASTRUCTURE DEVELOPMENT CORPORATION



CLIENT
IMAGINE PANAJI SMART CITY DEVELOPMENT LIMITED (IPSCDL)

PROJECT
PROTECTION AND RESTORATION OF MANDOVI RIVER COASTLINE FROM MIRAMAR CIRCLE TO YOUTH HOSTEL AND FROM KALA ACADEMY TO ESG

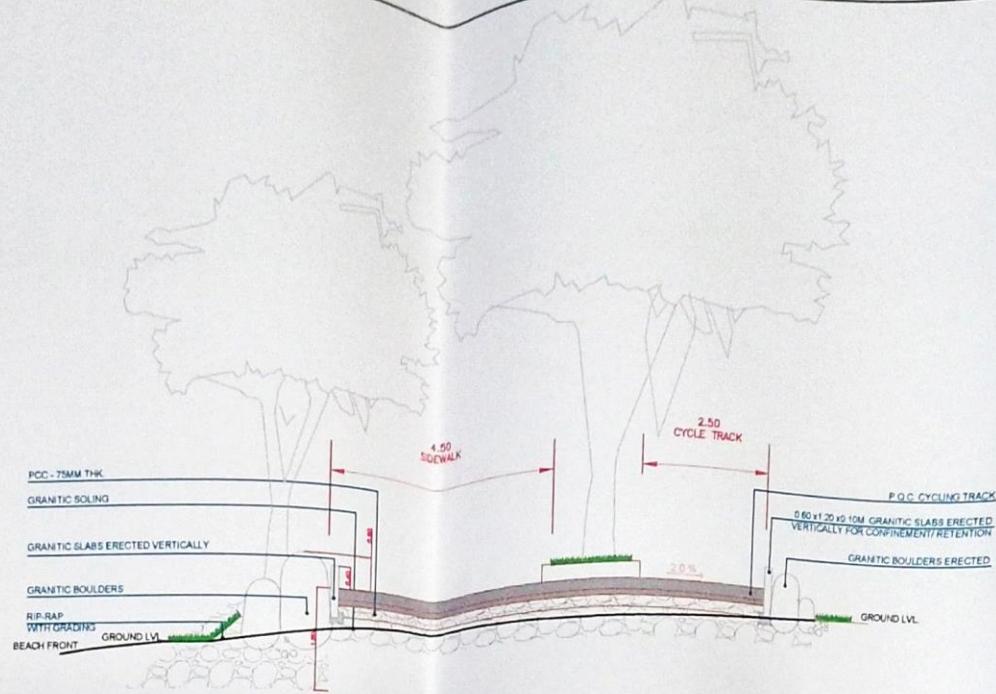
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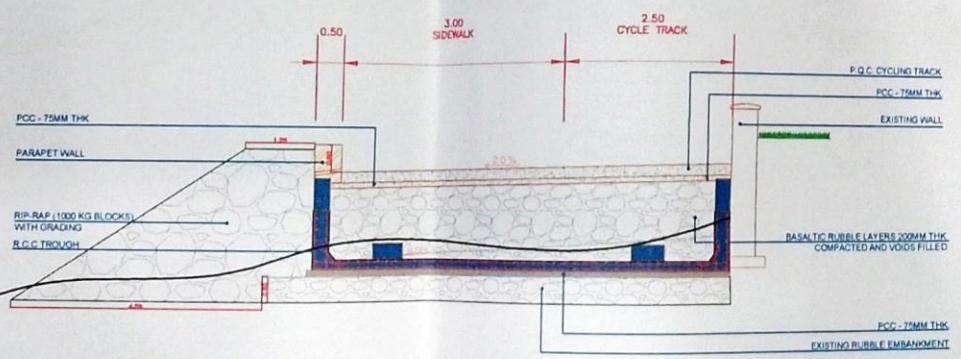
DRAWING NUMBER
AD-CRZ-5
DATE
01/02
CREATED BY
ROGER H.

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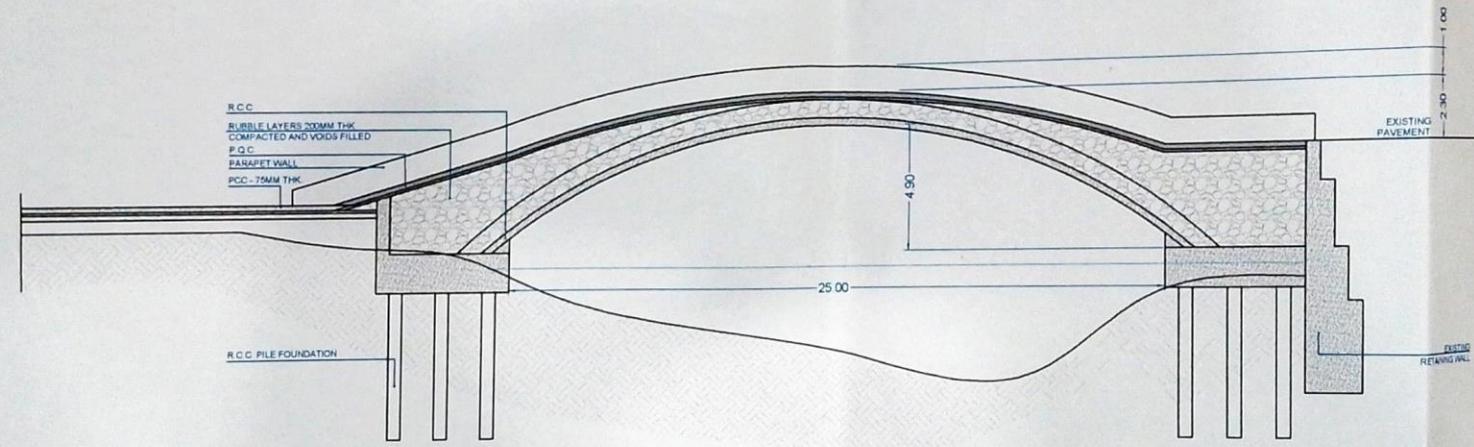
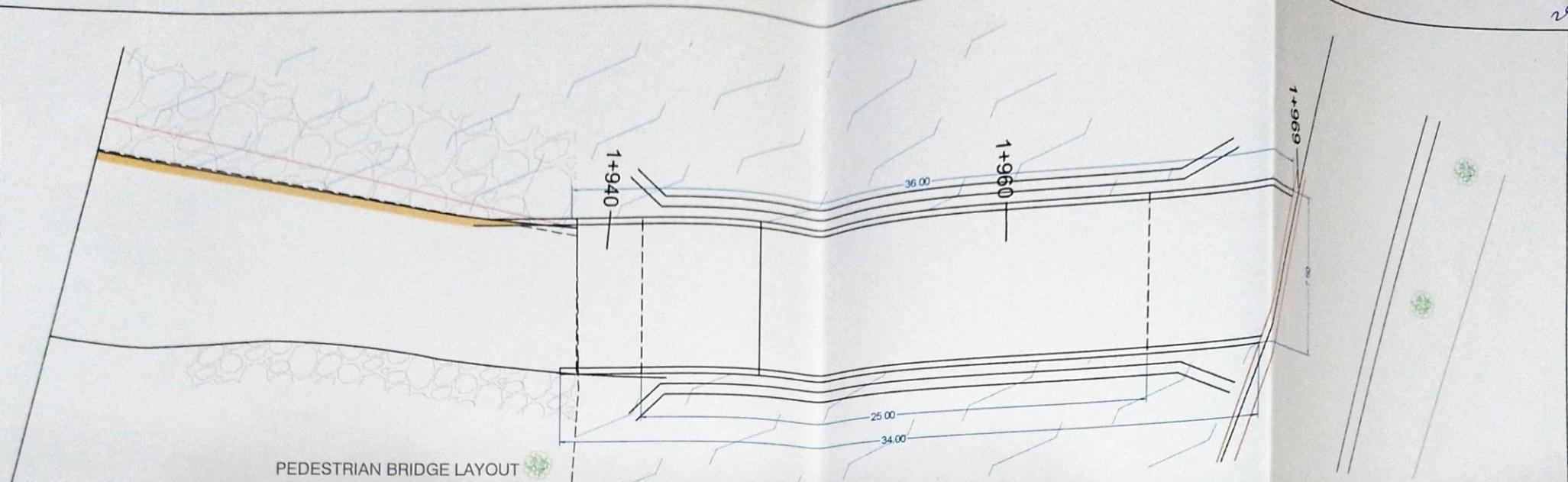
SECTION 1 - ALONG MIRAMAR BEACH



SECTION 2 - ALONG MARRIOTT AND YOUTH HOSTEL

NOTE: ALL DIMENSIONS ARE IN M UNLESS OTHERWISE SPECIFIED

	<p>PROMOTER GOA STATE INFRASTRUCTURE DEVELOPMENT CORPORATION</p>	<p>CLIENT Smart City MISSION TO REIMAGINE A CITY</p>	<p>IMAGINE PANAJI SMART CITY DEVELOPMENT LIMITED (IPSCDL)</p>	<p>PROJECT PROTECTION AND RESTORATION OF MANDOVI RIVER COASTLINE FROM MIRAMAR CIRCLE TO YOUTH HOSTEL AND FROM KALA ACADEMY TO ESG</p>	<p>DATE DEC 2021 SCALE 1:100</p>	<p>TITLE TYPICAL SECTION 1 & SECTION 2</p>	<p>DRAWING NUMBER AD-CRZ-4</p>	<p>DRAWN BY CHECK BY ROGER H.</p>	<p>Panaji Office C/A - 233B, Second Floor, Block No. 3, Near Raj Nagar Main Panaji 403001 Tel: +918378966429 panaji@lksindia.com</p> <p>LKS INDIA PRIVATE LTD. "VAJRA BUSINESS CENTER" C Tower Level 5, Suite No-3 Tech Park-1, Airport Road Tumkur, KARNATAKA - 575008 India panaji@lksindia.com</p>		<p>LKS www.lks-global.com</p>
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 <p>PROMOTER GOA STATE INFRASTRUCTURE DEVELOPMENT CORPORATION</p>	<p>CLIENT IMAGINE PANAJI SMART CITY DEVELOPMENT LIMITED (IPSCDL) Smart City MIRAMAR TRUST (IPSCDL)</p>	<p>PROJECT PROTECTION AND RESTORATION OF MANDOVI RIVER COASTLINE FROM MIRAMAR CIRCLE TO YOUTH HOSTEL AND FROM KALA ACADEMY TO ESG</p>	<p>DATE DEC 2021</p>	<p>TITLE PEDESTRIAN BRIDGE DETAILS</p>	<p>DRAWING NUMBER AD-CRZ-8</p>	<p>DESIGN BY ROGER H.</p>	<p>Head Office LKS INDIA Private Limited Plot No. 2, Miramir Nagar (B-1) Panaji 403001 TEL: +91 22 26064429 www.lksindia.com</p> <p>LKS INDIA Private Limited "Global Infrastructure Catalyst" C-10, Sector 10, Gurgaon Haryana - 122009 India www.lks-global.com</p>
			<p>SCALE 1:100</p>		<p>SHEET 01 OF 01</p>		

Rec on 20/6/22

Exhibit C copy

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GOA COASTAL ZONE MANAGEMENT AUTHORITY

C/o Department Environment (Govt. of Goa)
4th floor, Dempo Tower, Patto Plaza,
Panaji Goa-403 001

Website: www.czma.goa.gov.in

na huanan

29/6/22

Ref. No. GCZMA/N/21-22/89/199

Date: 28/04/2022

9/4/20

To,
The Managing Director,
Goa State Infrastructure Development Corporation Limited,
7th Floor, EDC House,
Dr. A.B. Road,
Panaji-Goa.

3493
21/6/22

Shi chunq am 21/06/22

Sub: NOC for Protection & Restoration of Mandovi River Coastline from Miramar Circle to Youth Hostel and from Kala Academy to ESG.

Ref.:- Your application no. No.GSIDC/Engg/Works/1485/6054 dated 27/01/2022.

Sir/Madam,

With reference to your application on the above mentioned subject, it is hereby conveyed that the Goa Coastal Zone Management Authority (GCZMA) has examined your aforementioned proposal in the 299th GCZMA Meeting held on 19/04/2022 in accordance to the provisions of the para 8 of the CRZ Notification 2011, (as amended). As such the Authority after discussion and deliberation decided to issue NOC for Protection & Restoration of Mandovi River Coastline from Miramar Circle to Youth Hostel and from Kala Academy to ESG, further subject to the confirmation with local building bye laws.

This permission is further subject to compliance of the following conditions:

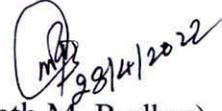
1. All the provisions of the CRZ Notification, 2011 as amended should be strictly complied with. In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the GCZMA.
2. This NOC/ Approval is issued without prejudice to any other permission as required under the law including that of ownership of house, court case etc. As such, prior to the commencement of the aforementioned 'Protection & Restoration, work, it will be incumbent upon the applicant to obtain permission for any other authority as required under the law including from the local authority, Town and Country Planning Department, Revenue Authority, Water Resource Department etc.
3. Traditional access/easement shall not be blocked.

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-2-

4. The applicant/occupier should ensure that no waste is discharged into the nearest water body from the proposed construction activities.
5. This permission/NOC shall be valid for the period of 5 years from the date of issue. 9/19
6. This permission is liable to be revoked, if it is found, at any stage, that the application contained false information/wrong plans/ calculations/ documents/ misleading or false information, etc. or account of violation of aforementioned conditions.

Yours faithfully,



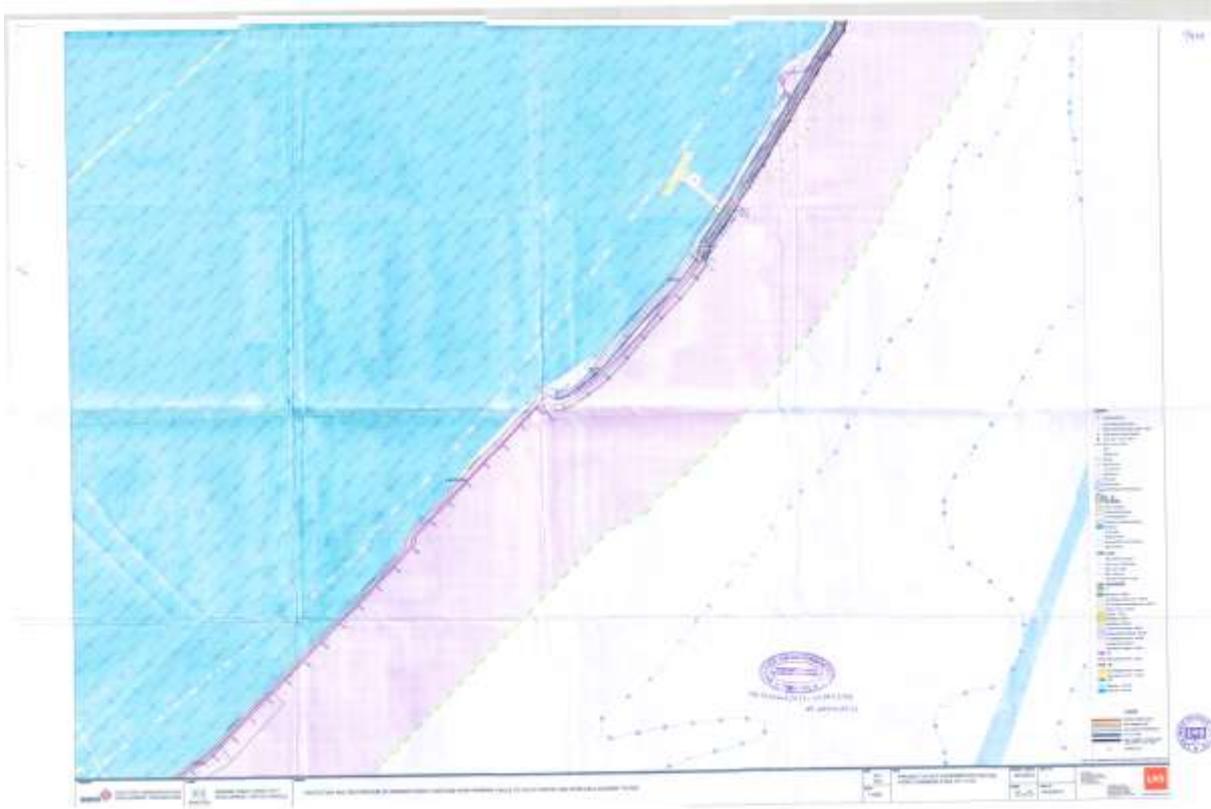
(Dasharath M. Redkar)

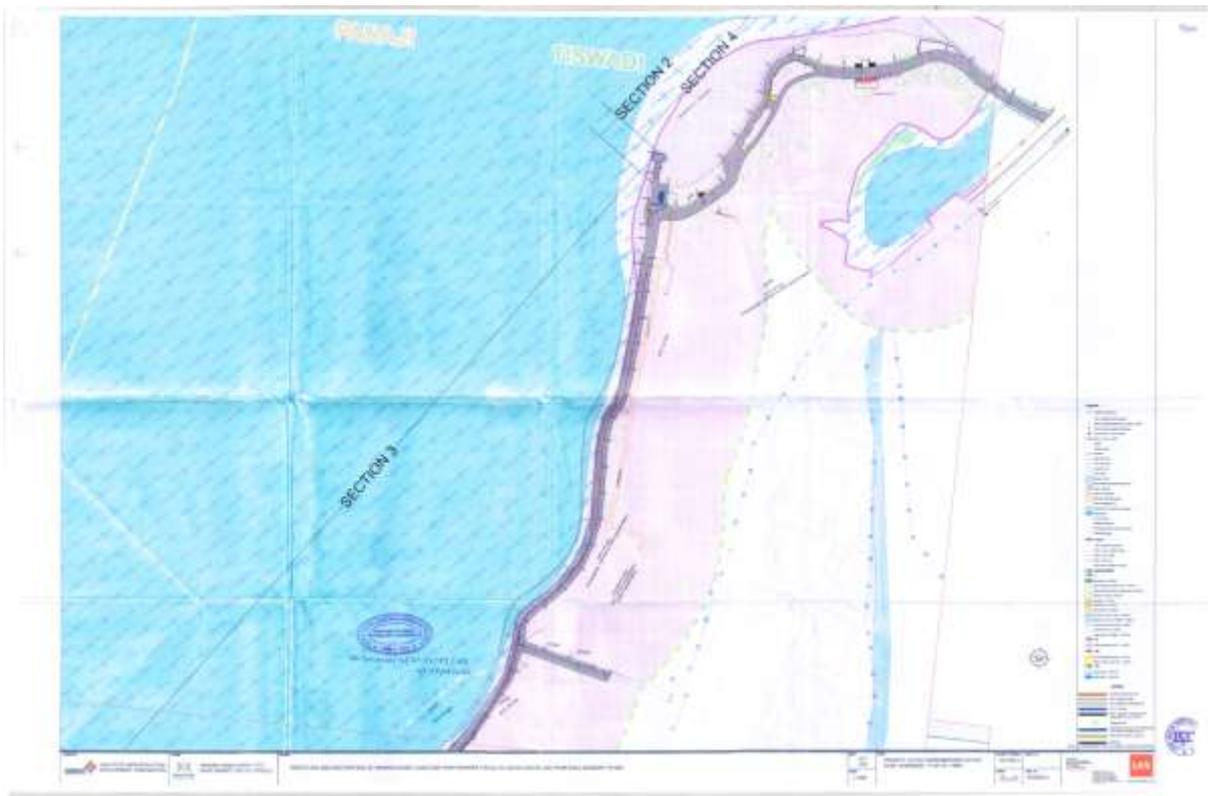
Member Secretary (GCZMA)

Encl: As above

Copy to:

1. **P.A to Secretary (Environment) / Chairman (GCZMA), Secretariat, Porvorim.....for kind information.**
2. **The Member Secretary, North Goa Planning and Development Authority (NGPDA), Patto, Panaji-Goa.....for information and necessary action.**
3. **The Deputy Collector & S.D.O. (Tiswadi), Panaji –Goa.....for information and necessary action.**
4. **The Commissioner, Corporation of the City of Panaji, Panaji-Goa.....for information and necessary action.**







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www.lks-global.com
CIN-U64900PN2010FTC144418

REGISTERED OFFICE:-
"Vatika Business Center",
C-Tower Level 5, Suite No-3
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Email : pune@krean.com

BRANCH OFFICE:-
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Block NO.3 Neugi Nagar Mala
Panaji 403001
Tel: +918378966429
admingoa@lksgroup.com

Ames Jays

LKS/GSIDC/MANDОВI PROMENADE/2023/100

Date: 23-03-2023

✓ To,
Goa state Infrastructure Development Corporation Limited.
7th floor, EDC House,
Dr. Atmaram Borkar road,
Panaji, Goa -403001.

Inward No ... 15422
Date : ... 27/3/23
GSIDC LIMITED

Kind Attn: Mr. Sandip Chodnekar (Engg. General Manager)

Project: Protection and Restoration of Mandovi River Coastline from Miramar Circle to Youth Hostel and from Kala Academy to ESG.

Sub: Submission of Area statement

Dear Sir,

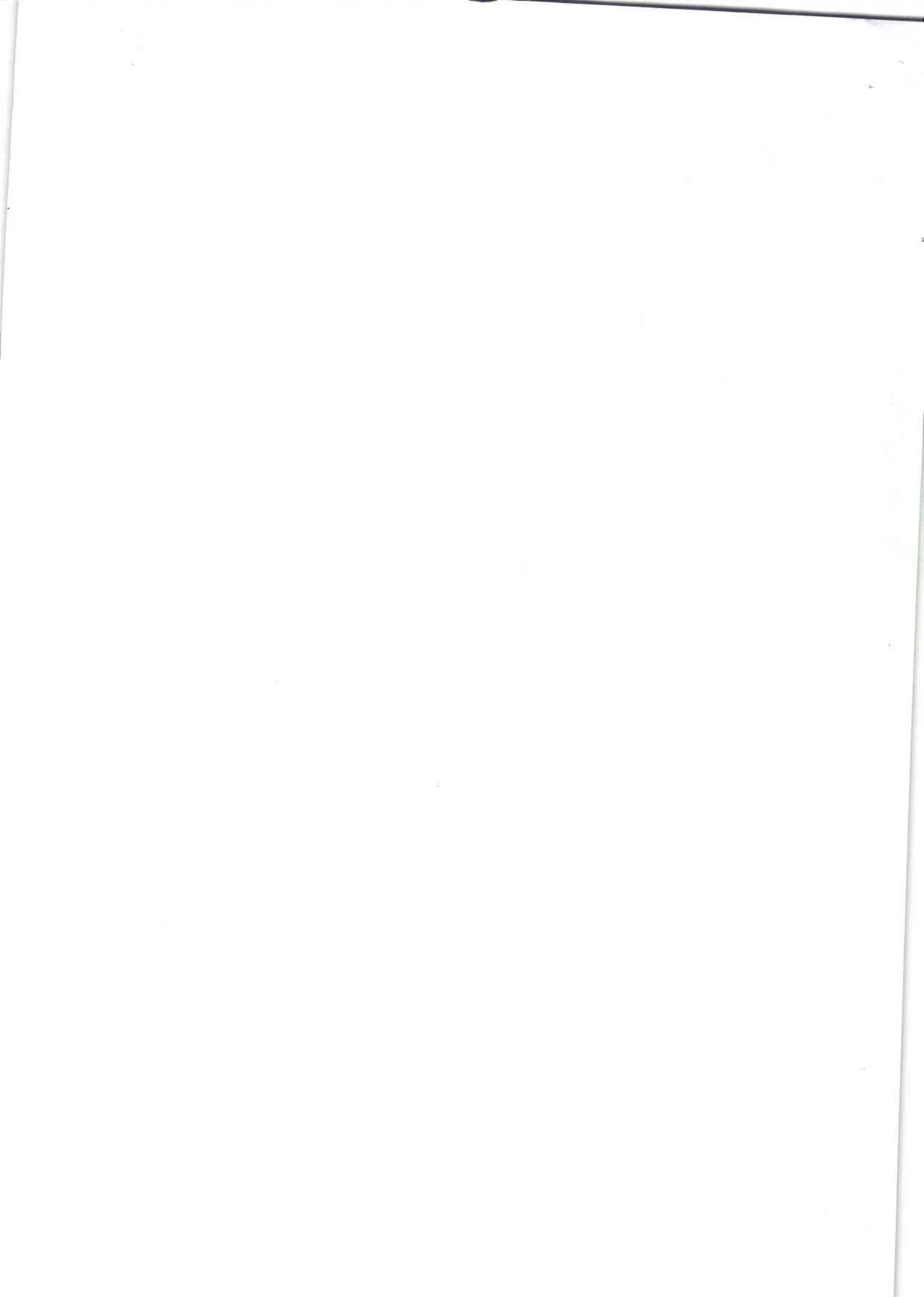
Please find enclosed Annexure 1 with Area details for projects of **Protection and Restoration of Mandovi River Coastline from Miramar Circle to Youth Hostel and from Kala Academy to ESG and Construction of Pedestrian Arch Bridge Connecting to Mandovi River Promenade and DB road over St. Inez Creek near ESG Building at Panaji**

For LKS INDIA Pvt Ltd



Maria Belen Mendizabal
Team Leader







LKS INDIA PVT. LTD.

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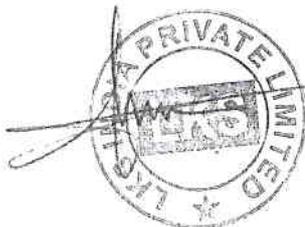
ANNEXURE- 1

Date: 23/03/2023

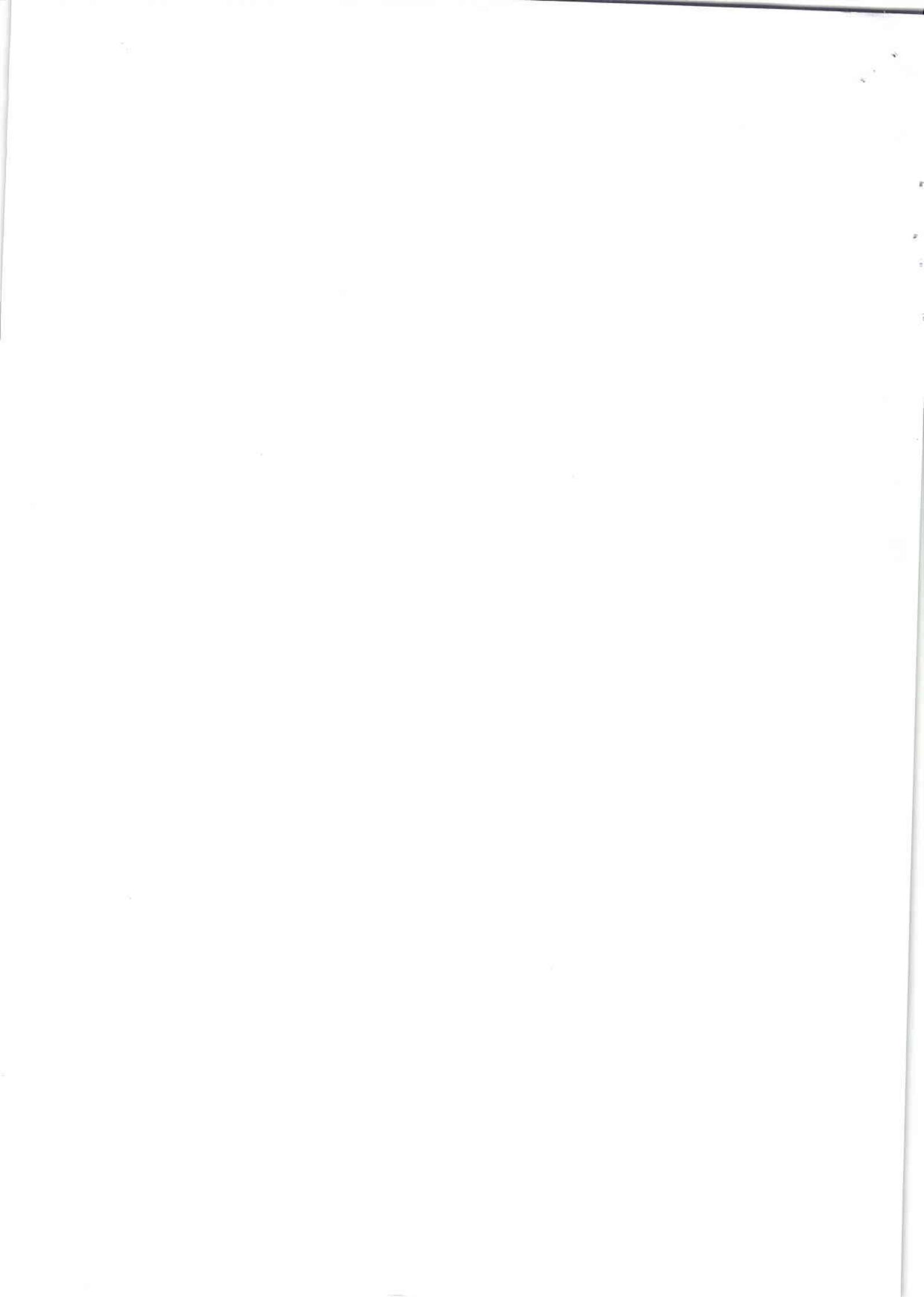
Area Statement

Sr No	Description	Total Length (m)	Width of (footpath & cycle track) (m)	Footpath & cycle track area (m2)	Rip rap area (m2)	Total Area (m2)
A	Protection and Restoration of Mandovi River Coastline from Miramar Circle to Youth Hostel and from Kala Academy to ESG					
A.1	Miramar circle to Youth Hostel	634.0m	8.0/20.0 m.	5812.0	1362.00	7175.00
A.2	Kala Academy to ESG	1049.0m	7.25/17.2 m.	13729.0	9974.00	23703.00
A.3	Washrooms (41x2nos)	9.0m	5.6m	NA	NA	82.00
A.4	Balcao	4.0m	4.0m	NA	NA	16.00
B	Construction of pedestrian Arch Bridge Connecting to Mandovi River Promenade and DB road over St. Inez Creek Near ESG Building at Panaji					
B.1	Main Span	36.12	9.0/11.7 m. (Deck width)	348.00	NA	348.00
B.2	Clear Span (at pile cap level)	22.88	NA	NA	NA	NA
C	TOTAL (A+B)					31,324.00
The total Area Development area is 31,324 sq.m (3.13Ha)						

For LKS INDIA Private Limited



Maria Belen Mendizabal
Authorised Signature



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

**APPLICATION No. 85/2015 (WZ)
(M.A.No.175/2015 and M.A.No.8/2016)**

CORAM:

**Hon'ble Dr. Justice Jawad Rahim,
(Judicial Member)**

**Hon'ble Dr. Ajay A. Deshpande,
(Expert Member)**

B E T W E E N:

1. Goa Foundation,
Through : Secretary,
G-8, St. Britto's Apartments,
Feira Alta, Mapusa (Goa)-403 507
....Applicant

A N D

- 1. Goa State Infrastructure Development Corporation**
Through : Managing Director,
EDC Building,
Panaji, Goa-403 001
- 2. Goa State Environment Impact Assessment Authority,**
Through : Secretary,
C/o. Goa Pollution Control Board,
Dempo Towers, Patto,
Panaji, Goa- 403 001.
- 3. Goa Coastal Zone Management Authority,**
Through : Member Secretary,
3rd Floor, Dempo Towers, Patto,
Panaji, Goa- 403 001.
- 4. State of Goa,**
Through : Chief Secretary,
Govt. of Goa, Secretariate,
Porvorim, Goa.
- 5. Principal Chief Conservator of Forest.**

Department of Forest,
Swami Vivekanand Road,
Panaji, Goa - 403 001.

- 6. Union of India,**
Through : Its Secretary,
Ministry of Road Transport and Highways,
Transport Bhavan, 1
Parliament Street,
New Delhi 110 001.
- 7. M/s. Larsen & Toubro,**
Mandovi Bridge Project,
Old Bombay Bus Stand,
Opp. K.T.C. Bus stand,
Panaji, Goa 403 001.
- 8. National Highway Authority of India (NHAI),**
Through : Goa Office,
Near Babasaheb Ambedkar Vocational Centre,
Near Old PHC, MPT, Head land Sada,
Vasco, Goa - 403 804.

...Respondents

Counsel for Original Applicant :

Mrs. Norma Alvares,
Mrs Supriya Dangre,

Counsel for Original Respondent Nos. 1 to 5 :

Mr. A.N.S. Nadkarni, A.S.G. (Adv. General)
Mr. Dattaprasad Lawande, Adv.
Mr. Pradosh Dangui, Adv.

Counsel for Original Respondent No.7 :

Mr. Rajesh Sanjanwala, Sr. Adv.
Mr. Parth Contractor for Singhi & Co.

DATE : April 7th, 2016

J U D G M E N T

1. This Application is filed on 9th August, 2015, seeking prayers to enforce compliance with the requirement of EIA Notification, 2006 and CRZ Notification 2011 with regard to the construction of the 3rd bridge across River Mandovi in

Goa which is alleged being constructed without necessary Environmental Clearance (EC), environmental studies, environmental management plan or other environmental safeguards. Applicant submits that this 3rd bridge being constructed across River Mandovi has construction built up area more than 20,000 (twenty thousand) sq.m and there are four (4) piers in the riverine CRZ area besides large embankment in the CRZ area. Applicant claims that this is a substantial issue related to environment as the construction of the bridge has commenced without mandatory environment clearance under CRZ notification and EIA Notification, 2006. The learned counsel for Applicant fairly states that they are not against the construction of the bridge nor they are willing to stop or demolish the construction of the bridge and their only prayer is to ensure that the environment in terms of intrinsic riverine system, livelihood protection and mangroves is adequately protected.

2. Goa State Infrastructure Development Corporation (GSIDC) is Respondent No.1 and entrusted by State of Goa i.e. Respondent No.4 for execution of this bridge construction. Respondent No.2 and 3 are the statutory authorities constituted under provisions of Environment (Protection) Act, 1986 i.e. Goa State Environment Impact Assessment Authority (Goa-SEIAA) and Goa Coastal Zone

Management Authority (GCZMA). Respondent No.5 is the Principal Chief Conservator of Forest of Goa. The Ministry of Road Transport and Highway (Government of India) and National Highway Authority of India are Respondent Nos.6 and 8 whereas M/s. Larsen and Toubro, the contractors executing the project is Respondent No.7. The Applicant submits that the proposal for the Mandovi (III) bridge was submitted by Respondent No.1 to GCZMA on 6th February, 2014, though the Applicant points out that this proposal consisted only general alignment drawing (GAD) of the proposed alignment of the bridge without any supporting documents indicating environmental baseline setting, environmental concerns and proposed safeguards. Two GCZMA experts visited the site on 14th February 2014, though the site inspection report was signed by only one of them. The report clearly recommends that the rapid EIA for the project needs to be carried out. Further the inspection report also records certain recommendations to consider the hydraulics in order to avoid silting. Applicant submits that GCZMA in its meeting held on 20th February 2014 approved the project subject to certain conditions. Accordingly, GCZMA granted the NOC for the proposed construction of the bridge on 4th March, 2014 with following specific conditions :

1. The project proponent/GSIDC should obtain the information available with NIO regarding impact of river banks, morphologies, bathymetry and sedimentation.
 2. Flow of current to be regularized by keeping the alignment of the column of (III) bridges uniformity parallel to flow in order to prevent silting.
 3. No coffer dams should be constructed in the river.
- 3.** Applicant, therefore, submits that the GCZMA has given such NOC without assessment of impact of the proposed construction on the banks and in the riverine area. Applicant also submits that GCZMA, without having proper construction plan, methodology and also, the potential environmental impacts and safeguard measures, went ahead with grant of such NOC, due to the peer pressure of dealing with the Government project. GCZMA has also not considered the cumulative impact of the existing bridges, remnants of the collapsed bridge, the mangroves in the area and existing ecological status of the river which could have been properly documented, if the EIA report would have been made compulsory as per the recommendations of the GCZMA Experts.
- 4.** Applicant submits that subsequently GSIDC engaged the Respondent-7 as contractors and the work of construction of bridge commenced somewhere in July 2014 and thereafter, Applicant tried to obtain the information and could locate the copy of NOC dated 4th

March, 2014. The Applicant wrote to GCZMA and GSIDC on 17th July 2015 complaining about the construction of the bridge in the CRZ area without mandatory compliance with CRZ/EIA Notification. It was further revealed that the GCZMA granted conditional NOC for cutting of mangroves on 9th February 2015. As per Applicant this fact itself indicates that while granting the NOC dated 4th March 2014, GCZMA was not aware about existence of the mangroves in the said area nor it was aware about the requirement/plan to cut the mangroves in the proposed construction.

5. Applicant submits that the proposed construction is more than 20,000 (twenty thousand) sq. mtr. built up area and being Building and Construction activity, this project needs to obtain EC under the EIA Notification, 2006 read with CRZ Notification 2011. Applicant has prayed following :

1. Direct the Respondents to conduct the necessary EIA and other studies required for construction of Mandovi bridge (III) and procure prior environment clearance.
2. Direct the Respondents to consider the impact of bridge (III) taking into consideration the ecological impacts of the earlier two bridges on the river and its health ("cumulative impact").

6. Goa State Infrastructure Development Corporation (GSIDC) is Respondent No.1-Government Company fully owned and controlled by the State

Government of Goa and has been notified as executing agency for the proposed bridge construction project. GSIDC has filed reply on 21st August 2015 and stated that the work order for the bridge construction was issued on 17th July, 2014 after following necessary procedure. The bridge under construction has been proposed in order to reduce the traffic congestion, which is under consideration of the Hon'ble High Court, Bombay at Goa in P.I.L. *suo motu* No.2/2013. The master plan for Panaji including the Mobility Plan was kept for perusal of public from 18th July 2013 which incorporate this bridge. This bridge is not an isolated structure but is a part of National Highway No.17 and as such is an important bridge to clear the bottleneck on this strategically important North-South coastal highway. This bridge has become a necessity in view of the increasing traffic which ultimately will reduce the air pollution arising from the congestion.

7. GSIDC further states that they have taken necessary permissions from the concern authorities including GCZMA and GSPCB. Furthermore, as a responsible corporate, further environmental studies related to EIA, biodiversity etc. have also been carried out for this particular project. The proposed bridge alignment is located in the area in between two existing

bridges and therefore, minimum environmental damage is envisaged. GSIDC submits that they approached GCZMA with General Alignment drawing (GAD) on 6th February 2014 for NOC for the proposed bridge. GCZMA which is the regulatory authority, enforcing CRZ Regulation, after carrying out the necessary site inspection, considered the proposal and granted the NOC on 4th March 2014 with necessary conditions. GSIDC submits that the bridge construction methodology is environmentally sustainable as the bridge is constructed on piles and therefore, it will not disturb the water currents significantly. Further, there will not be constructing coffer-dams for such construction. Moreover, only four piers in the riverine area have been proposed against 12 (twelve) piers each in the existing two bridges, thereby reducing the footprint of such construction in the riverine area which is CRZ zone. GSIDC further submits that though EIA was not specified by the GCZMA, it has already carried out such study and further they are committed to protect the environment by whatever actions that are required.

8. GSIDC has also raised issue of limitation as the construction of the bridge was started on 17th July 2014 and Applicant being environmentally conscious organization, was expected to know the construction of

such project, in view of the prominence of such construction in the local area.

9. GSIDC has filed additional affidavit on 2nd September 2015 and submits that the proposed project admeasures to 2881.87m in length and the total built-up area is 69,188.90sqm and do not attract the provisions of Environment Clearance Regulations 2006. Furthermore, the GCZMA which is the regulatory authority for the CRZ Regulation 2011 has already granted NOC for the project. GSIDC mentions that MoEF vide letter dated 2nd May 2011 addressed to GCZMA in respect of another bridge has categorically stated that no environmental clearance is required for construction of the bridges.

10. Respondent Nos.2, 3, 4 and 5 have not filed separate affidavits on record. Respondent No.6 i.e. Union of India has also not filed any affidavit though properly served. Respondent No.7 has filed an affidavit on 2nd September 2015 essentially raising the same contentions as by the original project proponent i.e. the GSIDC and hence the same are not repeated herein.

11. Considering the records of the Application and Affidavits filed by the contesting parties and after hearing the learned counsel of the parties, we are of the

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considered opinion that following issues are requires adjudication in the matter :

1. Whether the Application is barred by Limitation ?
2. Whether the construction of bridge in question requires environmental clearance under EIA Notification 2006 and/or under CRZ notification 2011?
3. Whether necessary procedure has been adopted by the GCZMA while granting the NOC dated 4th March 2014 and whether necessary safeguards have been prescribed to ameliorate the potential environmental degradation?
4. Whether certain directions are required to be issued by the Tribunal subject to adjudication on above issues?

Issue No.1 :

12. Learned Advocate General for State of Goa, appearing for Respondent Nos. 1 to 5 argued that the present Application is hopelessly barred by limitation on the ground that the Application has been filed much after the period of limitation stipulated under Section 14(3) of the National Green Tribunal Act, 2010, as even going by pleadings of the Application i.e. in para No.15, it is admitted that the construction of the project was initiated in June 2014 and the present Application is filed on 1st August 2015 i.e. much after the period of limitation, even after considering the period which can be condoned by the Tribunal. Secondly, there is no substantial question raised in the present Application which relates to the environment. Learned Advocate General argued that the project is costing more than Rs.400 (Rs. four hundred)

crores and its construction including the foundation laying ceremony was well publicized in the local newspaper. In any case, the Applicant being NGO working in the field of environment and also frequenting the area where the construction activity going on, cannot claim that they were unaware of the construction. He further states that this project has been proposed in order to reduce traffic congestion along the National Highway which is connecting north-south banks of the river Mandovi. This project is a part of the national highway and important infrastructure project, proposed by the State Government for the public good. He contended that the significant amount has already been spent on this project and as such, the present Application which is filed belatedly, should be entertained in view of the principle of Sustainable Development.

13. Learned Advocate General also raised technical objections regarding completeness and correctness of the verification form, Resolution of the Society/Trust regarding filing of this Application and also non disclosure of the so called experts who have contributed to the critic on the NIO report as well as EIA report. He fairly submits that though he is not putting emphasis and not pressing dismissal on these grounds, his submission may be taken on record so that, in future

litigations, such deviations can be avoided and if not avoided, can be dealt accordingly

14. Learned counsel Mrs. Norma Alwares, appearing for Applicants fairly stated that she is not against the construction of the bridge but her only concern is that all the necessary environmental safeguards and procedures need to be followed before undertaking such project. She admits that the construction of the bridge and the alignment of the bridge are primarily the policy issues which fall in the domain of the Executive. However, she highlights that it is a settled legal position (Narmada Bachao Andolan judgment of Apex court) that while implementing the policy decision, the Government needs to be fair and should follow all the existing Rules and Regulations. In any case, she argues that the doctrine of Public Trust and precautionary principle will prevail while implementation of such projects. She submits that though the construction would have started in July 2014 but only after finding from the records that no necessary clearances including CRZ clearance and environmental clearance have been obtained for this project, the first cause of action has arose.

15. According to her, the project requires environmental clearance under the CRZ Notification as well as EIA notification which has not been obtained so

far. She contended that in case of environmental litigation, particularly the CRZ or environment clearance violations, the knowledge of project is not relevant but the knowledge of such violation of environmental statutes would be the clinching factor for deciding the limitation. She contends that the Tribunal is required to function on the principles of natural justice, pre-cautionary principle, polluters pay principle and sustainable development. She elaborated the provisions of Section 14 of National Green Tribunal Act, 2010 and submitted that the date on which the cause of action first arose is obviously important but in the context of "such dispute". According to her, the dispute in the present case is regarding not obtaining the necessary environmental clearance for the project and therefore, she argued that the present Application is well within the limitation.

16. We have carefully reviewed the submissions of learned Advocate General and learned counsel for the Applicants. The present Application has been filed under Section 14 of National Green Tribunal Act and the relevant clause of Limitation is re-produced below :

14(3) No application for adjudication of dispute under this section shall be entertained by the Tribunal unless it is made within a period of six months from the date on which the cause of action for such dispute first arose.

17. The present dispute seems to be riveted on necessity of obtaining environmental clearance for the

bridge construction project. In the instant case, the project area is covered under the CRZ Notification 2011 and therefore, the requirement of necessary clearance under the CRZ Notification 2011 read with EIA Notification 2006 is the issue under consideration. The learned Advocate General as well as learned Sr. counsel for Applicant have relied on the following judgments:

1. Supreme Court Cases, (2000) 10 S.C.C. 664 in Narmada Bachao Andolan Vrs. Union of India & Ors.
2. NGT in Application No.193/2013 in Thenkeeranur Vivasayigal Nala Sangam Vrs. The Secretary to MoEF & Ors. (Southern Zone, Chennai)
3. NGT in Application No.11/2013 (P.B.46/2013 (THC) in Aradhana Bhargav & Ors. Vrs. MoEF & Ors. (Central Zone) Bhopal,
4. NGT in Application No.28(THC)/2013 George Baretto & Ors. Vrs. State of Goa & Ors.). Western Zone, Pune
5. NGT in Application No.32/2015 in Trupti Shah & Ors. Vrs. The Chairman, Sardar Vallabhbhai Patel Rashtriya Ekta Trust (SVPRET). Western Zone, Pune.

18. Hon'ble Central Zone Bench National Green Tribunal, Bhopal while deciding the Application No.11/2013 has elaborately discussed the provisions of Section 14(3) wherein it is pointed out that the words "first arose" in Section 14(1) are the indicators of unambiguous legislative intent and if the "continuing cause of action" is to be accepted, the words "first arose" in the above provision will loose its importance and significance. At the same time, it is also noted that

such cause of action has to be linked with "such dispute" which may vary from case to case and even within a particular matter, the dispute may vary in terms of nature and timing.

19. In the present case, the GCZMA which is regulatory authority enforcing the CRZ Notification 2011 in the State of Goa, has been constituted by the MoEF order SO-2264(C) dated July 22nd 2013 and has been given a specific mandate as stipulated in clause-II of the said Notification. In the present case, neither the GCZMA nor MoEF has filed any affidavit submitting their stand on the contentions raised by the Applicant on the issue of requirement/necessity of obtaining environmental clearance under the CRZEIA notification for the proposed bridge construction.

20. With the above discussion, it manifests that the scope of the Application is restricted to decide the question "whether the environmental clearance is required for such type of bridge construction?" and such dispute has arisen only after the knowledge that the project proponent has not obtained the environmental clearance for the project. We are, therefore, of the opinion that as the Applicant has not challenged the construction of the bridge but the challenge is only on the ground that it has not obtained

environmental clearance. And therefore, the period of limitation would trigger from the date of such knowledge of such alleged violation which has given rise to the "dispute" as defined under Section 14(3) of the National Green Tribunal Act. It is also manifest that such massive construction project will undoubtedly have some environmental impacts during construction as well as operation of the project and certain environmental safeguards are required to be taken in planning and execution of the project. Therefore, the decision or adjudication on the question of requirement of environmental clearance will also be linked with the environmental impacts and the safeguards required under the EIA Notification as well as CRZ Notification and therefore, in our considered opinion, the dispute which has been raised, is a substantial question related to environment. We, therefore, hold that the present Application is within the limitation and falls within the scope of Section 14 of NGT act, 2010 and accordingly, the Application will proceed for further adjudication.

Issue No.2 :

21. Now, we will deal with the question of adjudication on the prayer of the Applicant that Respondent shall be directed to procure prior environmental clearance. In the Application, Applicant has relied on the provisions of CRZ Notification 2011 and EIA Notification 2006 to

submit that such a project require prior environmental clearance. Learned Advocate Mrs. Norma Alwares contended that CRZ Notification, though has prohibited various activities, but has enlisted bridges as a permissible activity. She relied on the Clause 3(iv)(a) as well as 8(i)I(ii)(b) wherein the bridges are allowed in the CRZ area. However, she highlighted that such a permissible activity is not without adequate precautions which are expressly referred in the various clauses of the CRZ Notification including the regulation of such permissible activities in CRZ area. She relied on Clause 4(i)(a) wherein it is expressly mentioned that "clearance shall be given for any activity within the CRZ, only if, it requires waterfront and foreshore facilities, would be required to obtain the clearance under the CRZ Notification. Further such clearance needs to be obtained by following due procedure referred in Clause 4 and 4.2 of the CRZ Notification.

22. The another contention of learned Advocate Mrs. Norma Alwares is that the bridge is undoubtedly a construction project. Further as held by the Hon'ble Principal Bench of N.G.T. in Application No.137/2014 (Tongad Judgment), the Tribunal has already dealt on the issue elaborately. She pointed out that the definition of the bridge which has been produced in the

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said judgment in para 11 wherein the bridge has been identified a building.

First and foremost, the meaning and scope of the word 'bridge' has to be understood.

"A bridge is a building erected across a river, ridge, valley, or other place for common benefit of travelers. It is a structure that spans and provides a passage over a road, railway, river or some other obstacles (Ref : Wharton's Law, Laxicon 15th Edn., 2012, Collins English Dictionary and Thesaurus 1st Edn. 1999)

Law Laxicon, 3rd Edition 2012 describes the word 'bridge' as follows :

"A bridge is a structure of wood, iron, brick, or stone, ordinarily erected over a river, creek, pond or lake, or over a ravine, railroad, canal or other obstruction in a highway so as to make a continuous roadway and afford to travelers a convenient passageway from one bank to the other. While a bridge is a part of the highway, which passes over it, no definite rule can be laid down as to where one terminates and the other begins"

23. She argues that in Tongad case, the Tribunal has dealt with the bridge which has the built up area more than 1,50,000 sq.m. and held that said Bridge construction is covered under entry No.8(b) of the schedule to the Regulation 2006. It is her case, therefore, that the present bridge which is having a built up area of about 69,000sqm, being a building and construction project, would be covered under entry No.8(a) of the Schedule of the Regulation of 2006 and it is therefore necessary to obtain the environment clearance for this bridge construction. She, therefore, relying on the precautionary principle, argued that the Regulatory Authorities enforcing CRZ and EIA Notification are mandated to adopt a safer approach while dealing with such projects by giving wider meaning to the expressions used, rather than to frustrate the object and purpose of the Regulation of 2006

causing irreversible ecological and environmental damage.

She also relied on the observations of the Hon'ble Supreme Court in Re : "Construction of park at Noida Near Okhala Bird Sanctuary Vrs. Union of India (UOI) (2011) 1 SCC 744", the Hon'ble Apex Court held that :

"66. The illustration given by Mr. Bhushan may be correct to an extent. Constructions with built up area in excess of 1,50,000 sq.mtrs. would be huge by any standard and in that case the project by virtue of sheer magnitude would qualify as township development project. To that limited extent there may be a quantitative correlation between items 8(a) and 8(b). But it must be realized that the converse of the illustration given by Mr. Bhusha may not be true. For example, a project which is by its nature and character an "Area Development project" would not become a "Building and Construction project" simply because it falls short of the threshold mark under item 8(b) but comes within the area specified in item 8(a). The essential difference between items 8(a) and 8(b) lies not only in the different magnitudes but in the difference in the nature and character of the projects enumerated thereunder.

67. In light of the above discussion it is difficult to see the project in question as a "Building and Construction project". Applying the best of 'Dominant Purpose or Dominant Nature' of the project or the 'Common Parlance' test, i.e. how a common person using it and enjoying its facilities would view it, the project can only be categorized, under item 8(b) of the schedule as a Township and Area Development project". But under that category it does not come up to the threshold marker inasmuch as the total area of the project (33.43 hectares) is less than 50 hectares and its built up area even if the hard landscaped area and the covered areas are put together comes to 1,05,544.49 square meters, i.e. much below the threshold marker of 1,50,000 square meters."

"But the absence of a statute will not preclude this Court from examining the project's effects on the environment with particular reference to the Okhala Bird Sanctuary. For, in the jurisprudence developed by this Court Environment is not merely a statutory issue. Environment is one of the facets of the right to life guaranteed under Article 21 of the Constitution."

24. She therefore, argued that the project in question requires environmental clearance and such environmental clearance need to be obtained by following due procedure Law.

25. Countering this argument, learned Advocate General for State of Goa contended that the bridge is a

permissible activity under the CRZ Notification clause 8, regarding norms for regulation of activities permissible under this Notification, wherein it is stipulated that the development and construction activities in different categories of CRZ shall be regulated by the concerned CZMA in accordance with the norms specified. He further submits that the bridges are allowed in as per clause 8(i)/(ii)(b) and the bridges are allowed even in CRZ-I area under the said clause. He therefore, contended that it is a settled legal position that the word "Regulation" has been interpreted as authority to regulate including grant of permission, enforcement of conditions and taking action against violation etc. and therefore, the GCZMA being a regulatory authority under clause 8, has granted NOC to the project after considering all necessary aspects of the project. He submitted that as the project has been considered under clause 8, the question of applicability of clause 4 does not arise separately. In other words, it is his contention that the NOC granted by the GCZMA on 4th March 2014 is in fact a permission and/or clearance under the CRZ Notification.

26. Learned Advocate General dealt further on the applicability of the EC under Regulations of 2006. He also relied on the said "Tongad Judgment" of Hon'ble Principal Bench of NGT and argued that the fact that the

Tribunal has held that the construction of the bridge covering a built area greater than 1,50,000sqm and/or covering an area greater than 50Ha would be covered under entry 8(b) of the Schedule to the Regulation of 2006, would not automatically be interpreted as any bridge project with built up area less than 150000sqm but more than 20,000 sqm requires clearance under entry 8(a) of the Regulation. He elaborated the scheme of EIA Notification and submitted that each entry in the schedule is of unique identity and has separate and distinct meaning attached to it. Though, there is some ambiguity in definition entry 8(a) and (b), it cannot be interpreted in such fashion that if a project is not fitting in one category, it should be tried for some other category. According to him, this will defeat the purpose of Notification and legislative intent of categorising various projects and activities under different entries in the schedule. He relied on para 34 of the judgment wherein it is held that the interpretation of the entries that would frustrates the object and implementation of the relevant clause would not be permissible. The Hon'ble Apex Court has provided distinction between the township project and building and construction project in 'Noida Judgment' and held that the township project was different, both quantitatively and qualitatively from mere

building and construction project. He also relied on the stand taken by MoEF wherein as per the affidavit of the MoEF dated 9th December 2014 in Appeal No.31/2014 wherein another bridge construction of the Respondents has been challenged by the same Applicants, MoEF has categorically stated that the activity of construction of bridge does not require any environmental clearance under EIA Notification 2006. Further, MoEF has also submitted that such proposals need to be regulated by concerned GCZMA under clause 8 of the CRZ Notification 2011.

27. At this stage, we would like to refer to the judgment of the Hon'ble High Court, Bombay in Writ Petition No.728 of 2015 wherein it has been held that the environmental clearance as referred in Section 16 of the National Green Tribunal Act would cover all clearances issued under Environment (Protection) Act, including CRZ clearance under CRZ notification, 2011. The relevant para is reproduced below :-

"An environment is defined under Section 2© of N.G.T. Act, as under :

"environment" includes water, air and land and the inter-relationship, which exists among and between water, air and land and human beings, other living creatures, plants, micro-organism and property

The object of enacting N.G.T. Act, 2010 is to provide for the establishment of a Tribunal for the effective and expeditious disposal of the cases relating to the environmental protection and conservation of forests and other natural resources including enforcement of any legal right relating to environment and giving relief and compensation for damages to persons and property and for matters connected therewith. On perusal of the definition of

'environment' as pointed out hereinabove, it clearly provides that any issue concerning the inter-relationship which exist among and between water, air and land and human beings would be included as an environment issue. The fact that the CRZ Notification, 1991/2011 has been issued in exercise of powers under Section 3 of the Environment Protection Act, would itself suggest that such clearance is granted in connection with an issue of environment. On perusal of the environmental clearance issued in favour of the petitioner, we find that such clearance has been issued subject to obtaining the CRZ clearance. Section 16(h) of the N.G.T. Act clearly provides that an appeal would lie against an order made on or after the commencement of the Act, granting environmental clearance in the area in which the Industry, etc. is allowed to operate, subject to certain safeguards in terms of the Environment Protection Act. On reading the said provision, it cannot be said that an environmental clearance, as specified in Section 16(h) of the N.G.T. Act, would be restricted only to environmental clearance granted under the Regulations of 2006. The exercise of grant of clearance under CRZ Notification would entail a matter included in the definition of environment under the N.G.T. Act and as such, any clearance granted with that regard will be subject to an appeal under Section 16(h) of the N.G.T. Act. This can clearly be viewed in the context of the object of enacting the N.G.T. Act for an effective and expeditious disposal of the cases relating to environment. The matters dealing with the measures as stipulated under the CRZ Notification are also essentially environment issues and as such, any clearance granted in terms of such Notification would be amenable to an appeal under Section 16(h) of the N.G.T. Act, is that the environmental clearance, as stipulated in Section 16(h) of the N.G.T. Act would also include all clearances issued under the Environment Protection Act, which would include a CRZ clearance. The fact that while examining the grant of a CRZ clearance would also entail examining an aspect relating to environment cannot be at all be disputed. As such, giving a restrictive meaning to the word 'environmental clearance', as pointed out by Shri Shival Dessai, the learned counsel appearing for the petitioner, would in fact defeat the very purpose and object of creating the N.G.T. Act. Apart from that, as rightly pointed out by the learned counsel appearing for the respondent nos.1 to 4, the CRZ clearance itself stipulates that any clearance granted, may be challenged before the learned Tribunal in terms of N.G.T. Act. This itself suggests that the challenge to such CRZ clearance is amenable to an appeal under the N.G.T. Act. Though on perusal of impugned order passed by the learned Tribunal, it appears that the learned Tribunal has proceeded on the assumption that the proceedings initiated by the respondent nos.1 to 4 were in terms of Section 14 of the N.G.T. Act, but however, based on the admitted facts of the case, the proceedings initiated by the respondent Nos.1 to 4 in respect of the CRZ clearance is an appeal under Section 16 of the N.G.T. Act and as such, we cannot accept the contention of Shri Shivam Dessai, the learned counsel appearing for the petitioner that the challenge to CRZ clearance is not amenable to an appeal under Section 16(h) of the N.G.T. Act."

28. We have perused the documents on record and carefully considered the arguments advanced by the learned counsel. The issue under consideration has two aspects to decide :

- 1. Whether the project in question requires clearance under CRZ Notification, and
 - 2. Whether the project under question requires environmental clearance under EIA Notification ?
- We proposed to deal these two issues separately.

29. The CRZ Notification 2011 prohibits certain activities within CRZ area as stipulated in clause 3 of the Regulations. It is not disputed that the bridges are permissible activities as per the exemption given in the said clause. The clause 8 of the Regulation defines the norms for regulation of activities permissible under this notification, even wherein the construction of the bridge is permissible in CRZ I and III areas. The whole issue of need of taking clearance revolves around the interpretation of those two clauses wherein such permissibility is referred. The relevant provisions are reproduced below for understanding :

Clause 3 : Prohibited activities within CRZ,-

The following are declared as prohibited activities within the CRZ :

- (i) -----
- (ii) -----
- (iii) -----
- (iv) Land reclamation, bunding or disturbing the natural course of seawater except those -

(a) required for setting up, construction or modernization or expansion of foreshore facilities like ports, harbours, jetties, wharves, quays, slipways, bridges, Sealink road on stilts, and such as meant for defence and security purpose and for other facilities that are essential for activities permissible under the Notification;

- (b) ----
- (c) ----
- (d) ----

Clause 8 : Norms for regulation of activities permissible under this Notification.

(i) The development or construction activities in different categories of CRZ shall be regulated by the concerned CZMA to accordance with the following norms, namely;

I. CRZ-I

(i)
(ii) Areas between LTL and HTL, which are not ecologically sensitive, necessary safety measures will be incorporated while permitting the following, namely -

- (a) ----
- (b) construction of dispensaries, schools, public rain shelter, Community toilets, bridges, roads jetties, water supply drainage, sewerage, which are required for traditional inhabitants living within the biosphere reserves after obtaining Approval from, concerned CZMA.
- (c) -----
- (d)-----
- (e)-----
- (f)-----
- (g)-----

II.

III. CRZ-III

A. Areas upto 200 mts. From HTL on the landward side in case of seafront and 100 mts. Along tidal influenced Water Bodies or width of the creek, whichever is less to be earmarked as "No Development Zone (NDZ)"—

- (i)
- (ii)
- (iii) However, the following activities may be permitted in NDZ)

- (a) ----
- (b) ----
- (c) ----
- (d) ----
- (e) ----
- (f) ----
- (g) ----
- (h) ----
- (i) ----

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(j) construction of dispensaries, schools, public rain shelter, Community, toilets, bridges, roads, provision of facilities for water supply, drainage, sewerage, crematoria, cemeteries and electric sub-station, which are required for the local inhabitants may be permitted on a case to case basis by CZMA;

30. A plain reading of the permissibility clause under 8 would indicate that the constructions referred in these sub-clauses are basically to cater the need of the local inhabitants and traditional inhabitants living within the biosphere reserves. Undoubtedly, the present site has presence of mangroves as admitted by both GSIDC and GCZMA and therefore, some of the area of project falls within CRZ-I zone. Obviously, the permissibility provisions referred in clause 8 in CRZ-I area, related to the bridge, are subject to certain riders which are not being relevant in present case like presence of biospheres reserves. It is neither the case of Respondents that the bridge is meant only for local residents as per exemptions given for CRZ-III area.

31. In contrast, the permissibility under Clause 4 is on much broader footing and can be applicable in the present case. In view of the expressions used in such permissibility clause, particularly for the CRZ-I areas in the clause 8, we are of the considered opinion that the permissibility under clause 8 in CRZ-I area, for construction of bridge, is not applicable in the present case. As per the submissions of the GSIDC, the area of

the project site has mangroves over more than 1000sqm area, classifying the area as CRZ-I as per the clause 7 of the Notification and therefore, we are of the opinion that the proposed bridge is a permissible activity under clause 3(iv) of the CRZ Notification and cannot be construed as a permissible activity under clause 8 in the CRZ area.

32. Having answered such applicability, the next logical question is the need of clearance. We would like to refer clause 4(i)(a) which expressly provides that the clearance shall be given to any activity within CRZ area, only if, it requires waterfront and foreshore facilities. In the instant case it is not disputed that the bridge requires the waterfront and foreshore activities and therefore would necessitate obtaining clearance for such project under CRZ notification.

33. Obviously, with this finding, it is mandatory for the project proponent and the authority to comply with the procedure for clearance as stipulated in clause 4(ii) of the CRZ notification.

34. Now coming to the question of applicability of environmental clearance under Regulations of 2006, we are conscious that this is a delicate issue which needs to be resolved and will also have wider ramification in view of large number of bridges and similar structures being constructed all over the country. Notwithstanding such a

fact, the Tribunal is posed with a question on the applicability of entry 8(a) of EIA regulations for the bridge in question which has a built up area of about 67,000 sq.m. For the better clarity, we would like to reproduce the entry 8 of the EC Regulations 2006 :

List of Projects or Activities requiring Prior Environmental Clearance

Project or Activity		Category with threshold limit		Condition if any
		A	B	
1		Mining, extraction of natural resources and power generation (for a specified production capacity)		
(1)	(2)	(3)	(4)	(5)
8		Building/Construction projects/Area Development project and Townships		
8(a)	Building and construction projects		> 2000sq. mtrs and < 1,50,000sq. mtrs of built-up area#	⁴⁶ [The built-up area for the purpose of this notification is defined as "the built-up or covered area on all the floors put together including basement(s) and other service areas, which are proposed in the building/construction projects]
8(b)	Townships and Area Development projects		Covering an area > 50 Ha and or built up area > 1,50,000 sq. mtrs**	**All projects under Item 8(b) shall be appraised as Category B1

35. It is clear from this table that section 8 has been distinctively grouped in two categories i.e. entry 8(a) relate to building and construction project and entry 8(b) relates to township and area development project. In the present case, the Applicant has argued that entry 8(a) will be applicable necessitating environmental clearance under Environment Clearance Regulation 2006 for the bridge construction. The "Tongad judgment" of the Hon'be Principal Bench has elaborately dealt on the applicability of Environment

Clearance for the bridge which are having more than 1,50,000 sqm built up area and held that such project would be covered under entry 8(b) of the schedule to the Regulations of 2006. We have also considered the orders of the Apex Court in "Okhala Sanctuary matter" wherein it has been held that the absence of statute will not preclude the Court from examining project's effect on the environment with a particular reference to Okhala Bird Sanctuary case. The Hon'ble Apex Court in para 66 of the said judgment has provided a distinction between township project and construction project and held that a township project is different, both qualitatively and quantitatively from mere building and construction project. Para 66 of the said judgment is already reproduce above.

36. The Hon'ble Principal Bench in the Tongad judgment has also considered the issue and while noting that the entry 8(a) and 8(b) are worded somewhat ambiguously, the Area Development Project is distinct from the building and construction project, which by its very language is specific and distinct. It has also considered absence of Law cannot be a ground for degrading the environment and related para are reproduce below :

"36. The above dictum of the Supreme Court clearly laid down a fine distinction between Entries 8(a) and 8(b) of the Schedule to the Regulations of 2006 on one hand, while on the other hand held that mere absence of law cannot be a ground for degrading the environment, as environment is one

of the facets of 'Right to Life' as envisaged under Article 21 of the Constitution of India.

37. The Hon'ble Principal Bench while examining the applicability of Environment Clearance in Tongad Judgment in para 37 as categorically mentioned that the signature bridge project cannot fall entry 7(f) of the schedule to the Regulation of 2006 as it is neither a National nor a State highway and not even any part thereof.

38. In view of the above legal position, there are at least two broader interpretations which are required to be considered while adjudicating the present case. **First** one is the absence of Law cannot be an excuse for not assessing the environmental impact of a particular project. **Second** one could be the entry 8(a) and 8(b) have different and distinct interpretation and meaning and cannot be intermingled except the large building and construction project which can be or deemed to be an Area Development Project. Based on these two criteria, it would be necessary to examine whether the project in question is liable to be considered in any other entry of the Environmental Clearance Regulation 2006?

39. In the instant case, it is not disputed that the bridge under construction is a part of National Highway. The bridge is being proposed as solution for reducing

the traffic congestion on the existing two bridges available in the area. Undoubtedly, bridge in question is part and parcel of the existing National Highway. Highways have been separately enlisted in the schedule of Environment Clearance Regulations 2006 at entry 7(f) wherein certain criteria for categorizing them in category A and B under the Regulations have been prescribed. As far as National Highways are concerned, new National Highway and expansion of National Highway greater than 30 k.m. involving additional right of way, greater than 20 mtrs., involving land acquisition, are covered under the EIA Notification. It is not disputed that this is a National highway and it is an expansion/modification of the existing National highway less than 30 k.m. length. In the instant case, therefore, the entry No,7(f) cannot be construed as applicable to the project, though the project is very well covered under entry 7(f) being a National Highway.

40. We have noted that the said bridge is a part and parcel of the existing national highway and its expansion. Now the question is raised when the project is not covered under 7(f) whether it can be separately considered under 8(a). In the instant case, we are inclined to accept the argument of learned Adv. General that the entries in the EIA notification are distinct and

separate entities and therefore, when a project does not fall under the original category, it will not be open to try to incorporate or include or cover it under some different category. The regulations has a stage of scoping where Terms of References for such projects are required to be decided prior to conducting EIA studies, based on the specific environmental issues related to such projects. MoEF has also come out with draft TOR for such specific projects as per the entries of the schedule, which covers all environmental issues related to such projects, which needs to be considered while dealing with them. This itself would demonstrate that the entries in the schedule are separate, unique and are expected to have unique environmental impacts and hence they are grouped accordingly. And therefore, as proposed bridge is part of the existing national highway and is presently not covered under category 7(f), we are not inclined to accept the argument of learned counsel of Applicant to include or cover the project under entry 8(a) of the environment clearance Regulations.

41. We are also cautious of the fact that it is not the case that the project will not be evaluated for the environmental impacts. In the instant case, the project is in CRZ area and as already referred above, the project need to obtain clearance under the CRZ notification.

This will ensure that the project in question will be appraised for its environmental concerns, including effect on CRZ areas in the process. In 'Tongad Judgment', Hon'ble Principal Bench also considered lack of environmental appraisal for the large construction of the 'Signature Bridge. The present case is significantly different as environmental appraisal as a part of CRZ clearance would be involved in the process and therefore, in our considered opinion, the project in question does not require environmental clearance under the Environmental Regulation 2006 unless it is demonstrated that it attracts the qualifying norms under entry No.7(f) of the Schedule of the Regulations of 2006.

Issue No.3 :

42. Learned Advocate Mrs. Norma Alwares appearing for Applicant has relied on the chronology of the events which, according to her, indicate that the project in question has got fast track NOC from the GCZMA without necessary appraisal of the project. She submitted that on 6th February 2014, GSIDC approached GCZMA with general arrangement drawing (GAD). GCZMA conducted site inspection on 14th February 2014 wherein Expert Member of GCZMA clearly mentioned that rapid EIA for the above project

needs to be carried out. GCZMA granted NOC on 4th March 2014 with condition to obtain information available with NIO regarding river bank morphology, bathymetry and sedimentation impacts. Some other relevant conditions were regarding regularizing the flow of current by keeping alignment of columns of three (3) bridges uniformly parallel to flow in order to prevent silting and no construction of the coffer dam. It is the contention of Applicant that GCZMA has granted this NOC without following due procedure as per clause 4.2 i.e. without EIA report, CRZ area demarcation, presence of mangroves and even without knowledge about scale of the project and impacts of the project including mangroves, tidal currents, sedimentation etc. According to her, it is a gross dereliction of duty on the part of GCZMA which is a regulatory authority responsible for protection of CRZ area, to grant NOC without having proper information and without any appraisal.

43. Learned counsel also pointed out that the GSIDC have appointed M/s. Larson and Toubro as contractor to execute the project and EIA study has been carried out after initiating the construction work through the Contractor. She took strong objection for such post construction EIA that too being carried out by the Contractor which according to her, would any way be a

biased report and will not give true picture of the environmental impacts. Her grievance is also with EIA report for several technical deficiencies and lacunae and she even points out some instances of cut and paste practice adopted by the consultant. In fact, the Applicant has also filed a Misc. Application for quashing of the EIA report.

44. Learned Adv. General submitted that the GSIDC which is executing agency has filed an Application on 6th February 2014 and accordingly, after the necessary examination of the proposal, GCZMA has granted conditional NOC on 4th March 2014. Learned Adv. General further submits that GSIDC, in compliance with the NOC, has carried out necessary studies which are placed on record and also submitted to GCZMA. Therefore, GSIDC has complied with the conditions stipulated by the statutory authority, i.e. GCZMA. He further states that the State Government and GSIDC are committed to protection of environment and also highlighted that GSIDC have reduced the effect on mangroves by construction of embankments on pillars and therefore, the original plan of destruction of 15,000sqm is now restricted to 1500sqm and only 287 mangroves are likely to be affected. He submits that by reduction of number of pillars in the riverian zone and

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also taking the bridge on pillars through the mangroves area has added substantially to the cost of the bridge. He also refers to the letter of Expert Member of GCZMA to state that the State Government has not only conserved the mangroves but the factually mangrove cover in the State has increased over the years. He also fairly submits that all the recommendations of the Applicant have been duly considered by the Government and as far as mangroves are concerned, the Government is open for its implementation, if feasible and practical. He also stated that the preservation of the Trees Act 1984 is not applicable to the said project, being a government project.

45. We have carefully considered the entire sequence of events in this particular case. Records indicate that GSIDC approached the GCZMA which granted them conditional NOC on 4th March 2014. We are perplexed to understand this particular communication as the NOC directs GSIDC to obtain information available with NIO regarding impact on river bank morphology, bathymetry and sedimentation. We are not aware under what circumstances, without such critical information about impact of the project, how GCZMA thought it prudent and necessary to grant the NOC. We also find that other conditions referred are generic and without

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any supportive action plan given by the project proponent. In some other cases of similar nature, this Tribunal has come across the clearances given by the MoEF like in case of Mumbai Trans Harbor Link. MoEF/CZMA had sought elaborate information and has stipulated project specific conditions based on the action plan submitted by the project proponent. We regret to note that the GCZMA approach while considering this project is far away from the role it has been mandated as Regulatory Authority under CRZ Notification. In fact the GCZMA has been mandated with an elaborate role, which is more expressly referred in a notification dated 22nd July 2013 constituting the GCZMA. We are also pointed out to see the visit report of Expert Member which is more of site observation sheet than a report from Expert Member. In some other cases we have come across report of GCZMA Experts using lot of scientific data, Geo-mapping, use of satellite data and photographs. We hope the Expert will take suitable note and upgrade the reports, to fit into the category of Expert's report.

46. We have also referred to the EIA report and after noting that this report has been commissioned by the Contractor and that too after commissioning construction of the bridge project, we are of the opinion

that unless the GSIDC takes ownership of such report, it will not be necessary for the Tribunal to look into the report. Furthermore, GCZMA has not even considered this report and therefore, we are not inclined to deal with the MA filed regarding the EIA report at this juncture.

47. It is not disputed that this project is a public project, being developed to reduce the traffic congestion on the existing national highway. Learned counsel Mrs. Alwares, for Applicant fairly stated that she is not against the construction of project but worried about the non-appraisal of the environmental impacts and absence of Environmental Management Plan for the project.

48. Learned Adv. General also submitted that the State is committed to preservation of the environment and it will adopt all necessary environmental safeguards during construction and execution of the project. At this stage, we do not *primi facie* find much fault with the project proponent i.e. GSIDC for the simple reason that they had approached Regulatory Authority of the GCZMA for necessary permission and GCZMA has given them NOC on 4th March 2013 and only thereafter, they have started the construction. Furthermore, without referring of the completeness or correctness of various

reports including EIA, we have noted that the GSIDC has complied with the conditions of the GCZMA. Therefore, it is manifest that the entire controversy has arose due to the ineffective regulatory role played by the GCZMA. We have also noted though several allegations have been made against GCZMA in the present Application, GCZMA has chosen not to counter them through filing affidavit. It is therefore now just and necessary that GCZMA shall evaluate the project based required information as per provisions of CRZ Notification and issue speaking permissions/clearance, if approved, by stipulating necessary conditions, only after ascertaining itself with the fact position and also the environmental impacts of the project.

48. While parting with the judgment, we are also concerned with the in-house environmental due diligence practices adopted by the major infrastructure agencies like GSIDC and M/s. Larsen and Toubro. It is now a common knowledge that environmental performance is an integral part of any corporate performance. And therefore, any non-compliance on the environmental front which may lead to legal or penal action, can have significant impact on the corporate image, credentials and market value. It is pertinent to note that MoEF has recognized such corporate

environmental responsibility principle in its communication dated 19th May 2011. This communication speaks about necessity of environmental policy for the Corporate standard operating processes and procedure to bring into focus any infringement/ deviation/violation of the environmental norms, setting of an appropriate hierarchical system to deal with environmental issues and reporting of compliance/non-compliance to the Board of Directors. In the present era of sustainable development, there cannot be any dis-agreement on the need and necessity of putting such a system in place in large corporate like GSIDC and M/s. Larsen and Toubro, which will be truly reflective of the precautionary principle embedded in corporate planning, project execution and operation stages. We could not see any such environmental responsibility and reporting system in the Respondent's affidavit which otherwise could have identified and addressed some or many of the issues raised in the Application. We are, therefore, of the opinion that such an integral system independently reporting to the top management is required to safeguard the environmental and social aspects of a project and Corporate. We expect the

Respondents to take suitable steps in this regard in next three (3) months.

49. While disposing the present Application with above findings, we deem it necessary to issue following directions, as per the powers conferred upon the Tribunal in terms of section 19 and 20, based on precautionary principle.

- I) GSIDC shall submit application for the CRZ clearance as per clause 4.2 of CRZ Notification 2011 alongwith the necessary information including updated EIA, CRZ classification etc. with GCZMA, who shall consider and take a decision on application on its own merit, without any prejudice or influence of the findings of this order within one month thereafter. In any case, the entire procedure of submission of Application on decision thereupon shall be complete within four (4) months from date of this order, else the construction work of the bridge shall be kept in abeyance till such CRZ clearance is obtained. A compliance report be submitted by GCZMA after four (4) months.
- II) In the meantime, GCZMA shall immediately carry out inspection of construction activity and ensure that the bridge construction is not adversely affecting the coastal environment.
- III) GCZMA shall deposit cost of Rs.5,00,000/- (Rs. five lakhs) with Collector, North Goa, who shall utilize this amount on environmental activities including awareness, coastal protection,

mangrove re-plantation etc. Besides this GCZMA shall pay cost of Rs.1,00,000/- (Rs. one lakh) to the Applicant as litigation cost. This costs shall be paid in four (4) weeks.

The Application is accordingly disposed of
along with connected M.As.

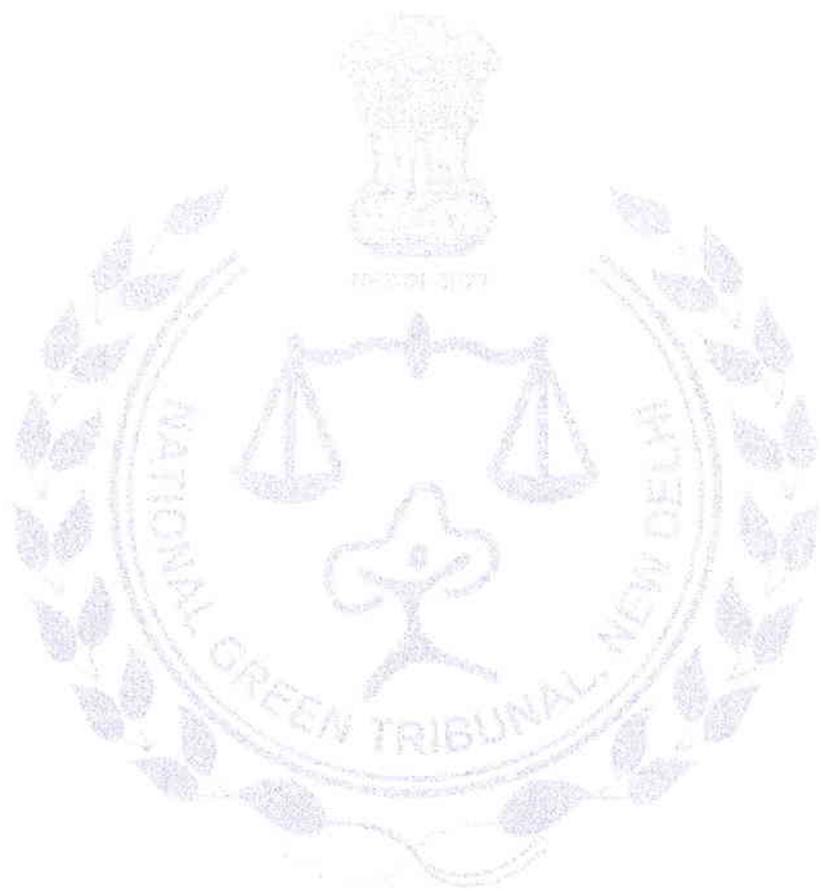
....., **JM**
(Dr. Justice Jawad Rahim)

....., **EM**
(Dr. Ajay. A. Deshpande)

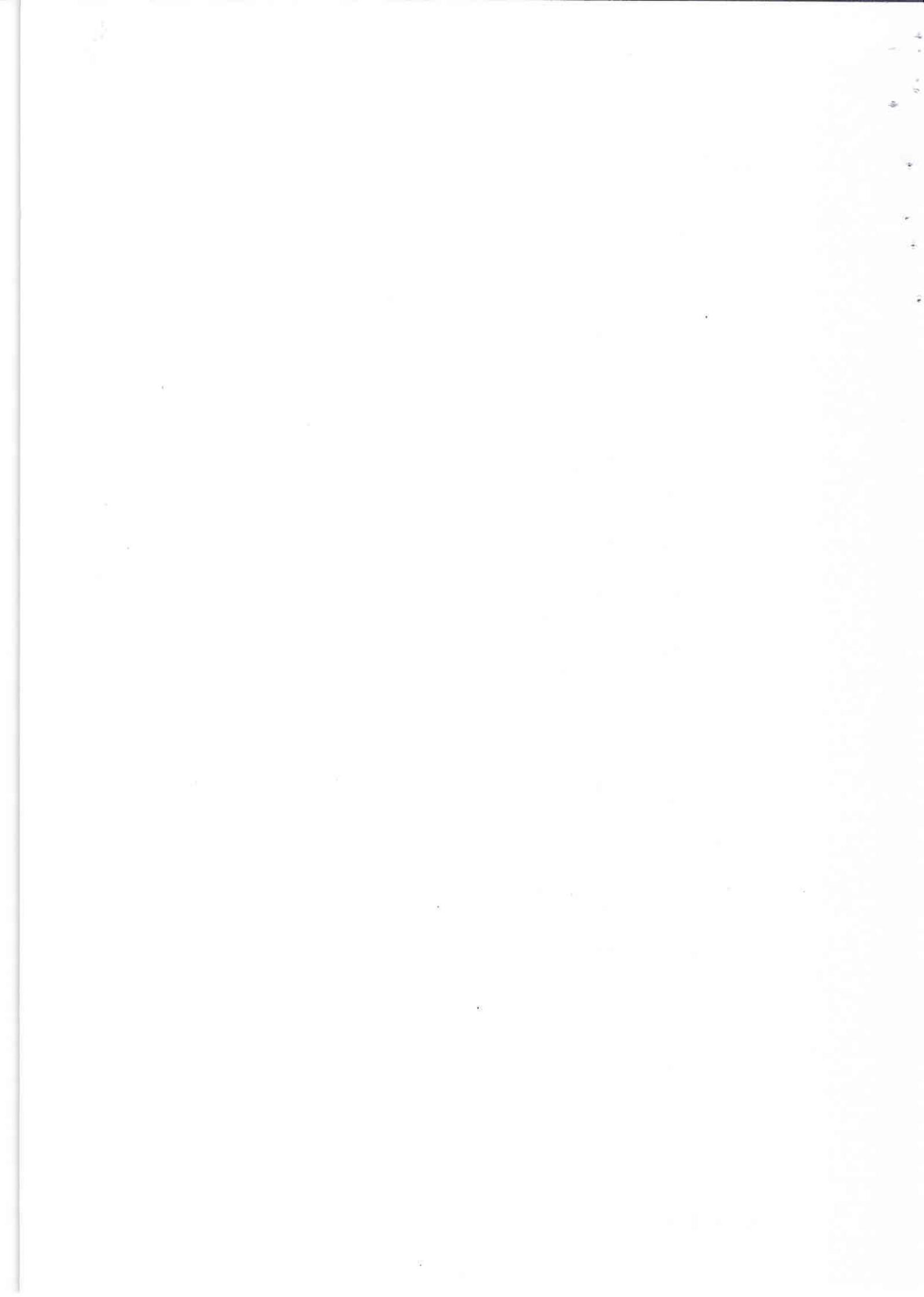
Date : April 7th, 2016.

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**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH
NEW DELHI**

.....

ORIGINAL APPLICATION NO. 137 OF 2014

IN THE MATTER OF:

Vikrant Kumar Tongad
A-93, Sector - 36,
Greater Noida - 201 308
Distt. Gautam Budh Nagar,
Uttar Pradesh

..... Applicant

Versus

1. Delhi Tourism and Transportation Corporation
Through its Chairman
18-A, DDA SCO Complex
Defence Colony
New Delhi - 110 024
2. National Capital Territory of Delhi
Through The Chief Secretary
Delhi Secretariat
IP Estate
New Delhi - 110 002
3. Union of India
Through its Secretary
Ministry of Environment and Forest
Paryavaran Bhawan
CGO Complex, Lodhi Road,
New Delhi-110 003
4. Delhi Pollution Control Committee
Through its Member Secretary
4th Floor, ISBT Building,
Kashmere Gate
New Delhi - 110 006

..... Respondents

Counsel for Applicant:

Mr. Rahul Choudhary, Advocate for the Applicant.

Counsel for Respondents:

Mr. S.D. Upadhyay, Senior Advocate along with Mr. H. Peechara,
Advocate for Respondent No. 1

Mr. Balendu Shekhar, Advocate for Respondents No. 2 & 4

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Mr. Vivek Chib, Advocate for Respondent No. 3
Mr. Avijit Bhushan, Advocate for UPSIDC

JUDGMENT

PRESENT:

Hon'ble Mr. Justice Swatanter Kumar (Chairperson)

Hon'ble Mr. M.S. Nambiar (Judicial Member)

Hon'ble Dr. D.K. Agrawal (Expert Member)

Hon'ble Prof. A.R. Yousuf (Expert Member)

**Reserved on 19th January, 2015
Pronounced on 12th February, 2015**

1. Whether the judgment is allowed to be published on the net?
2. Whether the judgment is allowed to be published in the NGT Reporter?

JUSTICE SWATANTER KUMAR, (CHAIRPERSON)

Following precise question of law falls for consideration of the Tribunal in the present application:

Whether, constructing a 'bridge' across Yamuna is a 'project' or 'activity' that shall require prior Environmental Clearance from the Regulatory Authority, particularly with reference to Entry 8(a) and/or 8(b) of the Schedule to the Environment Clearance Regulations, 2006 (for short 'Regulations of 2006')?

2. The necessary facts giving rise to the present application are that, the applicant, who claims to be a public spirited person, working in the field of environmental conservation, particularly devoted to conservation of wetlands and ground water, has filed the present application, challenging construction of a 'Signature Bridge' across River Yamuna at Wazirabad, Delhi. The challenge is primarily on the ground that the said construction has commenced and is being carried on without obtaining prior Environmental

Clearance from the Regulatory Authority in terms of the provisions of the Regulations of 2006. Delhi Tourism and Transport Development Corporation (DTTDC) (Respondent No. 1) has commenced the project of construction of 'Signature Bridge' across River Yamuna at Wazirabad, Delhi, which is an un-symmetric cable-stayed bridge, with a main span of 251 meters and total length of 675 meters. The composite deck of the bridge carrying eight lanes (four on each side), is about 35 meters wide and is supported by lateral cables spaced at 13.5 meters intervals. The height of steel tower is approximately 150 meters. The total area of Signature Bridge Project is 1,55,260 sq. mtrs.

3. It is stated by the applicant that the Master Plan of NCT of Delhi, designates floodplains of River Yamuna in Zone 'O', expanding to an area of 9700 hectares or 97 sq. kms. The area bears special characteristics in terms of being an eco-sensitive area, consisting of natural features with large stretches of land between water course and existing bunds on the sides of River Yamuna. It is also averred that the whole expanse of these stretches are not to be used for development, therefore, need not be taken up under Section 8 (Zonal Development Plan) of Delhi Development Authority Act, 1957. As per the estimates, around 1600 hectares of land is under water (river extent) and 8100 hectares is dry land (flood plains). The reach from Wazirabad barrage to Okhla barrage is 4700 hectares. According to the applicant, the construction of the bridge is likely to impact River Yamuna and river hydrology adversely. The applicant relies upon a report prepared by Environics Trust, New

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Delhi and Peace Institute Charitable Trust, Delhi, on 'Impact Assessment of Bridges and Barrages on River Yamuna', which was published in the year 2009. The report intended to understand and assess the impacts due to rail/road bridges and barrages on the river's environment and hydrology on the whole. According to the applicant, considering this Report, it was necessary and prudent to conduct Environmental Impact Assessment of the Signature Bridge Project and its impacts on River Yamuna and its hydrology. As per the applicant, the impacts of the activities of the proposed bridge construction can occur during Planning and Designing Stage to Pre-construction Stage, Construction Stage and Operation Stage. The applicant has also stated certain impacts of such constructions, like, diversion of waterways, contamination of soil and impact on aquatic life, including the chances of ground water contamination, which may occur at the Pre-Construction and Construction stage. For these reasons, the applicant claims that it was necessary for the Project Proponent to obtain prior Environmental Clearance before starting the project in terms of the Regulations of 2006.

4. It is the specific case of the applicant, that, such projects are covered under the Regulations of 2006 and particularly under Entry 8(a) and 8(b) of the Schedule to the said Regulations.

5. In reply to these, Respondent No. 1 admits that it has commenced construction of the Signature Bridge over River Yamuna without obtaining any Environmental Clearance from the Regulatory Authority i.e. Ministry of Environment, Forest & Climate

Change (for short 'MoEF') / State Level Environment Impact Assessment Authority (for short 'SEIAA'). According to the Respondent No. 1, since the existing two lanes Bridge at Wazirabad was unable to bear increased volume of road traffic, the Government of NCT of Delhi decided to construct a new eight lane bridge for high moving traffic. Thus, the construction work of the bridge was assigned to Respondent No. 1 by Government of NCT of Delhi in terms of MoU dated 27th August, 2004. A traffic study report was conducted by M/s Stup Consultants Pvt. Ltd. on behalf of Respondent No. 1, which recommended that considering the present traffic volume and the future traffic growth, a new link is badly required, as the existing infrastructure was insufficient in all respects. An Environmental Impact Assessment (for short, 'EIA') study was also conducted which summarized that there is likely to be no significant impact on the environment due to the proposed construction of the bridge. According to Respondent No. 1, Delhi Metro Rail Corporation gave 'No Objection' as per letter dated 1st December, 2004, similarly, the Ministry of Defense gave 'No Objection' on 23rd May, 2006, the Technical Committee of the Delhi Development Authority gave 'No Objection' on 14th June, 2006 and the Archeological Survey of India gave 'No Objection' on 7th August, 2006. The Yamuna Standing Committee considered the case in its 72nd meeting held on 7th January, 2007 and desired that the afflux of 18.20 cm should be further reduced by providing an additional water way beneath the approach road on the left bank of the river. Additional studies were carried out to reduce the afflux level as

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desired, to a level so as not to inhibit drainage of the city by providing additional openings.

6. When Respondent No. 1 applied to the MoEF for seeking Environmental Clearance for execution of the project, the MoEF, vide its letter dated 14th March, 2007 informed Respondent No. 1 that 'Bridges' are not covered under the Regulations of 2006 and as such Environmental Clearance is not required. The letter dated 14th March, 2007 reads as under:

"Subject: Regarding Environmental Clearance for Construction of bridge on River Yamuna at Wazirabad Delhi: Your application dated 6.11.2006
This has reference to your application dated 6.11.2006 for Environmental Clearance for construction of proposed bridge on River Yamuna at Wazirabad, Delhi under New EIA Notification 2006.
I am directed to inform you that 'Bridges' are not covered under EIA Notification 2006 and as such Environmental Clearance is not required."

7. In furtherance to the above, Respondent No. 1 did not pursue the matter any further and commenced the construction work which is even being carried on presently. It is also averred by this Respondent that the Central Water and Power Research Station (for short 'CWPRS'), Pune carried out further Hydraulic Studies and recommended the construction with certain technical parameters, which were duly adopted by Respondent No. 1 in order to take all precautionary measures in the interest of environment.

8. The NCT of Delhi and Delhi Pollution Control Committee (for short 'DPCC'), i.e., Respondent Nos. 2 & 4 respectively, have taken a stand that they are unable to say as to what is the proposed use of construction of this project in future. However, they also stated

that "Bridge" is not covered under the Regulations of 2006. In their reply, they referred to Entry No. 7(f) i.e., 'Highways' – (both National Highways or State Highways) but have not made any specific averment as to whether the present project is covered under Entry 7(f) or not. MoEF, though, did not file any separate reply, but, they have taken a stand during the course of the arguments that, "Bridges" is an 'activity' or 'project' which is not covered under any of the Entries of the Schedule to the Regulations of 2006, and hence, does not require Environmental Clearance.

9. As is evident from the above narrated factual matrix of the case, the entire controversy revolves around the meaning and interpretation of Entries 8 (a) and (b) and/or 7(f) respectively of the Schedule to the Regulations of 2006. Thus, it would be necessary for us to notice the Entries at this stage itself. The said Entries of the Schedule reads as under:

Project or Activity		Category with threshold limit		Conditions if any
		A	B	
(1)	(2)	(3)	(4)	(5)
7		Physical Infrastructure including Environmental Services		
7(f)	Highways	[(i) New National Highways; and ii) Expansion of National Highways greater than 30 km involving additional right of way greater than 20m involving land acquisition.]	[(i) All new New State Highway Projects] (ii) State Highway expansion projects in hilly terrain (above 1000m AMSL) and or ecologically sensitive areas].	[General Condition shall apply. Note- Highways include expressways.]
8		Building/Construction projects/Area Development projects and Townships		

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8(a)	Building and Construction projects		≥ 20000 sq.mtrs and <1,50,000 sq.mtrs. of built-up area#	[The built-up area for the purpose of this notification is defined as "the built-up or covered area on all the floors put together including basement(s) and other service areas, which are proposed in the building/ construction projects] =
8(b)	Townships and Area Development projects.		Covering an area ≥ 50 ha and or built up area ≥1,50,000 sq .mtrs ++	++All projects under Item 8(b) shall be appraised as Category B1

10. The present project, as per the affidavit filed by Respondent No.1 relates to construction of an eight-lane wide bridge across River Yamuna, connecting Eastern and Western parts of Delhi. This was necessitated for the purpose of easing out the traffic congestion. The old bridge over River Yamuna at Wazirabad was to be retained for movement of slow traffic. This was primarily to feed fast developing areas of Yamuna Vihar, Gokul Puri, Nand Nagri and Inter-State Traffic from Ghaziabad, Sahibabad, Loni on Eastern side and Timarpur, Azadpur, Burari, Mukherjee Nagar, Mall Road etc. on the Western side. Development of this 'Signature Bridge' was imperative and in the interest of general public, in order to ease the traffic and meet the needs of the residents across.

11. First and foremost, the meaning and scope of the word 'bridge' has to be understood.

A 'bridge' is a building erected across a river, ridge, valley, or other place for common benefit of travellers. It is a structure that spans and provides a passage over a road, railway, river or some other obstacle (Ref: Wharton's Law Lexicon 15th Edn., 2012, Collins English Dictionary and Thesaurus 1st Edn., 1999).

Law Lexicon, 3rd Edition 2012 describes the word 'bridge' as follows:-

"A bridge is a structure of wood, iron, brick, or stone, ordinarily erected over a river, creek, pond or lake; or over a ravine, railroad, canal, or other obstruction in a highway, so as to make a continuous roadway, and afford to travelers a convenient passageway from one bank to the other. While a bridge is a part of the highway which passes over it, no definite rule can be laid down as to where one terminates and the other begins."

12. Besides the above specific meaning that has been given to the expression 'bridge', even in common parlance, it is understood to be a structure that connects any two ends, for various activities like travelling, crossing a river, joining National or State Highways or roads and is intended to provide for natural or artificial link for commutation. A bridge can hardly be termed as a stand-alone project as it would normally be part of a major or a smaller development or allied activity. A bridge therefore, cannot be taken as an abstract term. It would, without exception, always be a part of a project, i.e., construction of a highway or even an ordinary road and/or to cross a river, canal, drain or even a rail road. To put it simply, the bridge would be a segment or part of a bigger project,

activity or development. It can hardly be a final product in itself. Like even in the present case, it is meant to connect the Wazirabad Barrage and Okhla Barrage, to ease out traffic pressure and provide fast movement of traffic across River Yamuna, though the existing bridge would still be in existence. Thus, it would be a step in the final process and will not be equitable to a final product. A bridge cannot be made to stand on its own without connecting it with the roads on both ends. It is an integral part of an activity of development or area development that has to be seen wholly and from a holistic point of view.

13. Regulations of 2006 have been issued by the Central Government in exercise of its statutory powers conferred under sub-section (1) and clause (v) of sub Section (2) of Section 3 of the Environmental Protection Act, 1986 (for short 'Act of 1986') read with clause (d) of sub-rule 3 of Rule 5 of the Environmental (Protection) Rules, 1986 (for short 'Rules of 1986') in supersession of the previously issued notifications. This notification not only has the force of law, but is a paramount piece of legislation for controlling and preventing environmental pollution and degradation.

14. Clause 2 of Regulations of 2006 declares and prescribes that a 'project' or 'activity' shall require prior Environmental Clearance from the concerned Regulatory Authority under Category 'A' and 'B' as the case may be. This would equally apply to all new projects or activities, as well as expansion and modernization of existing

projects or activities. Clause 2 also has an inbuilt restriction or limitation. It makes it obligatory upon the project proponent of any 'project' or 'activity' to take such Environmental Clearance before any construction work or preparation of land by the project management (except for securing the land), has started on the 'project' or 'activity'. In other words, obtaining of prior Environmental Clearance is a condition precedent before taking any steps in relation to the project or activity in terms of Clause 2. Schedule to the Regulations of 2006, then elaborates the projects and activities which would be covered under the said Clause 2. The heading of the Schedule also states 'List of Projects or Activities Requiring Prior Environmental Clearance'.

15. The significant expressions used by the framers in Clause 2 are 'projects and activities'. Obviously, when these two expressions have been used, they are neither interchangeable nor can be treated as synonymous. They have to have a distinct and different meaning with reference to the circumstances of a given project or activity. 'Project' even in common parlance is understood to mean, aim a planned undertaking; an individual or collaborative enterprise that is carefully planned to achieve a particular aim; a proposed or planned undertaking; any work taken up under a scheme for the purpose of providing employment etc. (Ref: The Law Lexicon 3rd Edn., 2012, Oxford Dictionary of English 3rd Edn. 2010, Wharton's Law Lexicon 15th Edn., 2012). The word 'Activity' could mean the combination of operations undertaken by the corporate body, whether or not they amount to a business, trade or profession in

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the ordinary sense. It could also mean the collective acts of one person or two or more people engaged in a common enterprise. It could even mean a condition in which things are happening or being done; busy or vigorous action or movement; a thing that a person or group does or has done (Ref: The Law Lexicon 3rd Edn., 2012, Black's Law Dictionary 9th Edn., 2009, Oxford Dictionary of English 3rd Edn., 2010). 'Project' is a term of wider connotation than an 'activity'. Normally every 'activity' would be part of a 'project' but not always. Both these expressions cannot be defined or explained in rigid and inelastic terms. But, the fact of the matter is that these expressions have to be given a wider meaning and a liberal construction with reference to the facts of a given case, involving a 'project' or an 'activity'.

16. Entry 7(f) of the Schedule to the Regulations of 2006 deals with projects and activities of 'Highways'. It includes New National Highways, all new State Highway Projects and expansion thereof. Subject to the qualifications stated in that Entry, the Highways would include 'Expressways'.

17. Entry 8(a) relates to Building and Construction projects of $\geq 20,000$ sq. mtrs. and $< 1,50,000$ sq. mtrs. of built up area. Entry 8(b) relates to projects of Township and Area Development, covering an area which is ≥ 50 hectares and/or built up area which is $\geq 1,50,000$ sq. mtrs. Such projects or activities under Entries 8(a) and 8(b) would be required to take Environmental Clearance and all such projects of Township and Area Development under Entry 8(b) satisfying the threshold area would be treated and appraised as

category 'B1' Projects. Entries 8(a) and 8(b) are under Entry 8 which carries a heading 'Building / Construction projects / Area Development projects and Townships'. The legislature has worded heading of Entry 8 in very wide and expressive terms. Use of expression with such wide magnitude clearly indicates the legislative intent that they should be construed liberally. These expressions in fact, and as above referred, are incapable of being construed strictly. Entry 8(b) talks both of Township and Area Development projects. These expressions relate to same or identical 'project' or 'activity'. Besides developing township, development of the areas is also contemplated as an activity for a bigger project. If these projects of Township and Area Development are covering an area \geq 50 hectares and/or the built up area in excess of 1,50,000 sq. mtrs., the project/activity would require prior Environmental Clearance.

18. Having deliberated upon the relevant provisions of the Regulations of 2006, now we would deal with the principles applicable to interpretations of such Entries. The Hon'ble Supreme Court in its various judgments has stressed upon the liberal interpretation of a statute, if it is a social welfare legislation. For instance, in the case of *The Authorised Officer, Thanjavur and Anr. v. S. Naganatha Ayyar and Ors.*, (1979) 3 SCC 466, the Court held that:

"1. While dealing with welfare legislation of so fundamental a character as agrarian reform, the court must constantly remember that the statutory pilgrimage

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to 'destination social justice' should be helped, and not hampered, by judicial interpretation."

In the case of *Workmen of American Express International Banking Corporation v. Management of American Express International Banking Corporation*, (1985) 4 SCC 71, the Court held that:

"4. The principles of statutory construction are well settled. Words occurring in statutes of liberal import such as social welfare legislation and 'Human Rights' legislation are not to be put in procrustean beds or shrunk to Liliputian dimensions. In construing these legislations the imposture of literal construction must be avoided and the prodigality of its mis-application must be recognised and reduced. Judges ought to be more concerned with the 'colour', the 'content' and the 'context' of such statutes."

In the case of *Securities and Exchange Board of India v. Ajay Agarwal*, (2010) 3 SCC 765, the Court held that:

"41. It is a well known canon of construction that when Court is called upon to interpret provisions of a social welfare legislation the paramount duty of the Court is to adopt such an interpretation as to further the purposes of law and if possible eschew the one which frustrates it."

19. The Courts have also evoked the principle of purposive construction in relation to social welfare legislations. The statute and its provisions have to be given an expanded meaning that would tilt in favour of the object of the Act, curing or suppressing the evil by enforcing the law. While interpreting an Entry in a Schedule to an Act, the ordinary rule of construction requires to be applied to understand the Entries. There is a functional difference between a body of the statute on the one hand and the Schedule which is attached thereto on the other hand. The Sections in these

Acts are enacting provisions. In contrast, the Schedule in an Act sets down things and objects and contains their names and descriptions. The sections of and the Schedule to the Act, have to be co-jointly read and construed, keeping in view the purpose and object of the Act while keeping a clear distinction between a fiscal and a social welfare legislation in mind. Social welfare programmes projected by the State and object of the statute are of paramount consideration while interpreting and construing such Entries. The law is always intended to serve the larger public purpose. In fact, welfare of the people is the supreme law and an enacted law should be administered lawfully, i.e., *salus populi est suprema lex*. It is not possible even for the legislature to comprehend and provide solution to all the evils or obstacles that are likely to arise in implementation of the enacted laws. Therefore, the Tribunal must adopt an approach for interpretation of these Entries which would further the cause of the Act and the intent of the legislation and be not unduly influenced by the rule of restricted interpretation.

20. In the case of *Regional Provident Fund Commissioner v. Shibu Metal Works*, AIR 1965 SC 1076, the Hon'ble Supreme Court was concerned with the question as to the true content of the entry "Electrical, Mechanical or general engineering products" included in Schedule 1 of the Employees' Provident Fund Act, 1952. The Hon'ble Supreme Court while dealing with this question and the principles that should be applied to find the true content of such entry held as under:

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“13. Reverting then to the question of construing the relevant entry in Sch. I, it is necessary to bear in mind that this entry occurs in the Act which is intended to serve a beneficent purpose. The object which the Act purports to achieve is to require that appropriate provision should be made for the employees employed in the establishments to which the Act applies; and that means that in construing the material provisions of such an Act, if two views are reasonably possible, the courts should prefer the view which helps the achievement of the object. If the words used in the entry are capable of a narrow or broad construction, each construction being reasonably possible, and it appears that the broad construction would help the furtherance of the object, then it would be necessary to prefer the said construction. This rule postulates that there is a competition between the two constructions, each one of which is reasonably possible. This rule does not justify the straining of the words or putting an unnatural or unreasonable meaning on them just for the purpose of introducing a broader construction.”

21. The Hon'ble Supreme Court while giving a wider meaning to the Entry, held that the manufacture of brass utensils can easily be regarded as an activity, the object of which is the manufacture of general engineering products. This was the balanced and proper interpretation which was neither narrow nor broad, but was one that fitted into the scheme of the Schedule and the Object of the Employees' Provident Fund Act, 1952.

22. As we have already noticed that the Regulations of 2006 have been enacted in furtherance to the powers of delegated legislation vested in the Central Government in terms of the provisions of the Act and Rules of 1986. The Act of 1986 was enacted while noticing the decline in environmental quality as evidenced by increasing pollution, loss of vegetal cover and biological diversity, excessive concentrations of harmful chemicals in the ambient atmosphere and in food chains, growing risks of environmental accidents and

threats to life support systems. It also noticed the inadequate linkages in handling matters of industrial and environmental safety. The purpose was to provide for greater environmental safety. The Act of 1986 was intended to take appropriate steps for the protection and improvement of environment. Environment not only includes water, air and land, but, also the interrelationship which exists among and between water, air and land and human beings, other living creatures, plants, micro-organisms and property. Section 3 of the Act of 1986 *inter alia*, but, specifically empowers the Central Government to take all such measures as it deems necessary for the purpose of protecting and improving the quality of environment. Clause (ii) and (iii) of Sub-Section 2 of Section 3, requires the Central Government to *inter alia*, but, specifically take measures as contemplated under sub-section 1 of Section 3, in relation to planning and execution of a nation-wide programme for prevention, control and abatement of environmental pollution, as well as for laying down standards for the quality of environment in its various aspects. Rule 5 of the Rules of 1986 further empowers the Central Government to place prohibition and restriction on the location of industries and the carrying on of processes and operations in different areas with reference to the environmental pollution. The object and purpose of the Act is to ensure prevention and control of environmental pollution, its abatement and particularly, degradation thereof.

23. Rivers are a very significant aspect of environment and ecology. The authorities concerned are not only expected to take

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steps for preventing pollution of water *per se* but, are also required to ensure that its biodiversity, ecology and floodplain is not unduly intruded or exploited to the disadvantage of the environment. That is the precise reason that the Act of 1986 not only refers to the pollution of air, water and land but even admits to protect its interrelationship with human beings and even other living creatures including plants etc. The legislature has left nothing to the imagination and has worded the Entry 8(b) very widely so as to cover within its ambit every facet of environment as contemplated under Section 2(a) of the Act of 1986. The aim and object of the Act of 1986 is to protect the environment, which certainly includes rivers.

24. Rivers can be polluted directly or its ecology, biodiversity or flow can be adversely affected by developmental activities, thus, causing environmental hazards. Structures like bridges can cause a series of impacts both in immediate time and extended over a long duration. Impact is not only limited to the specific physical development, but, it also gives rise to several other interlinked elements which can cumulatively impact the environment which replenishes the resources in long run. These environmental hazards may result from flooding, narrowing of embankments and endangering of aquatic life. Any development project or activity upon the floodplain, river bank or across the river is bound to have some impact upon the ecology and biodiversity of the river. It is an established fact that such projects, whether part of a comprehensive developmental activity or independently, would

narrow the water course or environmental flow of the river. Such activity may have adverse impacts on aquatic flora and fauna. In some cases, it may adversely affect the floodplain and may amount to affecting the terrestrial ecology.

25. Thus, the assessment of such impact and degradation of environment resulting therefrom, is essential and is a matter which is of concern for the Expert Bodies appointed under the Act. Furthermore, Environmental Impact Assessment Guidance Manual for Building, Construction, Township and Area Development Project, 2010 provides that environmental facets which are to be considered in relation to township and area development are land, air, noise, water, biological, socio-economic and solid waste management. Thus, it is necessary to ascertain the baseline data of these environmental facets before a project or an activity may be permitted or carried out.

26. The Regulations of 2006 have been promulgated with the aim and object of assessing the impact that a project or an activity would have upon the environment and ecology. The expert body is expected to precisely visualise the extent of environmental degradation resulting from the project before granting approval. Normally, the projects having irretrievable and permanent impacts on nature are not permitted, and where permitted, very stringent, protective and precautionary conditions are imposed. Thus, it is relevant at this stage to understand the concept of EIA as contemplated under the Regulations of 2006 with reference to the

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provisions of the Act of 1986 for protection of ecology and biodiversity of the river and riverbed.

27. In order to understand the concept of EIA, one first needs to know what an 'Environmental Impact' is. An 'Environmental Impact' is any impact or effect (positive or negative) that an activity has on an environmental system, environmental quality or natural resources. It is also known as an environmental effect [Oxford Dictionary of Environment and Conservation, First Edn., 2007]. An 'Environmental Effect' is defined as a natural or artificial disturbance of the physical, chemical or biological components that make up environment [Black's Law Dictionary, 9th Edn., 2009]. Such activities may take the form of mining, oil and gas exploration, thermal, nuclear and hydraulic power plants, metallurgical industries, chemical fertilizers, storing of hazardous chemicals, industrial estates/parks/complexes/areas, waste treatment plants, etc.

28. EIA was first introduced in the USA in 1969 and has since been widely accepted. It is being adopted in one form or the other in an increasing number of countries as a basis for making informed and rational judgments about what sort of developments are environmentally acceptable. It even includes the concept of 'Strategic Environmental Assessment'. An EIA is defined as a formal statement of the environmental impacts that are likely to arise from major activities such as new legislation or a new policy, programme or project. The results of the assessment are reported in the

'Environment Impact Statement' (EIS) [Oxford Dictionary of Environment and Conservation, First Edn., 2007]. Thus, an EIA in general parlance does not confine itself only to projects but also to legislations and policies.

29. With expansion and modernization of economic and trade activities in India, there was a need felt to understand as well as regulate the potential environmental impacts that such activities may have. Thus, in order to impose certain restrictions and prohibitions on new projects or activities, or on expansion or modernization of existing projects or activities, the Central Government enacted the Environment Clearance Regulations, 2006, on 14th September, 2006 under Section 3(1) and 3(2)(v) of the Act of 1986 and Rule 5(2) of Rules of 1986. The objective of the Regulations of 2006 is to set procedures of environmental clearance before establishment of project of identified nature and size. It required the construction of new projects or activities or the expansion or modernization of existing projects or activities listed in the Schedule to the notification to be undertaken in any part in India only after prior Environmental Clearance is granted by the particular authority. These Regulations do not define an EIA or an EIS. However, it requires the Expert Appraisal Committees in case of category 'A' projects and the State Level Expert Appraisal Committees in case of category 'B-1' projects or activities, including applications for expansion and modernization and/or change in product mix of existing projects or activities, to determine detailed and comprehensive ToR addressing all relevant environmental

concerns for the preparation of an EIA. Categorization of projects/activities into category 'A' or 'B' is done on the basis of the potential hazards that it poses to the environment, location, the extent of area involved etc.

30. Thus, clearly, the mandate of the Regulations of 2006 is to ensure protection of environment and ecology in face of rapid developmental activities, which are even the need of the hour. Since the object of the Regulations of 2006 is to provide developmental activities while ensuring presence of a safer environment, it can be termed as welfare legislation. Thus, the rule of reasonable constructions in conjunction with the liberal construction would have to be applied.

Article 48A in Part-IV (Directive Principles) of the Indian Constitution enjoins that "State shall endeavour to protect and improve the environment and to safeguard the forests and wild life of the country". Article 47 further imposes a duty on the State to improve public health as its primary duty. Article 51A(g) imposes "a fundamental duty" on every citizen of India to protect and improve the natural "environment" which includes forests, lakes, rivers and wild life, and to have compassion for living creatures. The word "environment" is of broad spectrum which brings within its ambit "hygienic atmosphere and ecological balance". It is, therefore, not only the duty of the State, but also the duty of every citizen to maintain hygienic environment. The State, in particular, has a duty in that behalf to shed its extravagant, unbridled sovereign power

and to forge in its policy, to maintain ecological balance and hygienic environment. Article 21 protects 'Right to Life' as a fundamental right. Enjoyment of life and its attainment, including the right to live with human dignity, encompasses within its ambit, the protection and preservation of environment, ecological balance, free from pollution of air and water, sanitation, without which life cannot be enjoyed. Any contra acts or actions would cause environmental pollution. Therefore, there is a constitutional imperative on the State authorities and bodies like the Pollution Control Board not only to ensure and safeguard proper environment, but also to take adequate measures to promote, protect and improve the environment, both, man-made and natural. Sections 3 and 5 of the Act of 1986, apart from other provisions of Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, empower the Government to make all such directions and take all such measures as are necessary or expedient for protecting and promoting the 'Environment', which expression has been defined in very wide and expansive terms in Section 2(a) of the Act of 1986. [*Noyyal River Ayacutdars Protection Association rep. by its President, P.M. Govindaswamy Pappavalasu v. The Government of Tamil Nadu rep. by its Secretary, Public Works Department and Ors.*, 2007-1-LW 275, *Indian Council for Enviro-Legal Action etc. v. Union of India*, (1996) 3 SCC 212].

The flood plains and river bed of Yamuna are under increasing pressure of alternative land use for various purposes, which are

driven primarily by growth of economy at the cost of the river's integrity as an eco-system. [*Manoj Mishra v. Union of India*, Original Application No. 6 of 2012 and Original Application No. 300 of 2013, decided on 13th January, 2015]. The powers conferred on the Central Government by virtue of provisions contained in Section 3, 5 and 25 of the Act of 1986 and on the National Green Tribunal by virtue of Sections 14, 15 and 16 read with Section 18 of the National Green Tribunal Act, 2010, are wide enough to provide for protection, preservation and restitution of the environment and ecology of the river bed of River Yamuna.

31. If an activity is allowed to go ahead, there may be irreparable damage to the environment and if it is stopped, there may be irreparable damage to economic interest. In case of doubt, however, protection of environment would have precedence over the economic interest. Precautionary principle requires anticipatory action to be taken to prevent harm. The harm can be prevented even on a reasonable suspicion. It is not always necessary that there should be direct evidence of harm to the environment [*Vellore Citizens Welfare Forum v. Union of India*, (1996) 5 SCC 647].

32. The applicability of 'Principle of Liberal Construction' to socio-welfare legislation like the Act of 1986, thus, could be justified either with reference to the 'doctrine of reasonable construction' and/or even on 'constructive intuition'. In the case of *Haat Supreme Wastech Pvt. Ltd. v. State of Haryana and Ors*, 2013 ALL (I) NGT REPORTER (2) (DELHI) 140, the Tribunal, while dealing with

interpretation of the Regulations of 2006 along with the Schedule and while deciding whether the bio-medical waste disposal plants required Environmental Clearance or not, answered the question in affirmative, that, such plants are covered under Entry 7(d) and while answering so, applied the doctrine of 'reasonable construction' as well as 'constructive intuition'. Doctrine of 'reasonable construction' is intended to provide a balance between development and the environment. The Tribunal held that there was no occasion for the Tribunal to take the scope of Entry 7(d) as unduly restrictive or limited and it gave the entry a wide meaning. It was also held that the Environmental Clearance would help in ensuring a critical analysis of the suitability of the location of the bio-medical waste disposal plant and its surroundings and a more stringent observation of parameters and standards by the project proponent on the one hand and limiting its impact on public health on the other.

33. 'Development' with all its grammatical variations, means the carrying out of building, engineering, mining or other operations in, on, over or under land or the making of any material change in any building or land and includes re-development. It could also be an activity, action, or alteration that changes underdeveloped property into developed property (Ref: Wharton's Law Lexicon, 15th Edn., 2012, Black's Law Dictionary 9th Edn., 2009). Reading of Clause 2 of the Regulations of 2006 and the Schedule attached thereto, particularly in light of the above principles, clearly demonstrates that an expression of very wide magnitude has been deliberately

used by the framers. They are intended to cover all projects and activities, in so far as they squarely fall within the ambit and scope of the Clause. There does not appear to be any interest for the Tribunal to give it a narrower or a restricted meaning or interpretation. In the case of *Kehar Singh v. State of Haryana*, 2013 ALL (I) NGT REPORTER (2) (DELHI) 140, the Tribunal had specifically held that there should exist a nexus between the act complained of and environment and that there could be departure from the rule of literal construction, so as to avoid the statute becoming meaningless or futile. In case of a social or beneficial legislation, the Tribunal should adopt a liberal or purposive construction as opposed to the rule of literal construction. The words used therein are required to be given a liberal and expanded meaning. The object and purpose of the Act of 1986 and the Schedule of Regulations of 2006 thereto was held to be of utmost relevance. In the case of present kind, if no checks and balances are provided and expert minds does not examine and assess the impacts of such projects or activities relating to development, consequences can be very devastating, particularly environmentally. Normally, the damage done to environment and ecology is very difficult to be redeemed or remedied. Thus, a safer approach has to be adopted to subject such projects to examination by Expert Bodies, by giving wider meaning to the expressions used, rather than to frustrate the object and purpose of the Regulations of 2006, causing irretrievable ecological and environmental damage.

34. There can hardly be any escape from the fact that Entries 8(a) and 8(b) are worded somewhat ambiguously. They lack certainty and definiteness. This was also noticed by the Hon'ble Supreme Court in the case of *In Re: Construction of Park at Noida Near Okhla Bird Sanctuary v. Union of India (UOI) & Ors.*, (2011) 1 SCC 744, where the Court felt the need that the Entries could be described with greater precision and clarity and the definition of 'built-up area' with facilities open to the sky needs to be freed from its present ambiguity and vagueness. Despite the above judgment of the Hon'ble Supreme Court, Entry 8(a) and 8(b) were neither amended nor altered to provide clarity or certainty. However, the expression 'built up area' under the head 'conditions if any' in column (5) of the Schedule to the Regulations of 2006, was amended vide Notification dated 4th April, 2011. *Dehors* the ambiguities in these Entries, an interpretation that would frustrate the object and implementation of the relevant laws, would not be permissible. 'Township and Area Development project' is an expression which would take within its ambit the projects which may be specific in relation to an activity or may be, they are general Area Development projects, which would include construction and allied activities. 'Area Development' project is distinct from 'Building and Construction' project, which by its very language, is specific and distinct. Entries 8(a) and 8(b) of the Schedule to the Regulations of 2006 have been a matter of adjudication and interpretation before the Hon'ble Supreme Court in the case of *In Re: Construction of Park at Noida Near Okhla Bird Sanctuary v.*

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Union of India (UOI) & Ors., (supra). In that case, Hon'ble Supreme Court was concerned with the construction of a park in Noida near the Okhla Bird Sanctuary. The Hon'ble Supreme Court provided a distinction between a 'Township project' and 'Building and Construction project' and held that a 'Township project' was different, both quantitatively and qualitatively from a mere 'Building and Construction project'. Further, that an Area Development project may be connected with the Township Development project and may be its first stage when grounds are cleared, roads and pathways are laid out and provisions are made for drainage, sewage, electricity and telephone lines and the whole range of other *civic infrastructure*, or an area development project may be completely independent of any township development project as in the case of creating an artificial lake, or an urban forest or setting up a zoological or botanical park or a recreational, amusement or a theme park. The Hon'ble Supreme Court principally held that a zoological or botanical park or a recreational park etc. would fall within the category of Entry 8(b) but, if it does not specify the threshold marker of minimum area, then it may have to be excluded from operation of the mandatory condition of seeking prior Environmental Clearance. The Court held as under:

"66. The illustration given by Mr. Bhushan may be correct to an extent. Constructions with built up area in excess of 1, 50,000 sq mtrs. would be huge by any standard and in that case the project by virtue of sheer magnitude would qualify as township development project. *To that limited extent* there may be a quantitative correlation between items 8(a) and 8(b). But it must be realized that *the converse of the illustration given by Mr. Bhushan may not be true*. For example, a

project which is by its nature and character an "Area Development project" would not become a "Building and Construction project" simply because it falls short of the threshold mark under item 8 (b) but comes within the area specified in item 8 (a). The essential difference between items 8(a) and 8(b) lies not only in the different magnitudes but in the difference in the nature and character of the projects enumerated there under.

67. In light of the above discussion it is difficult to see the project in question as a "Building and Construction project". Applying the test of 'Dominant Purpose or Dominant Nature' of the project or the "Common Parlance" test, i.e. how a common person using it and enjoying its facilities would view it, the project can only be categorized under item 8(b) of the schedule as a Township and Area Development project". But under that category it does not come up to the threshold marker inasmuch as the total area of the project (33.43 hectares) is less than 50 hectares and its built-up area even if the hard landscaped area and the covered areas are put together comes to 1,05,544.49 square metres, i.e., much below the threshold marker of 1,50,000 square metres."

35. Besides dealing with the scope and dimensions of Entries 8(a) and 8(b) of the Schedule afore-stated, the Hon'ble Supreme Court, while referring to the findings given by the CEC in its report, that the Project was located at a distance of 50 mtrs. from the Okhla Bird Sanctuary and that in all probability, the project site would have fallen in the Eco-Sensitive Zone had a timely decision in this regard being taken by the State Government/MoEF, permitted continuation of the project, and held as under:

"74. The report of the CEC succinctly sums up the situation. Though everyone, excepting the project proponents, views the construction of the project practically adjoining the bird sanctuary as a potential hazard to the sensitive and fragile ecological balance of the Sanctuary there is no law to stop it. This unhappy and anomalous situation has arisen simply because despite directions by this Court the authorities in the Central and the State Governments have so far not been able to evolve a principle to notify the buffer zones around Sanctuaries and National Parks to protect the

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sensitive and delicate ecological balance required for the sanctuaries.

But the absence of a statute will not preclude this Court from examining the project's effects on the environment with particular reference to the Okhla Bird Sanctuary. For, in the jurisprudence developed by this Court Environment is not merely a statutory issue. Environment is one of the facets of the right to life guaranteed under Article 21 of the Constitution”

36. The above dictum of the Supreme Court clearly laid down a fine distinction between Entries 8(a) and 8(b) of the Schedule to the Regulations of 2006 on one hand, while on the other hand held that mere absence of law cannot be a ground for degrading the environment, as environment is one of the facets of 'Right to Life' as envisaged under Article 21 of the Constitution of India.

37. Thus, this Tribunal has to examine the ambit and scope of Entry 8(b) while keeping in mind the Scheme and Object of the Act of 1986, the Rules of 1986, the Regulations of 2006 along with its Schedule and most importantly right to clean environment as an integral concept of our Constitutional Scheme. The project in question is construction of a 'Signature Bridge' over River Yamuna, connecting eastern and western ends of the city of Delhi and to ensure fast and smooth flow of traffic in that part of the city. This certainly is an Area Development project falling within Entry 8(b) of Schedule to the Regulations of 2006. There is also no dispute that the total constructed area of the 'Signature Project' is 1,55,260 sq. mtrs., which is higher than the threshold marker of 1,50,000 sq. mtrs. This project cannot fall within Entry 7(f) of the Schedule to

the Regulations of 2006, as it is neither a national nor a city highway and not even any part thereof.

38. Having held that the project in question is covered under Entry 8(b) of the Schedule to the Regulations of 2006, now we have to consider what relief can be granted to the applicant in the facts and circumstances of the case. Admittedly, particularly according to the Project Proponent, various other departments have granted them clearances and/or have already issued No Objection Certificates for construction of the said project. MoEF vide its letter dated 14th March, 2007 had informed the Project Proponent that 'bridges' are not covered under the Regulations of 2006 and as such, no prior Environment Clearance was required for commencement of the project. It is in the backdrop of these circumstances that the construction of the project commenced in the year 2007. As of today, more than 80 per cent of the bridge has already been completed. Huge public funds have been spent on this project. It is intended to serve public purpose and is in public interest, namely free and fast flow of traffic between east and west Delhi. Apparently, we cannot attribute any fault or breach of legal duty to the Project Proponent (Respondent No. 1). We do not think it is a case where we should either direct stoppage of project work or direct demolition thereof.

39. In light of the peculiar facts and circumstances of the case and the reasons afore-recorded, we dispose of this application with the following directions:

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1. We hold that construction of a 'bridge' or similar activity covering a build up area $\geq 1,50,000$ sq. mtrs. and/or covering an area of ≥ 50 hectares, would be covered under Entry 8(b) of the Schedule to the Regulations of 2006.
 2. We direct Respondent No. 1 to obtain Environmental Clearance for the project in question. Such application would be submitted within a period of three weeks from the pronouncement of this Judgment.
 3. The SEIAA shall consider the said application as Category 'B' project and would dispose it of by passing appropriate orders in accordance with law upon submission of Environmental Impact Assessment Report and in any case not later than six months from today.
 4. Though the major part of the project has already been completed, we do not direct demolition thereof in public interest. However, we direct SEIAA to put such terms and conditions as may be necessary to ensure that there are no adverse impacts on environment, ecology, biodiversity and environmental flow of River Yamuna and its floodplain.
 5. We also direct that the SEIAA may impose conditions containing remedial measures to be taken by the Project Proponent to ensure that there is no environmental degradation.
 6. We direct MoEF to comply with the directions issued by the Hon'ble Supreme Court in para 84 of the case of *In Re:*

Construction of Park at NOIDA Near Okhla Bird Sanctuary v.

Union of India (UOI) & Ors., (2011) 1 SCC 744.

40. There shall be no order as to costs.

Justice Swatanter Kumar
Chairperson

Mr. M.S. Nambiar
Judicial Member

Dr. D.K. Agrawal
Expert Member

Prof. A.R. Yousuf
Expert Member

New Delhi
12th February, 2015

NGT





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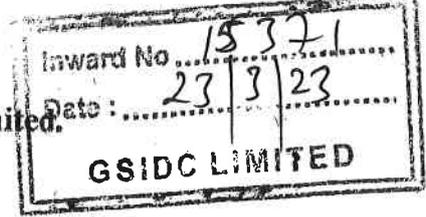
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admingoa@lksgroup.com

LKS/GSIDC/MANDОВI PROMENADE/2023/97

DATE 23/03/2023

To,
✓
The Managing Director
Goa State Infrastructure Development Corporation Limited,
7th floor, EDC House,
Dr. Atmaram Borkar road,



Project: Construction of pedestrian Arch Bridge Connecting to Mandovi River Promenade and DB road over St. Inez Creek Near ESG Building at Panaji

Sub: Submission of Structure Completion Certificate

Respected Sir,

With reference to the above mentioned subject find enclosed structure completion certificate for project of **Construction of pedestrian Arch Bridge Connecting to Mandovi River Promenade and DB road over St. Inez Creek Near ESG Building at Panaji.**

This is for your information and record.

Thanking you.

Sincerely

For LKS INDIA Pvt Ltd



Maria Belen Mendizabal

Team Leader



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COMPLETION CERTIFICATE

TO WHOMSOEVER IT MAY CONCERN

This is to certify the work awarded to M/s. DHIPL Projects Pvt. Ltd. for "**Construction of Pedestrian Arch Bridge Connecting to Mandovi River Promenade and DB road over St. Inez Creek Near ESG Building at Panaji**" by GOA STATE INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (GSIDC), that the structure with railing is 100% complete.

For LKS India Pvt. Ltd.

Maria Belen Mendizabal
Authorized Signatory

Date: 23/03/2023

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