

VOLUME I

BEFORE THE NATIONAL GREEN TRIBUNAL
WESTERN ZONE
APPEAL NO. 9 OF 2016 (WZ)



Dileep B. Nevatia

...Appellant

Versus

Union of India &Ors.

...Respondents

INDEX

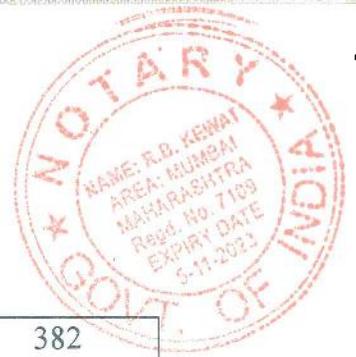
Sr. No.	Date	Particulars	Page No.
VOLUME I			
1.	19 September 2019	Affidavit on Behalf of Respondent No. 6, setting out the status of the Project and environmental impact mitigation measures taken by the Respondent No. 6	1 – 19
2.	17 November 2017	Exhibit A Copies of letters of acceptance for Packages 1, 2 and 3 sent by Respondent No. 6 to contractors	20 – 25
3.	23 March 2018	Exhibit B Copies of commencement of works notices sent to contractors by Respondent No. 6	26 – 28
4.	23 March 2020	Exhibit C Copy of notification issued by State of Maharashtra regarding lockdown regulations due to the CoVid-19 pandemic	29 – 33
5.	16 and 18 April 2020	Exhibit D Copies of letters from Respondent No. 6 to contractors for Packages 2 and 3 asking them to commence essential pre-monsoon activities	34 – 38
6.	17 April 2020	Exhibit E Letter from Respondent No. 6 to contractor for Package 1 asking it to commence essential pre-monsoon activities	39 – 42
7.	31 August 2020	Exhibit F Copy of guidelines issued by the Government of Maharashtra regarding	43 – 52



		relaxing of restrictions in place due to CoVid-19	
8.	31 August 2020	Exhibit G Photographs showing the status of the Project as of 31 August 2020	53 – 85
9.		Exhibit H Monthly progress report for the months of February 2020 till August 2020	86 – 87
10.		Exhibit I Copy of Notice of Motion No. 307 of 2016 filed by Respondent No. 6 in Public Interest Litigation No. 87 of 2006 (earlier Writ Petition (L) No. 3246 of 2004)	88 – 215
VOLUME II			
11.	28 November 2016	Exhibit J Copy of order of Bombay High Court in Public Interest Litigation No. 87 of 2006	216 – 217
12.	15 January 2020	Exhibit K Copy of letter of the General Consultant enclosing checklist detailing the compliance	218 – 228
13.	9 May 2016	Exhibit L Copy of letter showing payment of Rs. 49,59,822 to the Chief Conservator of Forests	229 – 230
14.	17 October 2016	Exhibit M Copy of letter showing payment of Rs. 4,56,29,600 to the Chief Conservator of Forests	231 – 232
15.	6 December 2019	Exhibit N Copy of letter of the General Consultant enclosing status report vis-à-vis mangroves afforestation of the Mangroves Cell	233 – 257
16.	26 December 2016	Exhibit O Copy of letter showing payment of Rs. 2,86,35,000.00 to IIT-Bombay	258 – 259
17.	6 September 2017	Exhibit P Copy of letter showing payment of Rs. 2,93,82,000.00 to IIT-Bombay	260 – 261
18.	11 September 2020	Exhibit Q Copy of letter received from the Mangrove and Marine Biodiversity	262 – 265



		Conservation Foundation confirming receipt of Rs. 86,31,00,000/-	
19.	25 September 2017	Exhibit R Copy of the letter from Respondent No. 6 to the Mangroves and Marine Biodiversity Conservation Foundation, Mumbai enclosing a cheque for an amount of Rs. 31,92,73,240/-	266 – 268
20.		Exhibit S Report of the BNHS (Respondent No. 7) for October 2019 to March 2020 on ' <i>Monitoring and Mitigating the Impacts of Mumbai Trans-Harbour Link on Flamingos and Other Avifauna and Formulating a Conservation Blueprint for the Sewri-Nhava Seascape</i> '	269 – 325
21.	24 January 2020	Exhibit T 4 th Meeting of the Environmental Monitory Committee constituted by the Respondent No. 6	326 – 329
22.	May 2018 to February 2020	Exhibit U Photographs taken of the flamingos between this period near the project site	330 – 370
23.		Exhibit V Photographs of construction equipment fitted with mufflers and exhaust silencers	371 – 374
24.	4 April 2005	Exhibit W Approval from Archaeological Survey of India	375
25.	12 March 2013	Exhibit X Approval from Bhabha Atomic Research Centre	376
26.	31 January 2005	Exhibit Y Approval from Central Water and Power Research Station	377
27.	4 March 2013	Exhibit Z Approval from Jawaharlal Nehru Port Trust	378
28.	30 March 2013	Exhibit AA Approval from Mumbai Port Trust	379
29.	31 August 2012	Exhibit BB Approval from Maharashtra Maritime Board	380 – 381



30.	18 January 2016	Exhibit CC Approval from Central Railways	382
31.	25 December 2015	Exhibit DD Approval from Mumbai JNPT Port Road Company Limited	383 – 384
32.	22 March 2016	Exhibit EE Proof of payment of the amount of Rs. 6,59,27,886/- to the Deputy Conservator of Forest, Alibaug	385 – 387
33.	22 January 2016	Exhibit FF In-principle Stage-I Clearance from the Respondent No. 1 for diversion of the said 47.417 hectares of forest land	388 – 391
34.	26 February 2014	Exhibit GG Order from District Collector Raigad designating 47.417-hectares of previously non-forest land as forest land for compensatory afforestation	392 – 394
VOLUME III			
35.	2 November 2018	Exhibit HH Letter from Chief Conservator of Forests to the Respondent No. 1 setting out compliance by Respondent No. 6 of the conditions for grant of the Stage-II clearance	395 – 580
36.	22 March 2017	Exhibit II Letter from CCF to Respondent No. 6 allowing construction activities in the land designated from forest to non-forest land.	581 – 587
37.		Exhibit JJ Photograph showing the installation of the barrier	588
38.		Exhibit KK Photographs showing installation of the special lighting system	589



BEFORE THE NATIONAL GREEN TRIBUNAL
WESTERN ZONE
APPEAL NO. 9 OF 2016 (WZ)



Dileep B. Nevatia ...Appellant
Versus
Union of India &Ors. ...Respondents

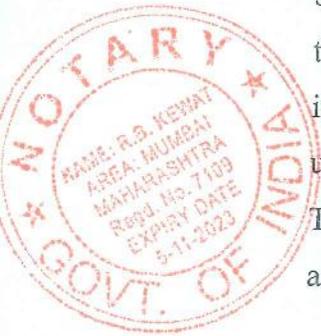
**AFFIDAVIT ON BEHALF OF RESPONDENT NO. 6, SETTING OUT
THE STATUS OF THE PROJECT AND ENVIRONMENTAL IMPACT
MITIGATION MEASURES TAKEN BY RESPONDENT NO. 6**

I, Yatin Sakhalkar, Superintending Engineer, Engineering Division of the Respondent No. 6, having my office at MMRDA Building, Block B, Bandra Kurla Complex, Mumbai – 400 051, do hereby state on solemn affirmation as follows:

1. I am authorized by the Respondent No: 6 to make the present Affidavit on its behalf.
2. I say that on 24 August 2020, the present appeal was heard (via video conferencing) by this Hon'ble Tribunal. I was informed by the advocates representing Respondent No. 6 that during this hearing the Respondent No. 6 was orally directed to update the Tribunal of the status of the Mumbai Trans Harbour Link (MTHL or Project) before the next date of hearing on 21 September 2020. The MTHL and the approval dated 25 January 2016 given by the Respondent No. 1 under the Coastal Regulation Zone (CRZ) Notification, 2011 (2011 CRZ Notification) are the subject matter of the present Appeal.
3. At the outset, I say that this affidavit is being made despite severe limitation in working of the Respondent No. 6 and its officers during the lock down phase as well as during the 'Mission Begin Again' phase. The COVID-19 pandemic has resulted in restrictions on public transport, local trains and metros and also restrictions in the staff who can attend the office, keeping in

Yatin Sakhalkar

mind social distancing norms. This has resulted in severe limitation in obtaining relevant information, reports, updates etc. with regards to the Project from the concerned contractors and/or site officers. It is under these limitations that this affidavit setting out the status of the Project, and written submissions are being filed. It would be therefore in the interest of justice that further time be granted to the Respondent No.6 to place on record all information which, in view of the pandemic the Respondent No. 6 has been unable obtain. However, in deference to the directions of this Hon'ble Tribunal this limited affidavit setting out the status dated 19 September 2020 as well as the written submissions have been filed.



4. I say that I have previously filed three affidavits in reply on behalf of the Respondent No. 6 – 4 May 2016 (**First Affidavit**), 10 February 2017 (**Second Affidavit**) 23 March 2017 (**Third Affidavit**) and 29 January 2018 (**Fourth Affidavit**). I repeat and reiterate the contents of the said First Affidavit, Second Affidavit, Third Affidavit and Fourth Affidavit. These affidavits are to be treated as a part of this present affidavit.

PHYSICAL PROGRESS OF CONSTRUCTION

5. I say that as of 31 August 2020 the physical progress of the construction of the project is as under:
- i. Respondent No. 6 issued letters of acceptance dated 17 November 2017 for construction of Packages – 1, 2 and 3 of the Project to various contractors. The broad scope of the individual packages is as follows:
 - a. **Package-1:** For construction of a 10.380 km long bridge section (Chainage 0+000 – Chainage 10+380) across the Mumbai bay including Sewri Interchange. The time of completion of the package is 1643 days (about 54 months).
 - b. **Package-2:** For Construction of a 7.807 km long bridge section (Chainage 10+380 – Chainage 18+187) across the Mumbai bay including Shivaji Nagar Interchange). The time of completion of the package is 1643 days (about 54 months)

W. Sakal

c. **Package-3:** For construction of a 3.613 km long viaduct section (Chainage 18+187 – Chainage 21+800) including interchanges at State Highway-54 and at National Highway-4B near Chirle in Navi Mumbai. The time of completion of the package is 1279 days (about 42 months).

Copies of the letters of acceptance dated 17 November 2017 are marked and annexed to this affidavit as '**Exhibit A**'.

ii. On 23 March 2018, the contractors were notified about the commencement of works of Package-1, Package-2, and Package-3. Copies of the commencement of work notices all dated 23 March 2018 are marked and annexed to this affidavit as '**Exhibit B**'.

iii. On 23 March 2020, because of the COVID-19 pandemic, the Government of Maharashtra imposed a lockdown with immediate effect till 31 March 2020, as a result of which all construction activities on the Project were suspended. A copy of the said notification dated 23 March 2020 is marked and annexed to this affidavit as '**Exhibit C**'. The lockdown was extended, by notification, from to time. I crave leave to refer upon these notifications issued in this regard.

iv. Subsequently, based on permissions received from the District Collector Rajgad and guidelines of the Government of Maharashtra, the Respondent No. 6 directed the contractors for Package 2 and 3, vide its letter dated 16 April 2020 and 18 April 2020, to commence essential pre-monsoon activities. Copies of the said letter dated 16 April 2020 and 18 April 2020 are marked and annexed to this affidavit as '**Exhibit D**'.

v. Similarly, based on permissions received from the District Collector Mumbai, Respondent No. 6 directed the contractor for Package 1, vide its letter dated 17 April 2020, to commence essential pre-monsoon activities. A copy of the said letter dated 17 April 2020 is marked and annexed to this affidavit as '**Exhibit E**'.

W. S. Jaiswal





- vi. Subsequent to these orders, the Government of Maharashtra progressively relaxed the restrictions *inter alia* regarding the number of persons who could attend private and government offices. Currently, as per order dated 31 August 2020 the relevant regulations are as under:
- Vis-à-vis all State Government offices, 100% of Group A and B Officers can attend. 30% or 30 persons (whichever is more) of other staff can attend.
 - Private offices may operate up to 30% strength as per requirement, keeping in mind social distancing norms.
- A copy of the said notification dated 31 August 2020 is marked and annexed herewith as 'Exhibit F'.
- vii. It may be noted that because of the aforesaid restrictions, lack of adequate manpower and the monsoon season, the work on the Project has not commenced in full force.

6. As of 31 August 2020, the status of the construction work is as follows:

Activity	Unit	Total Scope	Completion	Completion in %
Temporary Jetty	Meter	5582	5582	100 %
Pile Foundations	Number	2035	1104	54 %
Open Foundations – Land/ Interchange	Number	308	213	69 %
Piles Caps	Number	506	150	30 %
Piers	Number	1043	286	27 %
Pier Caps	Number	1043	81	8 %
Precast Segments	Number	10,991	773	7 %

Photographs showing the status of the Project as of 31 August 2020 is marked and annexed herewith as 'Exhibit G'. The monthly progress report for the

Yusuf

months of February 2020 till August 2020 is marked and annexed herewith as 'Exhibit H'.

STEPS TAKEN TO PROTECT FLORA AND FAUNA

7. I say that in the present Appeal, the Appellant has *inter alia* alleged that the Project:

- a. Violates Order of the Bombay High Court dated 19 March 2014 in Public Interest Litigation No. 87 of 2013 which imposes a total ban on destruction and reclamation of wetlands [*Ground H, page 83, Volume I, Memo of Appeal and Annexure A-15, page 160, Vol. II, Memo of Appeal*].
- b. Violates Order of the Bombay High Court dated 6 October 2005 in Writ Petition (L) No. 3246 of 2004 (converted to Public Interest Litigation No. 87 of 2006) passed to ensure the conservation and rejuvenation of mangroves in the State, as the Impugned CRZ Clearance permits construction of the MTHL in the prohibited CRZs and eco-sensitive areas of Mangroves [*Ground S, page 85, Volume I, Memo of Appeal*].
- c. Violates the 2011 CRZ Notification [*Grounds Z, AA, FF, GG pages 87, 88, Volume I, Memo of Appeal*].
- d. Will disrupt the along-beach currents/ under-currents and cause massive sand loss downstream of the pillars / piers, thus eroding of all mudflats, mangroves and coastline around the MTHL [*Ground DD, page 87, Volume I Memo of Appeal*].
- e. Affects the integrity of the coast, mangroves, corals, sand dunes, mudflats, national and marine parks and nesting grounds of birds [*Ground EE, pages 87 – 88, Volume I Memo of Appeal*].
- f. Threaten the survival or allegedly threatened and endangered migratory birds and mangroves [*Ground HH, page 88, Volume I Memo of Appeal*].

Project does not violate orders of the Hon'ble Bombay High Court

8. I say that the Respondent No. 6 filed Notice of Motion No. 307 of 2016 in Public Interest Litigation No. 87 of 2006 (earlier Writ Petition (L) No. 3246

Y. Sakshi

of 2004) *inter alia* requesting the Hon'ble Court to grant leave to the Respondent No. 6 to carry out construction of the Project in accordance with the Impugned CRZ Clearance, order dated 27 January 2010 previously passed by the Hon'ble Court and the Phase -- I approval dated 22 January 2016 granted by the Respondent No. 1 by diverting 47.17 hectares of forest land. A copy of the said Notice of Motion No. 307 of 2016 is marked and annexed herewith as 'Exhibit I'.

9. I say that on 28 November 2016 the Hon'ble Bombay High Court passed an order permitting the Respondent No. 6 to carry out construction of the Project. A copy of the said order dated 28 November 2016 is marked and annexed herewith as 'Exhibit J'. Therefore, I say that the Project does not violate the Bombay High Court dated 6 October 2005 in Writ Petition (L) No. 3246 of 2004 (converted to Public Interest Litigation No. 87 of 2006) and 19 March 2014 in Public Interest Litigation No. 87 of 2013.

10. Without prejudice to the above, I say that the order dated 19 March 2014 passed in Public Interest Litigation No. 87 of 2013 concerns the destruction of wetlands. I say that the Project does not involve the destruction and reclamation of wetlands and hence the said order dated 19th March, 2014, passed by the Hon'ble Bombay High Court, will in any event not be applicable in the facts of the present case.

11. I say that the Respondent No. 6 is also filing written submission dated 19 September 2020, in which the Respondent No. 6 has dealt in detail as to why the Project does not violate the orders of the Hon'ble Courts as alleged by the Appellant.

Project does not violate the 2011 CRZ Notification

12. I say that the Appellant has wrongly alleged that the Project violates the 2011 CRZ Notification. The purpose of both the 2011 CRZ Notification and the 2006 EIA Notification is not to stall development, but to have a development while ensuring protection of the environment and to mitigate any damage caused to the environment. In any event the Impugned CRZ Clearance

Yk Sakhi



addresses all aspects of the environment protection prior to the grant of the said clearances.

13. I say that as per clause 3(iv) of the 2011 CRZ Notification the construction of a trans-harbour sea link in CRZ Zones is permissible. Clause 4 (i) (b) of the 2011 CRZ Clearance stipulates that projects which are listed under the CRZ Notification 2011 and also attract the 2006 EIA Notification, for such projects, clearance under the 2006 EIA Notification only shall be required subject to being recommended. Clause 4.1(ii)(a) provided that all those activities which were not listed in the 2006 EIA Notification shall require the clearance of Respondent No 1 under the 2011 CRZ Notification as per the procedure laid down in Clause 4.2 therein

14. Clause 8(i) provides that the development or construction activities in different categories of CRZ shall be regulated by the concerned Coastal Zone Management Authority ("CZMA") in accordance with the norms mentioned therein. As per Clause 8(i)(f), in CRZ - I areas the construction of a trans-harbour sea link and without affecting the tidal flow of water between the LTL and HTL is specifically permitted. Further, as far as construction in CRZ-IV is concerned, activities impinging on the sea and tidal influenced water bodies are to be regulated in the manner mentioned therein be regulated.

15. I deny that the said CRZ Notification 2011 does not permit construction of a sea link in the CRZ-I(A) as alleged or otherwise. I say that while it is permissible in the CRZ-I(B) area it is also permissible in the CRZ-I(A) area as is evident from the 2011 CRZ Notification itself. The Appellant has agreed that the said Project falls in an area between Low Tide Line and High Tide Line and hence the water body across which the Project is being constructed is obviously a "Tidal Influenced Water Body". Therefore, the Appellant is now estopped from contending that the Project is not a sea link and alleging that the same is covered under the 2006 EIA Notification. I say that Clause 8(i)(f)(i)(e) of the 2011 CRZ Clearance clearly mentions that no new construction shall be permitted in CRZ-I, except, construction of trans



V/Sakul

harbour sea link. It is therefore evident that under the 2011 CRZ Notification construction of a trans harbour sea link is permissible.

16. It is, further, denied that construction of the Project is not permissible in CRZ-IV areas as alleged or otherwise. Clause (8)(i)(IV) of the CRZ Notification 2011 clearly states that "*The activities impugning on the sea and tidal influenced water bodies will be regulated...*". Therefore, the construction of the Project in the CRZ-IV area is permissible and is subject to regulation. In fact, in order to regulate the construction of the Project the Respondent No. 1 has stipulated certain conditions in the Impugned CRZ Clearance.

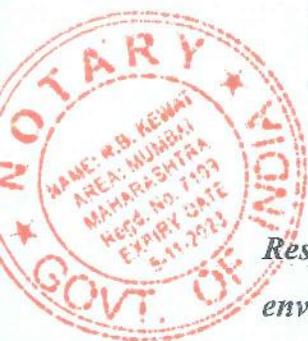
17. I say that the Respondent No. 6 is also filing written submission dated 19 September 2020, in which the Respondent No. 6 has dealt in detail as to why the Project does not violate the 2011 CRZ Notification as alleged by the Appellant. I repeat and reiterate the contents of the written submissions in this regard.

Respondent No. 6 is taking all required measures to mitigate impact on the environment

18. I say that the Appellant has wrongly contended that the Project will *inter alia* impact mudflats, mangroves, national and marine parks, threaten the survival of endangered migratory birds, for the reasons detailed hereinafter.

19. I say that the Respondent No. 6 had submitted a detailed Environmental Management Plan (EMP), which forms part of Chapter 5 of the Rapid Environmental Impact Assessment Report (**Rapid EIA Report**) submitted by the Respondent No. 6 [*Exhibit D, page 579, First Affidavit*]. The EMP sets out in some detail the environmental management plan [*Table 5.1, page 759, First Affidavit*], the environmental monitoring plan [*Table 5.2, page 764, First Affidavit*] of the Respondent No. 6 to mitigate the impact of the Project on the environment, and the cost estimates for these measures [*Table 5.2, page 769, First Affidavit*].

Yashraj



20. The Impugned CRZ Clearance granted to the MTHL vide order dated 25 January 2016 [*Annexure A-1, page 97, Vol. II, Memo of Appeal*] granted by the Respondent No. 1, set out several specific and general conditions that are to be complied with.
21. The General Consultant of the Project sent a letter dated 15 January 2020 to the Respondent No. 6, enclosing therewith a checklist detailing the compliance with conditions set out in the Impugned CRZ Clearance and Respondent No. 4's letter dated 25 November 2015. A copy of the said letter dated 15 January 2020 along with the enclosures is marked and annexed herewith as 'Exhibit K'. The checklist *inter alia* clearly shows that following measures are being taken to mitigate any impact of the Project on the environment.



	Attribute / Condition	Measures
1.	Compensatory Mangrove Restoration [See entry 2 of table at page 98, Vol. II, Memo of Appeal and specific condition (i), page 333, Vol. III, Memo of Appeal]	Chief Conservator of Forests (Mangroves Cell) has been entrusted with restoration of over 200 hectares. Payments of around Rs. 5.05 crores have been made by the Respondent No. 6 to the Chief Conservator of Forests for these measures. Copies of the letter dated 9 May 2016 and 17 October 2016 proving payment of the aforesaid amount is marked and annexed herewith as 'Exhibit L' and 'Exhibit M', respectively. The General Consultant sent a letter to the Respondent No. 6 dated 6 December 2019 annexing a report of the Chief Conservator of Forests (Mangroves Cell) dated 4 December 2019 stating that an amount of Rs. 2,79,83,939/- had already been spent and towards what activities this amount had been spent. This report also stated where the remaining amount of Rs. 2,76,67,879/- would be spent over a period of 6 years. The report also identified the 200 hectares of land that

W. Sakshi

		<p>had been identified for compensatory afforestation. A copy of the said letter dated 6 December 2019 along with report dated 4 December 2019 is marked and annexed herewith as 'Exhibit N'.</p> <p>The Mangrove Cell has completed plantation on 105 hectares in degraded land in various locations such as Palghar and Mumbai Suburban. It will be completing plantation of balance 118 hectares in Palghar.</p> <p>I therefore say that the allegation of the Appellant that the mangroves, national and marine parks are being affected is ill-founded.</p>
2.	<p>Mitigation of marine water pollution caused due to surrounding industries</p> <p>[See entry 5 of table at page 99, Vol. II, Memo of Appeal]</p>	<p>Payment of Rs. 5,80,17,000/- made to IIT Bombay towards water pollution study & designing of Effluent Treatment Plant for improvement in water quality in Mahul Creek.</p> <p>The report of IIT Bombay is being shared with the MCGM for further compliance and implementation of mitigation measures. I crave leave to rely upon and refer to this report as and when produced.</p> <p>Copies of the letters dated 26 December 2016 and 06 September 2017 showing payment of Rs. 2,86,35,000.00 and Rs. 2,93,82,000.00 are marked and annexed herewith as 'Exhibit O' and 'Exhibit P', respectively</p>
3.	<p>Contribution to the Mangroves Fund</p> <p>[See entry 6 of table at page 99, Vol. II, Memo of Appeal]</p>	<p>Respondent No. 6 has made payment of Rs. 86,31,00,000/- to the Mangrove and Marine Biodiversity Conservation Foundation of Maharashtra. These funds are being used by the Foundation for the following activities</p>



W. Sakal

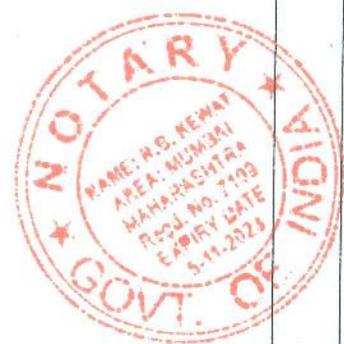
		Activity	Estimated cost (in Rs. Crores)
		Creeklet drainage arrangement	1.0
		Mangrove Research & Training Centre	16.75
		Generation of Knowledge Base Study of the pressure on Mangrove Eco System in MMR	1.0
		Mangrove Sanctuary	4.60
		Mangrove & Marine Eco System Interpretation Centre	10.0
		Mangrove Protection Framework	22.96
		High Resolution Mapping of Mangrove Forests in MMR	2.0
		Mangrove Conservation/Removal of Stressors	3.0
		Corpus Fund to Mangrove Foundation	25.0
		TOTAL	86.31
		<p>Letter dated 11 September 2020 received from the Mangrove and Marine Biodiversity Conservation Foundation confirming that it has received Rs. 86,31,00,000/- and the activities it will be utilised towards is marked and annexed herewith as 'Exhibit Q'.</p> <p>I therefore say that the allegation of the Appellant that the mangroves are being affected is ill-founded.</p>	
4.	Habitat quality assessment and monitoring and	Payment of Rs. 31,92,73,240/- made to Mangrove and Marine Biodiversity Foundation towards Implementation of Flamingos & Birds related	

Y. Sakshi



<p>appointment of Bird Monitor</p> <p>[See entries 8 and 9 of table at page 99, Vol. II, Memo of Appeal]</p>	<p>mitigation measures and birds monitoring program for the MTHL project.</p> <p>A copy of the letter dated 25 September 2017 enclosing a cheque for an amount of Rs. 31,92,73,240/- is marked and annexed herewith as 'Exhibit R'</p> <p>The Foundation has in turn appointed the Respondent No. 7 who has prepared its report for the period of October 2019 to March 2020 on '<i>Monitoring and Mitigating the Impacts of Mumbai Trans-Harbour Link on Flamingos and Other Avifauna and Formulating a Conservation Blueprint for the Sewri-Nhava Seascape</i>'. A copy of this report is marked and annexed herewith 'Exhibit S'.</p> <p>As per this Report the Respondent No. 7 (BNHS) conducted a study in four inland wetland sites includes Training Ship Chanakya (TSC), Bhandup Pumping Station (BPS), Non Residential Indian (NRI) complex and Belpada mangrove and three mudflat sites (low tide feeding sites) - Thane Creek, mudflats of Sewri and Nhava-Sheva to <i>inter alia</i> estimate the abundance and distribution of flamingos and other avifauna by conducting various population monitoring surveys. The Respondent No. 7 <i>inter alia</i> observed:</p> <ul style="list-style-type: none"> ▪ A gradual increase in avifaunal species richness and abundance during the term of the study (3.1; <i>internal page 9</i>). ▪ Species richness of migratory birds increased from October 2019 to February 2020 (3.1, <i>internal page 10</i>)
--	--

V. Sakshi



		<ul style="list-style-type: none"> ▪ A reduction in biodiversity and abundance was observed compared to October 2018 – March 2019. However, the Respondent No. 7 has noted that it could be assumed that the avifauna has started using other suitable sites. Further the Respondent No. 7 has noted that this is generally due to human control and not specifically to the Project (<i>internal pages 11 and 12</i>). ▪ Fewer flamingos were found in the mudflats of Sewri and Nhava-Sheva as compared to compared to upstream around the Thane Creek. However, the Report does not draw any negative impact due to the Project (<i>internal pages 14 and 15</i>). In fact, it states that the Greater Flamingo is not affected by the construction disturbances (<i>internal page 18</i>) ▪ Though construction could be impacting overall population of waders, the Common Redshankat species is not affected by the construction activities and that birds can learn and identify predictable patterns of human activities that do no pose any threat to them (<i>internal pages 17-18</i>) ▪ It is not possible to ascertain if the impact on avifauna is temporary or permanent. This can only be ascertained after 5 years of post-construction monitoring (<i>internal page 18</i>) <p>I therefore say that the allegation of the Appellant that the Project will affect resident and migratory birds is contrary to facts and must be disregarded.</p>
5.	Protection of flamingos	The 4 th Meeting of the Environmental Monitory Committee constituted by this Respondent (as required and stipulated in the Impugned CRZ Clearance) was held on 24 January 2020. A copy of the said minutes is marked and annexed as 'Exhibit T'. Dr. Apte of the



Y. K. Kulkarni

BNHS was question on the study with respect to correlation between the arrival of flamingos and ongoing construction. The extract of the minutes of these meetings is extracted here:

"4. The Committee inquired about the outcome of study with respect to correlation between delayed arrival of flamingos this year and ongoing construction of MCHS. Dr. Apte informed that the delayed arrival is not due to the project but it is due to the extended monsoon (upto November 2019) which issue will be addressed in the BNHS updates. The update is issued every six months and the final report will be based on these updates. Dr. Apte further explained that it is too early to comment, identify about the trend and it will take at least few more seasons to establish the trends."

Further, the contractors have maintained a record of flamingos arriving at the Sewri near the project site since March 2018. Photographs taken of the flamingos between the period of May 2018 to February 2020 near the project site are marked and annexed as 'Exhibit U'. I crave leave to rely upon a video of flamingos near the project site. Due to hearings currently being conducted virtually, a copy of this video is being emailed to the Tribunal separately.

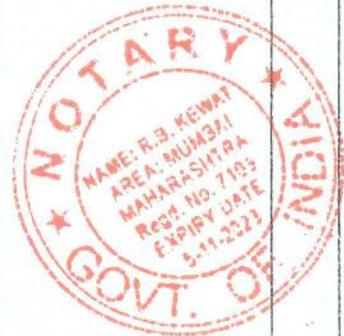
The said video and the photographs clearly show the presence of substantial number of flamingos thereby belying the contentions of the Appellant and clearly shows that the same are incorrect and contrary to the facts on record.



Y. Saket

		Further all construction equipment are fully fitted with mufflers and exhaust silencers to contain the Noise Levels. Machinery used for construction is properly maintained to minimize the air and noise emissions. These photographs are marked and annexed as 'Exhibit V'. A perusal of the photographs clearly show that it is in these measures taken to minimize the impact of construction that the flamingos are present in such large numbers.
6.	Obtaining all permissions from concerned authorities prior to commencement of project <i>[See Specific Condition (v) page 100, Vol. II, Memo of Appeal]</i>	I say that the Respondent also received necessary approvals from the Archaeological Survey of India, Bhabha Atomic Research Centre, Central Water and Power Research Station Jawaharlal Nehru Port Trust, Mumbai Port Trust, Maharashtra Maritime Board, Central Railways and Mumbai JNPT Port Road Company Limited (and SPV of National Highways Authority of India), have been obtained. Copies of the approvals / in-principle approvals received from the (i) Archaeological Survey of India dated 4 April 2005, (ii) Bhabha Atomic Research Centre dated 12 March 2013, (iii) Central Water and Power Research Station dated 31 January 2005, (iv) Jawaharlal Nehru Port Trust dated 4 March 2013, (v) Mumbai Port Trust dated 30 March 2013 (vi) Maharashtra Maritime Board dated 31 August 2012 (vii) Central Railways dated 18 January 2016 and (viii) Mumbai JNPT Port Road Company Limited dated 25 December 2015 are marked and annexed herewith as 'Exhibit W', 'Exhibit X', 'Exhibit Y', 'Exhibit Z', 'Exhibit AA', 'Exhibit BB', 'Exhibit CC' and 'Exhibit DD', respectively.
7.	Diversion of 47.417 hectares of forest land	The Respondent No. 6 has made payment made to Deputy Conservator of Forest, Alibaug towards compensatory afforestation of 47.417 hectares. Letter dated 22 March 2016 showing that an amount of Rs.

U. Sakshi



[See *Specific Condition (vii)* page 100, Vol. II, Memo of Appeal] 6,59,27,886/- was paid to Deputy Conservator of Forest, Alibaug is marked and annexed herewith as 'Exhibit EE'.

The Respondent No. 6 also obtained an 'in-principle' Stage-I Clearance dated 22 January 2016 from the Respondent No. 1 for diversion of the said 47.417 hectares of forest land. A copy of the said clearance is marked and annexed herewith as 'Exhibit FF'.

On 26 February 2014 the District Collector Raigad passed an order designating 47.417-hectares of previously non-forest land as forest land for compensatory afforestation. Marked and annexed herewith as 'Exhibit GG' is the order dated 26 February 2014.

On 27 December 2016 the Respondent No. 6 applied for the Stage-II clearance. On 6 March 2017 the Respondent No. 6 sent a letter setting out requirements Respondent No. 6 had complied with for being granted the Stage-II clearance. The Chief Conservator of Forests in turn sent a letter dated 2 November 2018 to the Respondent No. 1 setting out compliance by Respondent No. 6 of the conditions for grant of the Stage-II clearance. A copy of the said letter dated 2 November 2018 is marked and annexed as 'Exhibit HH'. I say that the Stage-II Clearance is awaited.

I further say that the Chief Conservator of Forests by its order dated 22 May 2017 CCF noting that since the conditions set out in the Stage-I Clearance dated 22 January 2016 and conditions required by other authorities had been complied with, Respondent No. 6 was permitted to cut trees and mangroves in the



W. Sakel

		47.417-hectare area and commence work in the said area, subject to conditions set out in the order. A copy of the said order dated 22 May 2017 is marked and annexed as ' Exhibit II '.
8.	Protection of mud flats and mangroves	<ul style="list-style-type: none"> ▪ With a view to minimize and protect the mud flats, a temporary jetty supported on steel piles with a total length of about 5.5 kms. (including lengths on Mumbai and Navi Mumbai sides in inter tidal areas) had been erected for transportation of men and machinery at the constructed location in inter tidal areas. This is in compliance of the clearance to ensure that the impact on the mud flats, if any, would be completely minimized. ▪ During the construction of temporary jetty, special care has been taken to ensure that mudflats are not disturbed, and the execution team are given clear and detailed instructions during the toolbox talk at site. A barrier has been installed to protect the mudflats against any damage during construction. A photograph is annexed at 'Exhibit JJ' herewith to show the installation of the barrier. ▪ Special lighting system has been provided to ensure that the birds and aquatic life who are sensitive to light are not affected in any manner whatsoever. Warm white coloured 3000 K. temperature lights has been provided in the temporary jetty. These eco-friendly lights have been used specially because the Project is passing through Sewri mudflats which is an ecologically sensitive area. Marked and annexed as 'Exhibit KK' are photographs showing the special lighting system. All necessary steps for the purpose of protection of all ecologically sensitive areas whether it is mangroves, mudflats or the bird and aquatic life have been taken in consultation with various

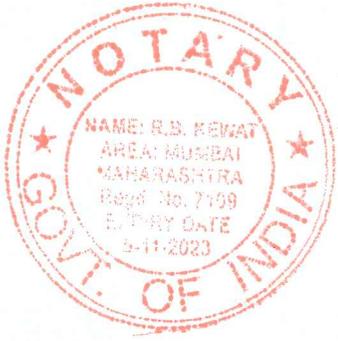


Utsav

		<p>authorities. These measures protect the environment and are meant for the purpose of ensuring that there is no serious damage caused to the ecologically sensitive areas.</p>
9.	Impact of construction on tidal hydrodynamics	<p>The Technical Report No. 5164 of March 2014 was submitted by Central Water and Power Research Station (CWPRS) towards the Hydraulic Model Studies for the proposed Mumbai Trans Harbour Link Project [<i>Annexure A-48, page 407, Vol. III, Memo of Appeal</i>].</p> <p>I say that that Chapter 8 of the Report clearly states that the Project will not have any adverse impact on the overall tidal hydrodynamics in the area under consideration. This recommendation/finding at page 37 of the CWPRS Report [<i>page 451, Vol. III, Memo of Appeal</i>] is reproduced here:</p> <p><i>“The development of 22 km Long Mumbai Trans Harbour Link (MTHL) bridge by Mumbai Metropolitan Regional Development Authority (MMRDA) proposed between Seweri on Island city (Mumbai) and Chirle on Main land across the entire Thane creek will not have adverse impact on overall tidal hydrodynamics of the region under consideration and as such is recommended.”</i></p>
10.	Construction of noise barriers after construction of the Project	<p>Even after the construction is completed noise barriers are supposed to be used in the length of the bridge passing through flamingo sides to cause minimum disturbance to the migratory birds and for the same purpose special lighting will be used on the bridge.</p>



U. S. K.



22. I say that the Respondent No. 6 has incurred a total of Rs. 135,68,07,548/-, as detailed above, towards compliance with the Impugned CRZ Clearance and Environmental impact reduction as of 31 August 2020.

23. I therefore say that the allegations of the Appellant that the MTHL project will negatively impact the flora and fauna is misconceived and does not present the entire picture. I reiterate that the Respondent No. 6 has taken all requisite and necessary steps to ensure that the flora and fauna in and around the area where construction is being undertaken is not negatively impacted and that all requirements as mandated by the Respondent No. 1 (MOEF&CC) and 4 (MCZMA) are being satisfied.

19 September 2020
Place: Mumbai

Anindya
For M/s. Khaitan & Co.

Yatin Sakhalkar

Affiant / Deponent
**SUPERINTENDING ENGINEER
(MTHL, PIU)
MMRDA**

Advocates for the Respondent No. 6

VERIFICATION

I, Yatin Sakhalkar, age: 50 years, the Superintending Engineer of the Respondent No. 6, having my office at MMRDA Building, Block E, Bandra Kurla Complex, Mumbai – 400 051, representing and signing on behalf of the Respondent No. 6, do hereby solemnly affirm and state on oath that the contents of Paragraph numbers 1, 3 to 11 and 18 to 23 above are true to my personal knowledge or information that I believe to be true and what is stated in paragraphs numbers 2, 12 to 17 are based on legal advice which I believe to be true. No material fact has been suppressed. In witness whereof I have signed here at Mumbai, on the date mentioned below.

Dated:

Yatin Sakhalkar

Yatin Sakhalkar
Affiant/ Deponent
For Respondent No. 6

**SUPERINTENDING ENGINEER
(MTHL, PIU)
MMRDA
BEFORE ME**

Rambhawan B. Kewat

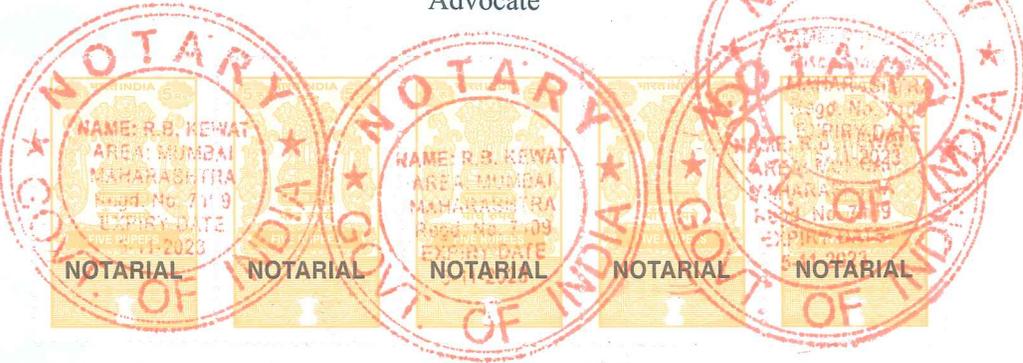
RAMBHAWAN B. KEWAT
Regd. No. 7199
ADVOCATE AND NOTARY
15-A, Jimmy Bldg., 1st Floor,
Room No. 10, Parel Station Road,
Parel (E), Mumbai - 400 012

I know the affiant

Anindya
Advocate



SEEN ORIGINAL AUTHORITY LETTER POWER
ATTORNEY BOARD RESOLUTION
DATED 18/9/2020 IN FAVOUR OF
MR. YATIN SAKHALKAR



NOTED & REGISTERED
Sr. No. 5417 Page No. 49
Date. 19/9/2020



EXHIBIT A



मुंबई महानगर प्रदेश विकास प्राधिकरण
MUMBAI METROPOLITAN REGION
DEVELOPMENT AUTHORITY

Letter of Acceptance

No. MMRDA/MTHL/PKG-1/LOA/11-17

MTHL (PIU),
Date: 17.11.2017

To,
L&T-IHI Consortium
(M/S Larsen & Toubro Limited, India & M/S IHI Infrastructure Systems Co., Ltd, Japan)
Nuclear and Special Bridges BU,
L&T Construction, C/O Larsen and Toubro Limited,
Mount Poonamalee Road, Manapakkam, P.B.N.979,
Chennai- 600089, Tamil Nadu, INDIA.
Phone: +91-44-3319 2905,
Email: pn@intecc.com.

Attention: **Mr.P.Niranjana** (Bidder's Authorised Representative)

Subject: Procurement of Mumbai Trans Harbour Link Project (Package-1) Construction of 10.380km long bridge section (CH 0+000 –CH 10+380) across the Mumbai Bay including Sewri Interchange under Identification No. MMRDA/ENG1/000752

Ref:

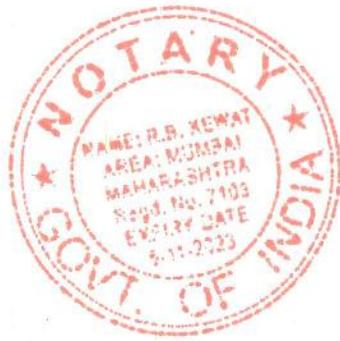
1. Your Letter of Technical Bid dated 14.07.2017
2. Your Letter of Price Bid dated 17.07.2017
3. MMRDA Letter No. ED/MTHL/Clarification/Technical points/Pkg-1/10-17 dated 17/10/17
4. L&T- IHI Letter No. B-17-001-T-052 dated 21st October 2017
5. MMRDA Letter No. MTHL/MMRDAL&T-IHI/Clarification/02/Pkg-1/10-17 dated 27/10/17
6. L&T- IHI Letter No. B-17-001-T-054 dated 27th October 2017

1. This is to notify you that your Bid submitted on 17th July 2017 has been considered for award of the Contract for Package-1 subject to the following:
 - a. All clarifications submitted by you vide your **Letter No.B-17-001-T-052 dated 21st October 2017** are accepted.
 - b. We acknowledge the reduction offered by you in your Accepted Contract Amount vide your Letters dated 21st October 2017 and 27th October 2017, due to the reduction in the GST after the submission of Bid. You have informed that INR 3,803,389,831.00 corresponding reduction in GST form to your bid price at the rate of GST prevailing on 22nd August 2017. All the effects due to the modifications to the GST and/or other Laws after the Base date shall be regulated through the Sub Clause, 13.7- "Adjustment for Changes in Legislation" of the General Conditions of Contract.

--2/-

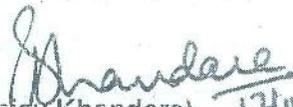
Bandra-Kurla Complex, Bandra (East), Mumbai - 400 051.

OFF : 2659 0080 EPABX : 2659 0001 / 4000 • FAX : 2659 5914 / 2659 1264 • WEB SITE : <http://www.mmrda.maharashtra.gov.in>



-2-

2. Taking into consideration the above points, your Bid submitted on 17th July 2017 for execution of Package-1 of the Mumbai Trans Harbour Link Project, Identification Number: MMRDA/ENG1/000752 for the Accepted Contract Amount of INR is 53,148,814,703 (Indian Rupees Fifty Three Billion One Hundred Forty Eight Million Eight Hundred Fourteen Thousand Seven Hundred Three Only) + (plus) USD 263,463,262 (US Dollars Two Hundred Sixty Three Million Four Hundred Sixty Three Thousand Two Hundred Sixty Two only) + (plus) JPY 10,036,370,798 (JPY Ten Billion Thirty Six Million Three Hundred Seventy Thousand Seven Hundred Ninety Eight Only) + (plus) Euro 6,152,336 (Euro Six Million One Hundred Fifty Two Thousand Three Hundred Thirty Six only) as corrected and modified in accordance with the Instructions to Bidders, is hereby accepted by our Authority. The equivalent Accepted Contract Amount in INR is 76,372,961,024 (Indian Rupees Seventy Six Billion Three Hundred Seventy Two Million Nine Hundred Sixty One Thousand Twenty Four only) including provisional sum. This amount shall be subject to the reduction offered by you as contained in para 1 (b) above.
3. You are requested to furnish the Performance Security as soon as possible, but within 28 days after receiving this Letter of Acceptance, in accordance with the Conditions of Contract, using for that purpose the relevant Performance Security Form included in Section IX, Annex to the Particular Conditions - Contract Forms, of the Bidding Documents. The performance Security will be in the form of a "Bank guarantee" from a Scheduled Commercial Bank in India in the amount(s) of Five percent (5%) of the Accepted Contract Amount and in the same proportions of the currency(ies) of the Accepted Contract Amount. {Refer Sub-Clause 4.2-Performance Security, Part A-Contract Data, Particular Conditions (PC)}.
4. This Letter of Acceptance is issued in 2 copies (both originals). You are hereby requested to acknowledge the receipt of this Letter of Acceptance by signing one copy and returning the same to the undersigned. This shall confirm the acceptance of the offer and the Terms and Conditions by your Consortium.


 (Sanjay Khandare) 17/11/17
 Additional Metropolitan Commissioner

Accepted

(Authorized Signatory of L&T-IHI Consortium)





मुंबई महानगर प्रदेश विकास प्राधिकरण 22
MUMBAI METROPOLITAN REGION
DEVELOPMENT AUTHORITY

Letter of Acceptance

No. MMRDA/MTHL/PKG-2/LOA/11-17

MTHL (PIU)
Date: 17.11.2017

To,
DAEWOO – TPL Joint Venture,
(M/s DAEWOO Engineering & Construction Co. Ltd. and
M/s Tata Projects Ltd.)
11th Floor, Hiranandani Knowledge Park, Technology Street,
Powai, Mumbai- 400076,
Maharashtra, India.
Phone no :+91-2267402900
Email: Wook.choi@daewooenc.com

Attention: Mr. Wook Choi (Bidder's Authorised Representative)

Subject: Procurement of Mumbai Trans Harbour Link Project (Package 2) Construction of 7.807 km long bridge section (CH 10+380 – CH 18+187) across the Mumbai Bay including Shivaji Nagar interchange under Identification No. MMRDA/ENG1/000753

Ref:

1. Your Letter of Technical Bid TPLJV/UI-RBP/MMRDA/MTHL-11/03/804 dated 17th July 2017
2. Your Letter of Price Bid TPL JV/UI-RBP/MMRDA/MTHL-I/03/808 dated 18th July 2017
3. MMRDA Letter No. ED/MTHL/Clarification/Technical points/Pkg-2/10-17 dated 17/10/17
4. DAEWOO TPL JV's letter No. Nil dated 18/10/17
5. DAEWOO TPL JV's letter No. Nil dated 27/10/17
6. DAEWOO TPL JV's letter No. Nil dated 02/11/17
7. MMRDA Letter No. ED/MTHL/Clarification/Technical points/Pkg-2/02/11-17 dated 09/11/17
8. DAEWOO TPL JV's letter No. Nil dated 9/11/2017
9. DAEWOO TPL JV's letter no OM17-373 dated 16/11/2017

1. This is to notify you that your Bid submitted on 18th July 2017, has been considered for award of the Contract for Package-2 subject to the following:
 - a. All clarifications submitted by you, other than that for GST reduction, vide your letter dated 18/10/2017 are accepted.
 - b. We acknowledge the reduction in price offered by you in your Accepted Contract Amount vide your letter dated 16/11/2017 due to the reduction in the GST after submission of the Bid along with the reduction of up to INR 277.87 Crores on the Bid Price given by you under clear dissent and protest and which is subject to the conditions mentioned in your letter under reference no. 9 without prejudice to Daewoo-TPL JV's rights under the Tender Conditions / Contract. All the effects due to the modifications to the GST and/or other laws after the base date shall be regulated through the Sub-Clause 13.7- "Adjustments for changes in legislation" of the General Conditions of the Contract.

---2/-

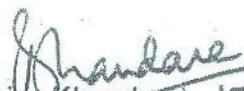
Bandra-Kurla Complex, Bandra (East), Mumbai - 400 051.

OFF : 2659 0080 EPABX : 2659 0001 / 4000 • FAX : 2659 5914 / 2659 1264 • WEB SITE : <http://www.mmrda.maharashtra.gov.in>



-2-

2. Taking into consideration the above points, your Bid submitted on 18th July 2017, for execution of Package-2 of the Mumbai Trans Harbour Link Project, identification number: MMRDA/ENG1/000753 for the Accepted Contract Amount of INR 38,157,214,609 (Thirty Eight Billion One Hundred Fifty Seven Million Two Hundred Fourteen Thousand Six Hundred Nine Only) + (Plus) USD \$ 153,633,958 (USD One Hundred Fifty Three Million Six Hundred Thirty Three Thousand Nine Hundred Fifty Eight only) + (Plus) 13,952,414,960 (JPY Thirteen Billion Nine Hundred Fifty Two Million Four Hundred Fourteen Thousand, Nine Hundred Sixty only), as corrected and modified in accordance with the Instructions to Bidders, is hereby accepted by our Authority. The equivalent Accepted Contract Amount in INR is 56,126,061,553 (Fifty-Six Billion One Hundred Twenty-Six Million Sixty-One Thousand Five Hundred Fifty-Three only) including provisional sum. This amount shall be subject to the reduction offered by you as contained in para 1 (b) above.
3. You are requested to furnish the Performance Security as soon as possible, but within 28 days after receiving this Letter of Acceptance, in accordance with the Conditions of Contract, using for that purpose the relevant Performance Security Form included in Section IX, Annex to the Particular Conditions - Contract Forms, of the Bidding Documents. The performance Security will be in the form of a "Bank guarantee" from a Scheduled Commercial Bank in India in the amount(s) of Five percent (5%) of the Accepted Contract Amount and in the same proportions of the currency(ies) of the Accepted Contract Amount. {Refer Sub-Clause 4.2-Performance Security, Part A-Contact Data, Particular Conditions(PC)}.
4. This Letter of Acceptance is issued in 2 copies (both originals). You are hereby requested to acknowledge the receipt of this Letter of Acceptance by signing one copy and returning the same to the undersigned. This shall confirm the acceptance of the offer and the Terms and Conditions by your Joint Venture.


 (Sanjay Khandare) 17/11/17
 Additional Metropolitan Commissioner

Accepted

(Authorized Signatory of DAEWOO-TPL JV)





मुंबई महानगर प्रदेश विकास प्राधिकरण 24
MUMBAI METROPOLITAN REGION
DEVELOPMENT AUTHORITY

Letter of Acceptance

No. MMRDA/MTHL/PKG-3/LOA/11-17

MTHL (PIU)
Date: 17.11.2017

To,
Larsen & Toubro Limited,
Nuclear and Special Bridges BU,
L&T Construction,
Mount Poonamalee Road,
Manapakkam, P. B. N. 979,
Chennai – 600 089, Tamil Nadu, INDIA.
Phone: +91-44-33192905,
Email: pn@Lntecc.com.

Attention: **Mr.P.Niranjana** (Bidder's Authorised Representative)

Subject: Procurement of Mumbai Trans Harbour Link Project (Package-3) Construction of a 3.613 km long viaduct section (CH 18+187 – CH 21+800) including interchanges at State Highway-54 and at National Highway-4B near Chirle in Navi Mumbai under Tender No. MMRDA/ENG1/000754

Ref:

1. Your Letter of Technical Bid dated 14.07.2017
2. Your Letter of Price Bid dated 17.07.2017
3. MMRDA letter No. ED/MTHL/Clarification/Technical Points/Pkg-3/10-17 dated 17/10/2017
4. L&T letter No.B-17-001-T-053 dated 21st October 2017
5. MMRDA letter No. ED/MTHL/Clarification/Pkg-3/02/10-17 dated 27th October 2017
6. L&T letter No.B-17-001-T-055 dated 27th October 2017

1. This is to notify you that your Bid submitted on 18th July 2017 has been considered for award of the Contract for Package-3 subject to the following:
 - a. All the clarifications given by you in your Letter No. **B-17-001-T-053** dated **21st October 2017** are accepted.
 - b. We acknowledge the reduction in price offered by you in your Letters dated 21st October 2017 and 27th October 2017, due to the reduction in the GST after the submission of Bid. You have informed that INR 480,981,444.00 corresponding reduction in GST form to your bid price. All the effects due to the modifications to the GST and/or other Laws after the Base date shall be regulated through the Sub Clause, 13.7- "Adjustment for Changes in Legislation" of the General Conditions of Contract.

---2/-

Bandra-Kurla Complex, Bandra (East), Mumbai - 400 051.

OFF : 2659 0080 EPABX : 2659 0001 / 4000 • FAX : 2659 5914 / 2659 1264 • WEB SITE : <http://www.mmrd.maharashtra.gov.in>



-2-

2. Taking into consideration the above points, your Bid submitted on 18th July 2017 for execution of Package-3 of the Mumbai Trans Harbour Link Project, identification number: **MMRDA/ENG1/000754** for the Accepted Contract Amount of **INR 9,625,772,749 (Indian Rupees Nine Billion Six Hundred Twenty-Five Million Seven Hundred Seventy-Two Thousand Seven Hundred Forty-Nine Only) + (plus) USD 7,944,013 (US Dollars Seven Million Nine Hundred Forty-Four Thousand Thirteen Only)** as corrected and modified in accordance with the Instructions to Bidders, is hereby accepted by our Authority. The equivalent Accepted Contract Amount in INR is **10,137,901,023 (Indian Rupees Ten Billion One Hundred Thirty-Seven Million Nine Hundred One Thousand Twenty-Three Only) including Provisional Sum**. This amount shall be subject to the reduction offered by you as contained in para 1 (b) above.
3. You are requested to furnish the Performance Security as soon as possible, but within 28 days after receiving this Letter of Acceptance, in accordance with the Conditions of Contract, using for that purpose the relevant Performance Security Form included in Section IX, Annex to the Particular Conditions - Contract Forms, of the Bidding Documents. The performance Security will be in the form of a "Bank guarantee" from a Scheduled Commercial Bank in India in the amount(s) of Five percent (5%) of the Accepted Contract Amount and in the same proportions of the currency(ies) of the Accepted Contract Amount {Refer Sub-Clause 4.2-Performance Security, Part A-Contact Data, Particular Conditions(PC)}.
4. This Letter of Acceptance is issued in 2 copies (both originals). You are hereby requested to acknowledge the receipt of this Letter of Acceptance by signing one copy and returning the same to the undersigned. This shall also confirm the acceptance of the offer and Terms and Conditions by your Company.


 (Sanjay Khandare) 17/11/17
 Additional Metropolitan Commissioner

Accepted

(Authorized Signatory of M/s. L&T Ltd.)

YHS

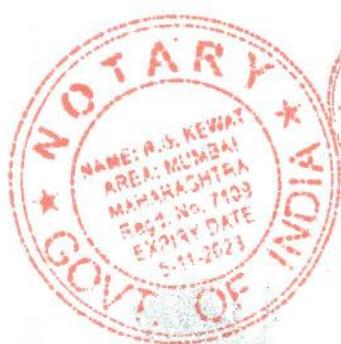


EXHIBIT B

o/c
26

AECOM

PADECO



TYLIN

General Consultant for Mumbai Trans Harbour Link Project

Ref No: MTHL/GC/L&T-IHI/CONT/2018/002

23rd March 2018

To,
L&T-IHI Consortium
MTHL Pkg-01 Project Office
305 & 306 – 3rd Floor, B – Wing
Nava Bharat Estate,
P D' Mello Road,
Opp. Sewri Railway Station,
Sewri West, Mumbai – 400 015

Kind Attention: Mr. P. Niranjana (Authorised Representative)

Project: Procurement of Mumbai Trans Harbour Link Project (Package-1) - Construction of 10.380 km long bridge section (CH 0+000 to CH10+380) across the Mumbai Bay including Sewri Interchange. Contract No.: MMRDA/ENG1/000752 dated 26th December 2017

Sub: Sub-Clause 8.1-Commencement of Work

Ref: Contract Agreement No. MMRDA/ENG1/000752 dated 26th Dec 2017 (Shall be referred as "Contract")

Sir,

1. We acknowledge the receipt of the following requisite documents as per the relevant clauses.
 - a. Performance Bank Guarantee as per Sub-Clause 4.2 of Contract.
 - b. Advance Payment Security as per Sub-Clause 14.2 of Contract.
2. The Contract Agreement for this Package 1 has been signed on 26/12/2017 and concurred by JICA.
3. The Employer has the financial arrangements for this project which consist of funds from MMRDA and Japan International Cooperation Agency (JICA Loan Agreement No. ID-P255).
4. Mobilisation Advance Payment as per Clause 14.2 has been released to you on 12th and 15th March 2018.
5. The land shall be handed over to you as specified in the Contract Agreement.

You are hereby notified that the Commencement Date referred to in Sub-Clause 8.1 of the General Conditions of Contract shall be **23rd March 2018**. You are requested to commence the Design and Construction execution of the Works with due expedition and without delay.

This letter is issued with the approval of the Competent Authority of MMRDA.

Thanking you.
Yours faithfully,

Dr. S H Robin Sham
Dr. S H Robin Sham, CBE
(BSc, PhD, DIC, FCGI, FRSA, CEng, FICE, FStructE, FHKIE)
The Engineer
MTHL Project

L&T-IHI CONSORTIUM

Received Date: 23/3/18

CC: The Chief Engineer, MMRDA.
Superintendent Engineer – MMRDA - Mr. Sakhalkar
Executive Engineer – MMRDA – Mr. Bhisikar



AECOM

PADECO

General Consultant for Mumbai Trans Harbour Link Project

Ref. No: MTHL/GC/DWTPL/CONT/2018/002

23rd March 2018

To,

DAEWOO-TPL Joint Venture

(M/s DAEWOO Engineering & Construction Co. Ltd. And M/s Tata Projects Ltd.)

11th Floor, Hiranandani Knowledge Park, Technology Street,

Powai, Mumbai-400076, Maharashtra, India.

Phone no: =91-2267402900

Kind Attention: Mr. Min Geun Kim (Authorised Representative)

Project: Procurement of Mumbai Trans Harbour Link Project (Package 2) Construction of 7.807 km long bridge section (CH 10+380 –CH 18+187) across the Mumbai Bay including Shivaji Nagar Interchange-Contract No.: MMRDA/ENG1/00753 dated 19th January 2018.

Sub: Sub-Clause 8.1-Commencement of Work**Ref:** Contract Agreement No. MMRDA/ENG1/000753 dated 19th January 2018 (Shall be referred as "Contract")

Sir,

1. We acknowledge the receipt of the following requisite documents as per the relevant clauses.
 - a. Performance Bank Guarantee as per Sub-Clause 4.2 of Contract.
 - b. Advance Payment Security as per Sub-Clause 14.2 of Contract.
2. The Contract Agreement for this Package 2 has been signed on 19/01/2018 and concurred by JICA.
3. The Employer has the financial arrangement for this project which consist of funds from MMRDA and Japan International Cooperation Agency (JICA Loan Agreement No. ID-P255).
4. Mobilisation Advance Payment as per Clause 14.2 has been released to you on 15th March 2018.
5. The land shall be handed over to you as specified in the Contract Agreement.

You are hereby notified that the Commencement Date referred to in Sub-Clause 8.1 of the General Conditions of Contract shall be **23rd March 2018**. You are requested to commence the Design and Construction execution of the Works with due expedition and without delay.

This letter is issued with the approval of the Competent Authority of MMRDA.

Thanking you.

Yours faithfully,


Dr. S H Robin Sham, CBE
 (BSc, PhD, DIC, FCGI, FRSA, CEng, FICE, FStructE, FHKIE)
 The Engineer
 MTHL Project

CC: The Chief Engineer, MMRDA.

Superintendent Engineer – MMRDA - Mr. Varaskar

Executive Engineer – MMRDA – Mr. Vishal Jambhale

Project Office: A-1 Unit No. 115, MMRDA Building, First Floor, Near Wadala RTO, Wadala East, Mumbai 400037



28

AECOM

ADECO

General Consultant for Mumbai Trans Harbour Link Project

Ref No: MTHL/GC/L&T/CONT/2018/005

23rd March 2018

To,
Larsen & Toubro Limited
L&T Construction, C/ O Larsen and Toubro Ltd,
Mount Poonamall Road, Manpakkam,
PBN 979 Chennai-600089, Tamil Nadu, INDIA.

Project: Procurement of Mumbai Trans Harbour Link Project (Package 3), Construction of 3.613 km long viaduct section (CH 18+187 – CH 21+ 800) including interchanges at State Highway-54 and at National Highway-4B near Chirle in Navi Mumbai Contract No.: MMRDA/ENG/000754 dated 26th December 2017.

Sub: Sub-Clause 8.1-Commencement of Work

Ref: Contract Agreement No. MMRDA/ENG1/000754 dated 26th December 2017 (Shall be referred as "Contract")

Sir,

1. We acknowledge the receipt of the following requisite documents as per the relevant clauses.
 - a. Performance Bank Guarantee as per Sub-Clause 4.2 of Contract.
 - b. Advance Payment Security as per Sub-Clause 14.2 of Contract.
2. The Contract Agreement for this Package 3 has been signed on 26/12/2017 and concurred by JICA.
3. The Employer has the financial arrangement for this project which consist of funds from MMRDA and Japan International Cooperation Agency (JICA Loan Agreement No. ID-P255).
4. Mobilisation Advance Payment as per Clause 14.2 has been released to you on 12th and 14th March 2018.
5. The land shall be handed over to you as specified in the Contract Agreement.

You are hereby notified that the Commencement Date referred to in Sub-Clause 8.1 of the General Conditions of Contract shall be **23rd March 2018**. You are requested to commence the Design and Construction execution of the Works with due expedition and without delay.

This letter is issued with the approval of the Competent Authority of MMRDA.

Thanking you,
Yours faithfully,


Dr. S H Robin Sham, CBE
(BSc, PhD, DIC, FCGI, FRSA, CEng, FICE, FStructE, FHKIE)
The Engineer
MTHL Project



23/3

CC: The Chief Engineer, MMRDA.
Superintendent Engineer – MMRDA - Mr. Varaskar
Executive Engineer – MMRDA – Mr. Vishal Jambhale



EXHIBIT C

29

GOVERNMENT OF MAHARASHTRA

Department of Revenue and Forest, Disaster Management,
Relief and Rehabilitation, Mantralaya, Mumbai- 400 032
No: DMU/2020/CR. 92/DisM-1, Dated: 23rd March 2020

NOTIFICATION

COVID -19 – The Epidemic Diseases Act, 1897- Lockdown – Orders

Reference:

1. The Epidemic Diseases Act, 1897
2. The Disaster Management Act, 2005
3. Government Notification, Public Health Department, No. Corona-2020/CR-58/Aarogya-5, Dated- 13th March 2020, 14th March 2020, 15th March 2020

No: DMU/2020/CR. 92/DMU-1- Whereas the State Government is satisfied that the State of Maharashtra is threatened with the spread of Covid-19 Virus, which has already been declared as a pandemic by World Health Organization, and it is therefore necessary to take certain further emergency measures to prevent and contain the spread of virus, the Government in exercise of the powers conferred under Section 2 of The Epidemic Diseases Act, 1897, read with all other enabling provisions of The Disaster Management Act, 2005, **hereby notify lockdown in the entire State of Maharashtra with Immediate effect till 31st of March, 2020**, prescribing the following regulations and measures during the said period:

1. All state borders shall be sealed other than for movement of essential and perishable commodities.
2. All public transport services including inter-city MSRTC buses and Metro will not be permitted. Taxis with not more than two persons besides driver, auto-rickshaws with not more than one passenger besides driver are permitted only for the purposes specified in the order. However, transport of passengers for accessing emergency medical services shall be permitted. Plying of private vehicles shall be restricted only to the extent

Handwritten signatures in blue ink.



30

- of procuring essential commodities, health services and activities permitted under this order, and with only one person besides driver.
3. Operation of all inter-state bus and passenger transport services (including private vehicles) including those by private operators shall stand suspended.
 4. Every person who is required to observe home quarantine shall strictly observe the same failing which he/she will be liable for penal action and shifted to government quarantine.
 5. Residents shall stay at home and come out only for permitted activities while strictly observing social distancing norms and abiding the conditions stated at para 2 above.
 6. Any congregation of more than 5 persons in public places is prohibited.
 7. All shops including commercial establishments, offices and factories, workshops, godowns etc. shall close their operations. However, production and manufacturing units which require continuous process & pharmaceuticals, API etc will be permitted. Further, manufacturing units engaged in production of essential commodities like dal and rice mills, food and related units, dairy units, feed and fodder units etc. may function will also be permitted to operate.
 8. Government offices, shops and establishments permitted to operate during this period with barest minimum staff and shall take steps to ensure social distancing such as painting of foot marks at distances of 3 feet from each other near check out counters. They shall also ensure proper sanitation in their premises and ensure availability of hand sanitizers/hand washing facilities.
 9. The following shops/establishments providing essential goods and services shall be excluded from the above restrictions:
 - a) Banks/ATMs, insurance, FinTech services and related activities.
 - b) Print and electronic media
 - c) IT and ITeS, including telecom, postal, internet and data Services
 - d) Supply chain and transport of essential commodities
 - e) Export and Import of agricultural goods and products, and all commodities.

By *[Signature]* *[Signature]*



31

- f) E-Commerce (delivery) of essential goods including food, pharmaceutical and medical equipment
 - g) Sale of food items, groceries, milk, bread, fruits, vegetables, eggs, meat, fish and their transportation and warehousing activities
 - h) Bakery and veterinary establishments for the pets
 - i) Take-away/ home delivery at restaurants
 - j) Hospitals, pharmacies and optical stores, pharmaceuticals manufacturing & their dealers and their transportation
 - k) Petrol pumps, LPG gas, oil agencies, their godowns and their related transport operations
 - l) All security and facility management services including those provided by private agencies to institutions providing essential services
 - m) Private establishments that support the provisioning of essential services or the efforts for containment of COVID-19
 - n) The supply chain relating to above.
 - o) All enforcing authorities to note that fundamentally strict restrictions relate to movement of people but not to goods and commodities as a matter of principle.
10. The Departments/Offices of the State Government and its Public Sector Undertaking (PSU) providing services shall be functional only to the extent of providing essential services.
 11. All religious places of any denomination shall be closed by issuing suitable prohibitory orders.
 12. During the lockdown period, steps will be taken to ensure that there is no disruption in the supply of essential commodities to the people.
 13. All elective surgeries shall be re-scheduled in all private and Government hospitals to enhance the availability of health care facilities to COVID-19 patients.
 14. All Divisional Commissioners, Municipal Commissioners and Collectors are directed to identify vacant places near hospitals for housing health staff in case of necessity.

H. M. K. *MS*



32

15. The Collectors of following districts which are at presently Corona disease free shall issue orders prohibiting any vehicular movements into their districts, Viz. Wardha, Bhandara, Gondia, Chandrapur, Gadchiroli, Satara, Sangli, Kolhapur, Solapur, Buldhana, Amravati, Akola, Washim, Nashik, Dhule, Nandurbar, Jalgaon, Beed, Jalna, Osmanabad, Parbhani, Hingoli, Latur, Nanded and Sindhudurg. This shall not apply to medical emergencies.
16. All the District Collectors, District Superintendents of Police, Commissioners of Police, Municipal Commissioners of Corporations and other competent authorities in respect of the concerned institutions, organizations and establishments are hereby authorized and directed to take all necessary measures in a humane and judicious manner for enforcement and implementation of the aforesaid regulations and measures.
17. Any person, institution, organization violating any provision of these regulations shall be dealt under the provisions of The Epidemics Diseases Act 1897, The Disaster Management Act 2005, other relevant Acts and regulations there under.
18. No suit or legal proceedings shall lie against any person for anything done or intended to be done in good faith under these regulations.
19. All earlier orders issued by the various authorities will be aligned with this order by the enforcement agencies.

BY ORDER AND IN THE NAME OF THE GOVERNOR OF
MAHARASHTRA

Ajay Mehta
(AJAY MEHTA)

CHIEF SECRETARY
GOVERNMENT OF MAHARASHTRA

Copy to:

- 1) Principal Secretary, to Hon'ble Governor of Maharashtra, Rajbhavan, Mumbai
- 2) Principal Secretary to Hon'ble Chief Minister, Government of Maharashtra
- 3) Secretary to Hon'ble Deputy Chief Minister, Government of Maharashtra
- 4) Private Secretaries of All Hon'ble Minister / Minister of State, Mantralaya
- 5) All Additional Chief Secretaries / Principal Secretaries / Secretaries of Government of Maharashtra, Mantralaya

MS



33

- 6) Director General of Police
- 7) Principal Secretary, Public Health Department, Mantralaya
- 8) Secretary, Medical Education, Mantralaya
- 9) All Divisional Commissioners in the State
- 10) All Commissioners of Police in the State
- 11) All Commissioners of Municipal Corporations in the State
- 12) All District Collectors
- 13) All District Superintendents of Police in the State

CC:

The Manager, Government Printing Press with a request to publish the Government Notification in the extraordinary issue of Maharashtra State Gazette



EXHIBIT D



No. MMRDA/MTHL-PIU/work Permission/1060/04-2020

MTHL-PIU

Date : 16th April, 2020

To,

The Engineer, General Consultant

M/s AECOM Asia Company Ltd. – PADECO Co. Ltd. - Dar Al-Handasah Consultants – TY Lin International Consortium
6th Floor, MMRDA Old office Building,
Bandra-Kurla Complex, Bandra (E), Mumbai - 400051

DAEWOO-TPL Joint Venture

M/s. DAEWOO Engineering & Construction
Co. Ltd. and M/s Tata Projects Ltd.
11th Floor, Hiranandani Knowledge Park,
Technology Street, Powai, Mumbai – 400076

Larsen & Toubro Limited

L&T Construction, C/O Larsen & Toubro Ltd.,
Mount Poonamali Road, Manpakkam, PBN 979
Chennai-600089, Tamil Nadu, INDIA.

Sub: Mumbai Trans Harbour Link (Package-2 & 3)

- **Permission to complete the pending construction activities required to be accomplished at safe stage before onset monsoon during lockdown period.**

- Ref:**
1. MMRDA's Circular No. Est/Covid-19-001/2020 dated 31/3/2020
 2. MMRDA's letter No. MMRDA/MTHL-PIU/Lockdown/ 1053 /03-2020 dated 1/4/2020
 3. MMRDA's letter No. MMRDA/MTHL-PIU/Drone Videography/1058/04-2020 dated 14/4/2020
 4. Marathi letter dated 15 April 2020 issued by Collector, Raigad

Sirs,

1. The Employer, vide letter referred at Sr. No. 3 above had requested Collector Raigad to permit the Contractors to complete the essential pre-monsoon construction activities in accordance with lockdown notification issued by Govt. of Maharashtra. Copy of Employer's said letter was also marked to the GC and the Contractors.
2. The Collector, Raigad has issued a permission letter allowing pre-monsoon activities of all projects, including MTHL, in her jurisdiction. A copy of letter (referred at Sr. No. 4) is attached herewith or your ready reference.
3. You are, therefore, requested to start the essential pre-monsoon construction activities as stipulated in the letter issued by Collector, Raigad. All the instructions stipulated in the

Mumbai Metropolitan Region Development Authority

Page 1 of 2

Bandra-Kurla Complex, Bandra East, Mumbai 400 051
T +91 22 2659 1234 EPABX +91 22 2659 0001 / 4000 F +91 22 2659 1112 / 1264
<https://mmrda.maharashtra.gov.in>



aforesaid letter shall be strictly complied with.

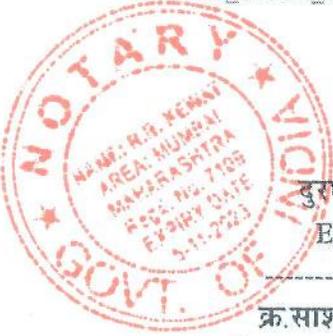
4. Apart from the above, all the directives issued by Govt. of India and Govt. of Maharashtra from time to time in respect of lockdown as well as to contain the spread of COVID-19 shall be strictly followed.
5. Contractor(s) are requested to submit the report to the Employer once the work is resumed so that the Employer can report to the Collector, Raigad as mentioned in the aforesaid letter.
6. The Engineer is also hereby requested to instruct the GC's Site Teams of respective packages to supervise the work with all necessary care and following all the directives issued by Govt. of India and Govt. of Maharashtra from time to time in this regard.
7. This is for information and further necessary action please.

Thanking you,

Yours faithfully,

(Dr. D.T.Thube)
Chief Engineer, MTHL-PIU

Encl:- Copy of Marathi letter dated 15 April 2020
issued by Collector, Raigad



महाराष्ट्र शासन

जिल्हाधिकारी तथा जिल्हादंडाधिकारी यांचे कार्यालय रायगड-अलिबाग

दुरध्वनी क्रमांक :- 02141-222118/222097/222001 फॅक्स क्रमांक: 02141-222025/227451

Email : collector_raigad@maharashtra.gov.in

Email dcraigad@gmail.com

क्र.साशा/कार्या-1/ब-5/आ.व्य./करोनाविषाणू/प्रतिबंधात्मक उपाययोजना/2020

दि. 15/04/2020

अतितात्काळ

प्रति,

1. प्रकल्प संचालक, भारतीय राष्ट्रीय महामार्ग प्राधिकरण, पनवेल
2. वरीष्ठ महाव्यवस्थापक, भारत संचार निगम लि.पनवेल
3. अधिक्षक अभियंता, सा.बां.विभाग, कोंकण भवन, नवी मुंबई
4. कार्यकारी अभियंता, सा.बां.विभाग, अलिबाग, महाड, पनवेल
5. कार्यकारी अभियंता, राष्ट्रीय महामार्ग, पेण
6. कार्यकारी अभियंता, महाराष्ट्र राज्य रस्ते विकास महामंडळ, रायगड.
7. कार्यकारी अभियंता, बांधकाम विभाग, रा.जि.प.अलिबाग
8. कार्यकारी अभियंता, ग्रामीण पाणीपूरवटा विभाग, रा.जि.प.अलिबाग
9. कार्यकारी अभियंता, खारभूमी सर्वेक्षण व विकास यंत्रणा, पेण
10. अधिक्षक अभियंता, महाराष्ट्र राज्य विद्युत वितरण कंपनी, पेण
11. मुख्य कार्यकारी अधिकारी, नगरपरिषद/नगरपंचायत (सर्व)
12. गटविकास अधिकारी, पंचायत समिती (सर्व)
13. जिल्हा शिक्षणाधिकारी (प्राथमिक व माध्यमिक) रा.जि.प.अलिबाग
14. कार्यकारी अभियंता, पत्तन अभियांत्रिकी विभाग, कोंकण भवन, नवी मुंबई
15. उपमुख्य अभियंता, मध्य रेल्वे, जुईनगर
16. अधिक्षक अभियंता, सिडको (प.व.क.)
17. Chief Engineer, MTHL-PIU, MMRDA

विषय:- पावसाळ्यापूर्वीची देखभाल व दुरुस्तीचे कामे तातडीने पूर्ण करणेबाबत.

संदर्भ :- राज्य शासनाचे अधिसूचना क्रमांक DMU/2020/CR-92/ DisM-1/ Dated 25th March, 2020.

राज्य शासनाचे अधिसूचना दि.25/03/2020 रोजी निर्गमित केलेल्या अधिसूचनेनुसार मान्सून पूर्व तयारीच्या कामांना अधिसूचनेतील मुद्या क्रमांक 6 के नुसार संचारबंदीमध्ये सुट देण्यात आलेली आहे. मान्सून पूर्वतयारी अंतर्गत नालेसफाई, रस्ते, पूल दुरुस्ती, रस्त्यांच्या साईडपट्टींचा भराव करणे, शाळांच्या खोल्या दुरुस्ती करणे, पिण्याच्या पाण्याच्या पाईप लाईन, विहीरींची दुरुस्ती करणे, विद्युत वितरण अखंडीत राहण्यासाठीची आवश्यक दुरुस्तीचे कामे, खारबांध-बंदिस्तीचे कामे इ.पावसाळ्यापूर्वी करावयाच्या अत्यावश्यक कामांच्या देखभाल व दुरुस्तीची कामे पुर्ण होणे आवश्यक आहे.

सदर कामे करताना कोरोना विषाणूचा (कोविड-19) प्रादुर्भाव रोखण्यासाठी मजूर/कामगारांकडून प्रतिबंधात्मक उपाययोजनां करून घ्याव्यात. कामगारांनी मास्क परिधान करणे, सॅनिटायझर वापरणे, हॅण्ड वॉशने हात धुणे, सामाजिक अंतर ठेवणे इ.उपाययोजनां कराव्यात. कंत्राटदारामार्फत कामगारांसाठी हॅण्डवॉश, साबण, सॅनिटायझर, मास्क इ.सुविधा प्रत्यक्ष कामाच्या ठिकाणी उपलब्ध करून देण्यात याव्यात. कामगारांची ने-आण करताना सुरक्षितता बाळगावी व सामाजिक अंतर ठेवावे. कामाच्या ठिकाणी कामगारांची जास्त गर्दी होणार नाही व काम करतानादेखील सामाजिक अंतर राहिल, याची दक्षता घ्यावी. वरीलप्रमाणे कोविड-19 विषयी सुरक्षेचे उपाय योजनां करून सदर कामे पावसाळ्यापूर्वी पूर्ण करावीत.

उक्त नमूद व इतर महत्वाची कामे पावसाळ्यापूर्वी पूर्ण होणे आवश्यक असल्याने सदर कामे तात्काळ सुरु करावीत. व केलेल्या कार्यवाहीचा अहवाल या कार्यालयास सादर करावा.


(निधी चौधरी)

जिल्हाधिकारी रायगड

प्रत माहिती व आवश्यक त्या कार्यवाहीस्तव

1. मा.विभागीय आयुक्त, कोंकण विभाग, कोंकण भवन, नवी मुंबई
2. मा. पोलीस आयुक्त, नवी मुंबई
3. मुख्य कार्यकारी अधिकारी, रायगड जिल्हा परिषद, अलिबाग
4. जिल्हा पोलीस अधिक्षक, रायगड अलिबाग





No. MMRDA/MTHL-PIU/Permission/Resume Work/1064/04-2020

MTHL-PIU

Date : 18th April, 2020

To,

The Engineer, General Consultant
M/s AECOM Asia Company Ltd. – PADECO Co.
Ltd. - Dar Al-Handasah Consultants –
TY Lin International Consortium
6th Floor, MMRDA Old office Building,
Bandra-Kurla Complex, Bandra (E),
Mumbai - 400051

DAEWOO-TPL Joint Venture
M/s. DAEWOO Engineering & Construction
Co. Ltd. and M/s Tata Projects Ltd.
11th Floor, Hiranandani Knowledge Park,
Technology Street, Powai,
Mumbai – 400076

Sub: Mumbai Trans Harbour Link (Package-2)

- Regarding the order issued by Govt. of Maharashtra on 17/4/2020

- Ref:**
1. MMRDA's Circular No. Est/Covid-19-001/2020 dated 31/3/2020
 2. MMRDA's letter No. MMRDA/MTHL-PIU/Lockdown/ 1053 /03-2020 dated 1/4/2020
 3. MMRDA's letter No. MMRDA/MTHL-PIU/Drone Videography/1058/04-2020 dated 14/4/2020
 4. MMRDA's letter No. MMRDA/MTHL-PIU/Permission/Resume Work/1060/04-2020 dated 16/04/2020
 5. Daewoo-TPL JV's letter No. MTHL/DW-TPL/GC/LT/PJC/2020-1708 dated 16/04/2020
 6. Daewoo-TPL JV's letter No. MTHL/DW-TPL/GC/LT/PJC/2020-1710 dated 17/04/2020
 7. MMRDA's letter No. MMRDA/MTHL-PIU/Permission/Resume Work/ 1061/ 04-2020 dated 17/04/2020
 8. Daewoo-TPL JV's letter No. MTHL/DW-TPL/GC/LT/PJC/2020-1714 dated 17/04/2020
 9. Govt. of Maharashtra's order No. DMU/2020/CR.92/DisM-1 dated 17/4/2020

Sirs,

1. In continuation to the letter referred at Sr. No. 4 issued by the Employer, please find attached herewith an order dated 17/04/2020 regarding the Consolidated Revised Guidelines issued by the Govt. of Maharashtra about the measures to be taken for containment of COVID-19 in the State.
2. In respect of Contractor's letter referred at Sr. No. 8 above, it is requested to follow the stipulations in the aforesaid order and resume construction activities.

Thanking you,

Yours faithfully,

(Dr. D.T.Thube)
Chief Engineer, MTHL-PIU

Encl:- Govt. of Maharashtra's Order dated 17/4/2020

Mumbai Metropolitan Region Development Authority

Bandra-Kurla Complex, Bandra East, Mumbai 400 051

T +91 22 2659 1234 EPABX +91 22 2659 0001 / 4000 F +91 22 2659 1112 / 1264

<https://mmrda.maharashtra.gov.in>



No. MMRDA/MTHL-PIU/Pkg-3/Permission/Resume Work/1065/04-2020

MTHL-PIU

Date : 18th April, 2020

To,

The Engineer, General Consultant
M/s AECOM Asia Company Ltd. – PADECO Co. Ltd.
- Dar Al-Handasah Consultants – TY Lin
International Consortium
6th Floor, MMRDA Old office Building,
Bandra-Kurla Complex, Bandra (E),
Mumbai - 400051

Larsen & Toubro Limited
L&T Construction, C/O Larsen &
Toubro Ltd., Mount Poonamali Road,
Manpakkam, PBN 979
Chennai-600089, Tamil Nadu, INDIA.

Sub: Mumbai Trans Harbour Link (Package-3)

- **Regarding the order issued by Govt. of Maharashtra on 17/4/2020**

- Ref:**
1. MMRDA's Circular No. Est/Covid-19-001/2020 dated 31/3/2020
 2. MMRDA's letter No. MMRDA/MTHL-PIU/Lockdown/ 1053 /03-2020 dated 1/4/2020
 3. MMRDA's letter No. MMRDA/MTHL-PIU/Drone Videography/1058/04-2020 dated 14/4/2020
 4. MMRDA's letter No. MMRDA/MTHL-PIU/Permission/Resume Work/1060/04-2020 dated 16/04/2020
 5. Govt. of Maharashtra's order No. DMU/2020/CR.92/DisM-1 dated 17/4/2020

Sirs,

1. In continuation to the letter referred at Sr. No. 4 issued by the Employer, please find attached herewith an order dated 17/04/2020 regarding the Consolidated Revised Guidelines issued by the Govt. of Maharashtra about the measures to be taken for containment of COVID-19 in the State.
2. It is requested to follow the stipulations of the aforesaid order and resume construction activities.

Thanking you,

Yours faithfully,

(Dr. D.T.Thube)
Chief Engineer, MTHL-PIU

Encl:- Govt. of Maharashtra's Order dated 17/4/2020

Mumbai Metropolitan Region Development Authority

Bandra-Kurla Complex, Bandra East, Mumbai 400 051
T +91 22 2659 1234 EPABX +91 22 2659 0001 / 4000 F +91 22 2659 1112 / 1264
<https://mmrda.maharashtra.gov.in>



EXHIBIT E



No. MMRDA/MTHL-PIU/Package-1/Resume Work/1062/04-2020

MTHL-PIU

Date : 17th April, 2020

To,

The Engineer, General Consultant

M/s AECOM Asia Company Ltd. - PADECO Co.

Ltd. - Dar Al-Handasah Consultants -

TY Lin International Consortium

6th Floor, MMRDA Old office Building,

Bandra-Kurla Complex, Bandra (E)

Mumbai - 400051

L&T-IHI Consortium

MTHL Pkg-01 Project Office

305 & 306 - 3rd Floor, B-Wing

Nava Bharat Estate, P D' Mello Road,

Opp. Sewri Railway Station,

Sewri West, Mumbai - 400 015.

Sub: Mumbai Trans Harbour Link (Package-1)

- **Permission to complete the pending construction activities required to be accomplished at safe stage before onset monsoon during lockdown period.**

- Ref:**
1. MMRDA's Circular No. Est/Covid-19-001/2020 dated 31/3/2020
 2. MMRDA's letter No. MMRDA/MTHL-PIU/Lockdown/1053/03-2020 dated 1/4/2020
 3. MMRDA's letter No. MMRDA/MTHL-PIU/work permission/1059/04-2020 dated 15 April 2020
 4. Marathi letter dated 17 April 2020 issued by Collector, Mumbai City

Sirs,

1. The Employer, vide letter referred at Sr. No. 3 above had requested Collector Mumbai City to permit the Contractor to complete the essential pre-monsoon construction activities of MTHL Package-1 in accordance with lockdown notification issued by Govt. of Maharashtra. Copy of Employer's said letter was also marked to the GC and the Contractors
2. The Collector, Mumbai City has issued a permission letter allowing pre-monsoon activities of MTHL project, in his jurisdiction. A copy of letter (referred at Sr. No. 4) is attached herewith or your ready reference
3. You are, therefore, requested to start the essential pre-monsoon construction activities as stipulated in the letter issued by Collector, Mumbai City. All the instructions stipulated in the aforesaid letter shall be strictly complied with.
4. Apart from the above, all the directives issued by Govt. of India and Govt. of Maharashtra from time to time in respect of lockdown as well as to contain the spread of COVID-19 shall be strictly followed.

Mumbai Metropolitan Region Development Authority

Page 1 of 2

Bandra-Kurla Complex, Bandra East, Mumbai 400 051

T +91 22 2659 1234 EPABX +91 22 2659 0001 / 4000 F +91 22 2659 1112 / 1264

<https://mmrda.maharashtra.gov.in>



5. The Contractor is requested to submit the report to the Employer once the work is resumed so that the Employer can report to the Collector, Mumbai City.
6. The Engineer is also hereby requested to instruct the GC's Site Teams of respective packages to supervise the work with all necessary care and following all the directives issued by Govt. of India and Govt. of Maharashtra from time to time in this regard.
7. All the instructions stipulated in the Collector, Mumbai City's letter referred at Sr. No. 4 shall be strictly complied with.
8. This is for information and further necessary action please.

Thanking you,

Yours faithfully,

(Dr. D.T.Thube)
Chief Engineer, MTHL-PIU

Encl: Copy of Collector, Mumbai City
letter dated 17 April 2020



ऑफिस कस्टम हाऊस, राहोद भगतसिंग मार्ग, फांट, मुंबई - ४०० ००९
 Fax: २२६६२२३९ Tel: २२६६५२३३, Email: collector.mumbai@maharashtra.gov.in

(महसूल शाखा)

क्र.सीएसएलआर/मशा-१/ट-२/ट्रान्स हावर् लिंक ना हरकत/COVID-१९/२०२०/४१
 दिनांक-१७/०४/२०२०

प्रातः

मुख्य अभियंता,
 मुंबई ट्रान्स हावर् लिंक प्रोजेक्ट (पॅकेज-१)
 एमएमआरडीए, बांद्रा कुर्ला कॉम्प्लेक्स,
 बांद्रा (पूर्व), मुंबई - ४०० ०५१.

विषय — जमीन : मुंबई शहर

Mumbai Trans Harbour Link Project (Package-१)

पावसाळा सुरू होण्यापूर्वी आवश्यक असलेले अपूर्णकाम सुरक्षित टप्प्यापर्यंत पूर्ण करण्यासाठी परवानगी मिळणेबाबत.

संदर्भ — १) मेट्रोपोलीटन रिजन डेव्हलपमेंट ऑथोरिटी (MMRDA) यांचेकडील दिनांक १५ एप्रिल २०२० चे पत्र.

२) राज्य शासन अधिसूचना क्र. DMU/२०२०/CR-९२/DisM-२/
 Dated २५/०३/२०२०

३) केंद्रीय गृह सचिव यांचेकडील आदेश क्र. 40-3/2020-DM-I(A),
 Government of India, Ministry of Home Affairs, Dated
 15th April 2020.

ज्याअर्थी मेट्रोपोलीटन रिजन डेव्हलपमेंट ऑथोरिटी (MMRDA) यांनी संदर्भ क्र. १ चे पत्रान्वये कळविलेनुसार त्यांचेमाफत तयार करण्यात येणा-या मुंबई ट्रान्स हावर् लिंक प्रोजेक्ट — २२ कि.मी. लांब समुद्री पुल (१६.५ कि.मी. सागरी क्षेत्र व ५.५ कि.मी. जमीनवरील क्षेत्र) व ३+३ पदरी पूल (शिवडी व चिरले, नवी मुंबई) या भागातून नियोजित आहे. सदर प्रकल्प शामकीय प्रकल्प असून COVID-१९ चा प्रादुर्भाव रोखणेकरिता बंद करणेत आला असल्यामुळे अर्धवट स्थितीत आहे. पावसाचे कालावधीत बांधकाम क्षेत्रामध्ये आजूबाजूच्या परिसरात पाणी साचण्याची शक्यता आहे. तसेच पावसाळ्यापूर्वी आजूबाजूच्या नाल्यांची सफाई करणे देखील अत्यावश्यक आहे असे कळविले आहे. तसेच पावसाळ्यापूर्वी सदर पुलाचे बांधकाम सुरक्षित टप्प्यापर्यंत पूर्ण करणे आवश्यक असल्याने लॉकडाऊनचे कालावधीमध्ये सदरचे बांधकामास परवानगी मिळणेबाबतही या कार्यालयास विनंती केलेली आहे. सदरचे काम लॉकडाऊनचे कालावधीमध्ये पूर्ण करतेवेळी COVID-१९ बाबत केंद्र शासन, महाराष्ट्र शासन, बृहन्मुंबई महानगर पालिका यांनी दिलेल्या अधिसूचना/नियम व कायद्यांचे पालन करूनच सदरचा उपक्रम पूर्ण करणार आहेत.

सदरचा प्रकल्प हा महत्वाचा राष्ट्रीय प्रकल्प असल्याने प्रकल्पाचे बांधकाम पावसाळ्यापूर्वी योग्य स्थितीत आणणे आवश्यक आहे.

MS



42

राज्य शासनाने संदर्भ क्र. २ चे अधिसूचनेन्वये निर्गमित केलेल्या सूचनेनुसार मान्सून पूर्व तयारीच्या कामांना अधिसूचनेमधील मुद्दा क्र. ६ के नुसार संचारबांदीमध्ये सुट देण्यात आलेली आहे. तसेच संदर्भ क्र. ३ चे केंद्रीय गृह सचिव यांचेकडील आदेश क्र. 40-3/2020-DM-II(A), Government of India, Ministry of Home Affairs, Dated 15th April 2020 मध्ये लॉकडाऊनचे कालावधीमध्ये करावयाचे कामाबाबत मार्गदर्शक सूचना देणेत आलेल्या आहेत. सदर मार्गदर्शन सूचनेमधील सूचना क्र. १६ मध्ये पुढील प्रमाणे नमूद आहे.

16. Construction activities, listed as below, will be allowed to operate:

- i) Construction of roads, irrigation projects, buildings and all kinds of industrial projects, including MSMEs, in rural areas, i.e., outside the limits of municipal corporations and municipalities; and all kinds of projects in industrial estates.
- ii) Construction of renewable energy projects.
- iii) Continuation of works in construction projects, within the limits of municipal corporations and municipalities, where workers are available on site and no workers are required to be brought in from outside (in situ construction)

वरील सूचना स्वयंस्पष्ट असून त्यानुसार मेट्रोपोलीटन रिजन डेव्हलपमेंट ऑथोरिटी (MMRDA) यांनी कळविले नुसार सदरचा प्रकल्प हा अपूर्ण अवस्थेमधील प्रकल्प असून प्रकल्प अर्धवट स्थितीमध्ये राहिल्यास पावसाळ्यामध्ये आजूबाजूच्या परिसरामध्ये पाणी साचून पूरसदृश्य स्थिती देखिल निर्माण होण्याचा धोका आहे. तसेच आजूबाजूच्या नागरिकांच्या जिवितासही धोका उद्भवू शकतो. याकरीता नमूद केलेले काम पूर्ण करणेस इतर आवश्यक त्या प्राधिकरणांच्या परवानगीच्या अधीन राहून हरकत नसावी.

सदर कामे करताना COVID -१९ चा प्रादुर्भाव रोखण्यासाठी मजूर / कामगारांकडून प्रतिबंधात्मक उपाययोजना करून घ्याव्यात. कामगारांना मास्क परिधान करणे, सॅनिटाईझर वापरणे, हॅन्ड वॉशने हात धुणे, सामाजिक अंतर ठेवणे (Social Distancing) इ. उपाययोजना कराव्यात. कंत्राटदारामार्फत कामगारांनी हॅन्डवॉश, साबण सॅनिटाईझर मास्क इ. सुविधा प्रत्यक्ष कामाच्या ठिकाणी उपलब्धकरून घ्याव्यात. कामगारांची ने-आण करताना सुरक्षितता बाळगावी व सामाजिक अंतर ठेवावे. कामाच्या ठिकाणी कामगारांची जास्त गर्दी होणार नाही व काम करताना देखिल सामाजिक अंतर राहिल याची दक्षता घ्यावी.

केंद्र शासन, राज्य शासन अथवा बृहन्मुंबई महानगरपालिका यांचेकडील अधिसूचना व मार्गदर्शक सूचनांचा कोणताही भंग होणार नाही याची दक्षता घ्यावी.

(राजेश निवतकर)

जिल्हाधिकारी, मुंबई शहर

प्रत माहिती व आवश्यक कार्यवाहीस्तव

१. मा. विभागीय आयुक्त, कोकण विभाग, कोकण भवन, बेलापूर, नवी मुंबई.

२. मा. पोलीस आयुक्त, बृहन्मुंबई.



EXHIBIT F

43

GOVERNMENT OF MAHARASHTRA

Department of Revenue and Forest, Disaster Management,
Relief and Rehabilitation, Mantralaya, Mumbai- 400 032
No: DMU/2020/CR. 92/DisM-1, Dated: 31st August, 2020

ORDER

Easing of Restrictions and Phase-wise opening of Lockdown. (MISSION BEGIN AGAIN)

Reference:

- 1) The Epidemic Diseases Act, 1897.
- 2) The Disaster Management Act, 2005
- 3) Revenue and Forest. Disaster Management. Relief and Rehabilitation Department Order No. DMU-2020/C.R.92/DMU-I, dated 2nd May 2020, 3rd May 2020, 5th May 2020, 11th May 2020, 15th May 2020, 17th May 2020, 19th May 2020, 21st May 2020, 31 May 2020, 4th June 2020, 25th June 2020, 29th June 2020, 6th July 2020, 7th July 2020, 29th July 2020, 4th August 2020 and 19th August 2020.
- 4) Ministry of Home Affairs (MHA) Order No. 40-3/2020-PM-1 (A) Dated 1st May 2020, 11th May 2020, 17th May 2020, 20th May 2020, 30th May 2020, 29th June 2020, 29th July 2020 and 29th August 2020 .

Whereas, in exercise of the powers, conferred under the Disaster Management Act 2005, the undersigned, in his capacity as Chairperson, State Executive Committee has issued an Order dated 29th July, 2020 to extend the lockdown measures up to 31st August, 2020 and issued revised consolidated guidelines from time to time vide above mentioned orders to contain the spread of COVID-19.

Whereas the State Government is satisfied that the State of Maharashtra is threatened with the spread of COVID-19 virus, and therefore to take certain emergency measures to prevent and contain the spread of virus, the Government in exercise of the powers conferred under Section 2 of the Epidemic Diseases Act, 1897, read with all other enabling provisions of The Disaster Management Act, 2005, it is expedient to extend the lockdown in the entire State of Maharashtra further till midnight of 30th September, 2020.

Now, therefore, in exercise of the powers conferred under Section 2 of the Epidemic Diseases Act, 1897 and the powers, conferred under The Disaster Management Act, 2005, the undersigned, in his capacity as Chairperson, State Executive Committee, hereby issues directions to extend the lockdown, with amendments, to operationalize MISSION BEGIN AGAIN for easing of restrictions and phase-wise opening, till 30th September, 2020 for

MISSION BEGIN AGAIN

us

us

1



44

containment of COVID-19 epidemic in the State and all Departments of Government of Maharashtra shall strictly implement the guidelines issued earlier from time to time.

It is directed that the National Directives for COVID-19 management as specified in **Annexure I** shall be followed throughout the State. The activities already allowed and permitted from time to time and as mentioned in **Annexure II** shall be continued and all earlier orders shall be aligned with this order and shall remain in force up to and inclusive of 30th September, 2020. Further easing under MISSION BEGIN AGAIN will be notified in the due course.

Any person violating these measures will be liable to be proceeded against as per the provisions of Section 51 to 60 of the Disaster Management Act, 2005 besides legal action under section 188 of the IPC, and other legal provisions as applicable. Extracts of these penal provisions are at **Annexure III**.

BY ORDER AND IN THE NAME OF THE GOVERNOR OF MAHARASHTRA

(SANJAY KUMAR)
CHIEF SECRETARY
GOVERNMENT OF MAHARASHTRA

Copy to :

1. Principal Secretary to Hon'ble Governor of Maharashtra, Mumbai.
2. Hon'ble Chairman, Maharashtra Legislative Council.
3. Hon'ble Speaker, Maharashtra Legislative Assembly.
4. Additional Chief Secretary to Hon'ble Chief Minister, Government of Maharashtra.
5. Principal Secretary to Hon'ble Chief Minister, Government of Maharashtra,
6. Secretary to Hon'ble Deputy Chief Minister, Government of Maharashtra,
7. Private Secretary to Leader of Opposition, Legislative Council / Assembly,
8. Private Secretaries of All Hon'ble Minister/Minister of State, Mantralaya,
9. All Additional Chief Secretaries / Principal Secretaries / Secretaries of Government of Maharashtra.
10. Director General of Police, Maharashtra State, Mumbai,
11. Principal Secretary, Public Health Department, Mantralaya,
12. Secretary, Medical Education, Mantralaya,
13. All Divisional Commissioners in the State
14. All Commissioners of Police in the State
15. All Commissioners of Municipal Corporations in the State
16. All District Collectors
17. All Chief Executive Officers, Zilla Parishad
18. All District Superintendents of Police in the State



45

Annexure I

(MISSION BEGIN AGAIN: Department of Revenue and Forest, Disaster Management, Relief and Rehabilitation, Mantralaya, Mumbai- 400 032, No: DMU/2020/CR. 92/DisM-1, Dated: 31st August, 2020)

National Directives for COVID-19 Management

- 1) **Face coverings** – wearing of face cover is compulsory in public places, in work places and during transport.
- 2) **Social distancing** – Individuals must maintain a minimum distance of 6 feet (2 Gaz Ki doori) in public places.
Shops will ensure physical distancing among customers and will not allow more than five persons at one time.
- 3) **Gatherings** – large public gatherings / congregations continue to remain prohibited.
Marriage related Gatherings – Number of guests not to exceed 50.
Funeral / last rites related Gatherings – Number of persons not to exceed 20.
- 4) **Spitting in public places** will be punishable with fine, as may be prescribed by the concerned authority in accordance with its laws, rules or regulations.
- 5) **Consumption of liquor, Paan, gutka, tobacco, etc** in public places is prohibited.

Additional directives for work places.

- 6) **Work from Home (WFH)** – as far as possible the practice of WFH should be followed. Staggering of work / business hours will be followed in offices, workplaces, shops, markets and industrial & commercial establishments.
- 7) **Screening and Hygiene** – provision for thermal screening, hand wash and sanitizer will be made available at all entry and exit points and common areas.
- 8) **Frequent sanitization** of entire workplace, common facilities and all points which come into human contact e.g. door handles etc. will be ensured, including between shifts.
- 9) **Social Distancing** – all persons in charge of workplaces will ensure adequate distance between workers, adequate gaps between shifts, staggering the lunch breaks of staff etc.

Handwritten signature



Annexure II

(MISSION BEGIN AGAIN: Department of Revenue and Forest, Disaster Management, Relief and Rehabilitation, Mantralaya, Mumbai- 400 032, No: DMU/2020/CR. 92/DisM-1, Dated: 31st August, 2020)

1. Containment Zones :-

- i. The Containment Zones in the State as categorised vide order dated 19th May, 2020 and 21st May, 2020 will remain in force till further orders.
- ii. The directions issued by the Central Government and State Government from time to time to demarcate the Containment Zones and operations therein will be in force till further orders.
- iii. Considering the local conditions, the concerned District Collector and the Commissioners of the Municipal Corporations in the State may enforce certain measures and necessary restrictions in specified local areas on the permitted non-essential activities and the movement of persons to contain the spread of the epidemic only with the prior written approval of Chief Secretary, Maharashtra.

2. Activities to remain prohibited across the State :-

- 1) Schools, colleges, educational and coaching institutions will remain closed till 30th September, 2020. Online / distance learning shall continue to be permitted and shall be encouraged.
 - 2) Cinema halls, swimming pools, entertainment parks, theatres (including that in malls and market complexes), bars, auditoriums, assembly halls and similar places.
 - 3) International Air travel of passengers, except as permitted by MHA:
 - 4) Metro Rail.
 - 5) Social /political/ Sports/ entertainment/ academic/ cultural/ religious functions and other large congregations.
3. All essential shops which are allowed to remain open before this order, shall continue to do so.
4. **The following activities will be allowed to operate from 2nd September, 2020:-**
- i. All non-essential shops will be allowed to continue as per relaxations and guidelines issued from time to time. Liquor shops will continue to operate.



47

- ii. Hotels and lodges will be allowed to operate at 100% capacity. Separate SOP will be issued for necessary precautions to be taken while operating these establishments.
- iii. All State Governments offices (excluding Emergency, health & Medical, treasuries, disaster management, police, NIC, Food & Civil Supply, FCI, N.Y.K., Municipal Services) to work with the following strength
 - a) Group A and Group B Officers at 100% strength in the entire State of Maharashtra.
 - b) The staff other than Group A and Group B officers :
 - a. To attend the office with 30% strength or minimum 30 employees whichever is more, in Municipal corporations of MMR Region including MCGM, Municipal Corporations of Pune, Pimpri-Chinchwad and others as may be notified from time to time.
 - b. To attend the office with 50% strength or minimum 50 employees whichever is more, in rest of Maharashtra

A Vigilance Officer will be appointed in every office for ensuring the norms like social distancing, face coverings, etc. to avoid the spread of Covid-19.

Further, it will be ensured that every office will be equipped with necessary measures of Screening and Hygiene like thermal scanning, hand wash and sanitizers at all entry and exit points and common areas. Masks shall also be made available for employees.
- iv. All private offices may operate up to 30% strength as per requirement. However all the employers will take sensitization programs to educate the employees to take adequate precautions on returning home so that vulnerable group especially the elderly is not affected. A Vigilance Officer will be appointed in every office for ensuring the norms like social distancing, face coverings, etc. to avoid the spread of Covid-19. Staggering of office timings should be encouraged and only work related movement will be allowed.
- v. There shall be no restriction on Inter-District movement of persons and goods including those for cross land-border trade under Treaties with the neighbouring countries. No separate permission / approval / e-permit will be required for the vehicles and the persons travelling therein for such movements.
- vi. Passenger movement by private bus / mini-bus and other operators will be allowed. The SOP for the same will be issued by the Transport Commissioner, Maharashtra.



5. Outdoor Physical Activities with no restrictions
6. Movement of people in all public and private transport is allowed in following manner:

Taxi/Cab/aggregator	Only essential 1 + 3
Rickshaw	Only essential 1 + 2
Four Wheeler	Only essential 1 + 3
Two wheeler	1 + 1 with helmet and mask.

Wearing of mask shall be compulsory in transport system.

7. **Protection of vulnerable persons:-** Persons above 65 years of age, persons with co-morbidities, pregnant women and children below the age of 10 years are advised to stay at home, except for essential and health purposes.
8. The movement of persons for the purposes of non-essential activities will be carried out with all necessary prescribed mandatory precautions of wearing masks, social distancing and personal hygiene.
9. The following activities shall continue to Operate as per the SOPs issued for their operations:-
- SOP on transit arrangement for foreign national(s) in India issued vide MHA Order dated 2 April 2020.
 - SOP on movement of stranded labour within States/UTs issued vide MHA Order dated 19 April, 2020
 - SOP on sign-on and sign-off Indian seafarers issued vide MHA Order dated 21 April, 2020
 - SOP on movement of stranded migrant workers, pilgrims, tourists, students and other persons issued vide MHA Order dated April 29, 2020 and Order dated 1 May, 2020 and GOM Order dated 30 April, 2020.
 - SOP on movement of Indian Nationals stranded outside the country and of specified persons to travel abroad issued vide MHA Order dated 5 May, 2020.
 - SOP on movement of persons by train issued vide MHA Order dated 11 May, 2020.
 - SOP for movement of persons arriving by trains into Maharashtra issued vide GOM Order dated 13 May, 2020
 - SOP for Social Distancing for Offices, Work Place, Factories and Establishments issued GOM Order dated April 17, 2020.

[Handwritten signature]

Annexure III

[Department of Revenue and Forest, Disaster Management, Relief and Rehabilitation, Mantralaya, Mumbai- 40032, Order No: DMU/2020/CR. 92/DisM-1, Dated: 31st August, 2020]

Offences and Penalties for Violation of Lockdown Measures

A. Section 51 to 60 of the Disaster Management Act, 2005

51. Punishment for obstruction, etc.—Whoever, without reasonable cause —

(a) obstructs any officer or employee of the Central Government or the State Government, or a person authorised by the National Authority or State Authority or District Authority in the discharge of his functions under this Act; or

(b) refuses to comply with any direction given by or on behalf of the Central Government or the State Government or the National Executive Committee or the State Executive Committee or the District Authority under this Act,

shall on conviction be punishable with imprisonment for a term which may extend to one year or with fine, or with both, and if such obstruction or refusal to comply with directions results in loss of lives or imminent danger thereof, shall on conviction be punishable with imprisonment for a term which may extend to two years.

52. Punishment for false claim.—Whoever knowingly makes a claim which he knows or has reason to believe to be false for obtaining any relief, assistance, repair, reconstruction or other benefits consequent to disaster from any officer of the Central Government, the State Government, the National Authority, the State Authority or the District Authority, shall, on conviction be punishable with imprisonment for a term which may extend to two years, and also with fine.

53. Punishment for misappropriation of money or materials, etc.—Whoever, being entrusted with any money or materials, or otherwise being, in custody of, or dominion over, any money or goods, meant for providing relief in any threatening disaster situation or disaster, misappropriates or appropriates for his own use or disposes of such money or materials or any part thereof or wilfully compels any other person so to do, shall on conviction be punishable with imprisonment for a term which may extend to two years, and also with fine.

54. Punishment for false warning.—Whoever makes or circulates a false alarm or warning as to disaster or its severity or magnitude, leading to panic, shall on conviction, be punishable with imprisonment which may extend to one year or with fine.

55. Offences by Departments of the Government.—(1) Where an offence under this Act has been committed by any Department of the Government, the head of the Department shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly unless he proves that the offence was



committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a Department of the Government and it is proved that the offence has been committed with the consent or connivance of, or is attributable to any neglect on the part of, any officer, other than the head of the Department, such officer shall be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

56. Failure of officer in duty or his connivance at the contravention of the provisions of this Act.—Any officer, on whom any duty has been imposed by or under this Act and who ceases or refuses to perform or withdraws himself from the duties of his office shall, unless he has obtained the express written permission of his official superior or has other lawful excuse for so doing, be punishable with imprisonment for a term which may extend to one year or with fine.

57. Penalty for contravention of any order regarding requisitioning.—If any person contravenes any order made under section 65, he shall be punishable with imprisonment for a term which may extend to one year or with fine or with both.

58. Offence by companies.—(1) Where an offence under this Act has been committed by a company or body corporate, every person who at the time the offence was committed, was in charge of, and was responsible to, the company, for the conduct of the business of the company, as well as the company, shall be deemed to be guilty of the contravention and shall be liable to be proceeded against and punished accordingly: Provided that nothing in this sub-section shall render any such person liable to any punishment provided in this Act, if he proves that the offence was committed without his knowledge or that he exercised due diligence to prevent the commission of such offence. (2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a company, and it is proved that the offence was committed with the consent or connivance of or is attributable to any neglect on the part of any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also, be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

Explanation.—For the purpose of this section— (a) “company” means anybody corporate and includes a firm or other association of individuals; and (b) “director”, in relation to a firm, means a partner in the firm.

59. Previous sanction for prosecution.—No prosecution for offences punishable under sections 55 and 56 shall be instituted except with the previous sanction of the Central Government or the State Government, as the case may be, or of any officer authorised in this behalf, by general or special order, by such Government.

60. Cognizance of offences.—No court shall take cognizance of an offence under this Act except on a complaint made by— (a) the National Authority, the State Authority,



the Central Government, the State Government, the District Authority or any other authority or officer authorised in this behalf by that Authority or Government, as the case may be; or (b) any person who has given notice of not less than thirty days in the manner prescribed, of the alleged offence and his intention to make a complaint to the National Authority, the State Authority, the Central Government, the State Government, the District Authority or any other authority or officer authorized as aforesaid.

B. Section 188 in the Indian Penal Code, 1860

188. Disobedience to order duly promulgated by public servant.—Whoever, knowing that, by an order promulgated by a public servant lawfully empowered to promulgate such order, he is directed to abstain from a certain act, or to take certain order with certain property in his possession or under his management, disobeys such direction, shall, if such disobedience causes or tends to cause obstruction, annoyance or injury, or risk of obstruction, annoyance or injury, to any person lawfully employed, be punished with simple imprisonment for a term which may extend to one month or with fine which may extend to two hundred rupees, or with both; and if such disobedience causes or tends to cause danger to human life, health or safety, or causes or tends to cause a riot or affray, shall be punished with imprisonment of either description for a term which may extend to six months, or with fine which may extend to one thousand rupees, or with both.

Explanation.—It is not necessary that the offender should intend to produce harm, or contemplate his disobedience as likely to produce harm. It is sufficient that he knows of the order which he disobeys, and that his disobedience produces, or is likely to produce, harm.

Illustration

An order is promulgated by a public servant lawfully empowered to promulgate such order, directing that a religious procession shall not pass down a certain street. A knowingly disobeys the order, and thereby causes danger of riot. A has committed the offence defined in this section.



EXHIBIT G

53

PROGRESS PHOTOS OF PACKAGE - 1

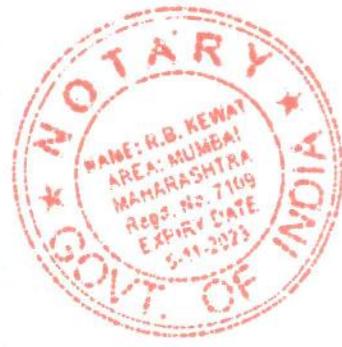


Construction of spans in Package 1

Handwritten signature in blue ink.



4/5



Handwritten signature in blue ink.



Erection of Span in Progress with launching girder in Package – 1

YKS



Erection of Span in Progress with launching girder in Package – 1

Handwritten signature in blue ink.



1. Pile Jacket installation works in progress at Marine Area MP 180 LHS.

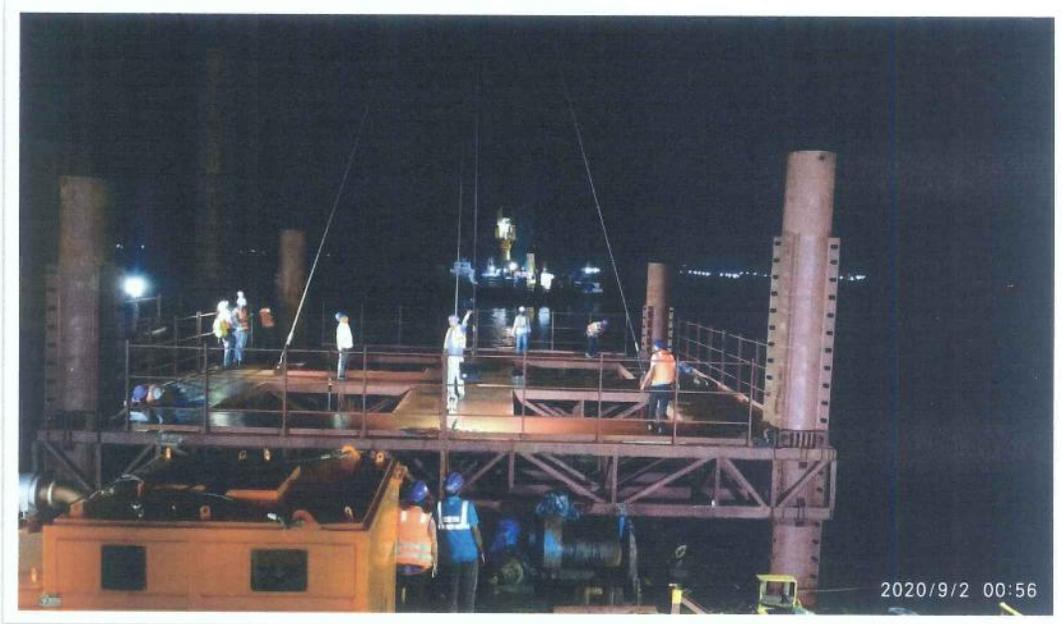


2. Pile Jacket installation works in progress at Marine Area MP 183 RHS.

A handwritten signature in blue ink, appearing to be "VMS".



3. Pile drilling in progress at MP 183 LHS.



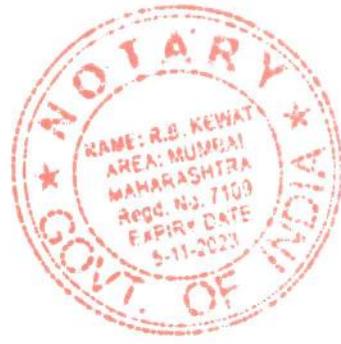
4. Jacket installation in progress at MP 191 LHS.

Handwritten signature or initials in blue ink.



5. Reinforcement cage lowering in progress at MP 183 RHS.

WKS



6. Pile concreting in progress at MP 191. LHS.



7. Sonic Tube Testing in progress at Marine Area.

Handwritten signature in blue ink.

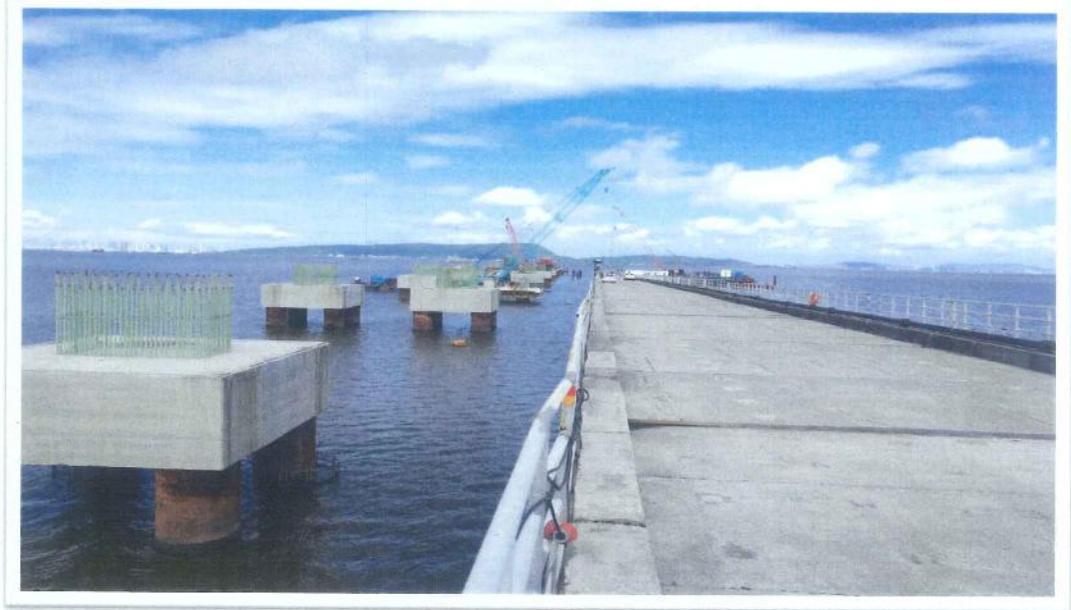


8. Pile Cap bottom formwork preparation in progress at Intertidal Area.



9. Pile Cap bottom formwork preparation in progress at Intertidal Area.

A handwritten signature in blue ink, appearing to be "WJ".



10. View from TAB.



11. Pile Cap concreting in progress at MP 212 RHS.

Handwritten signature in blue ink.



12. Pile cap concreting in progress at MP 212 LHS.



13. Pier cap, Portal Beam and LG erection works in progress in Land Area.



14. Portal Beam, Pier Cap and LG erection works in progress at Land Area.



15. Pile Cap bottom formwork preparation in progress at Intertidal Area

W/S

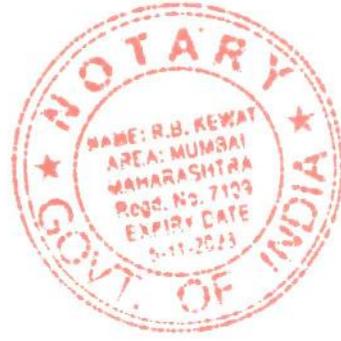


16. Shifting of Barges from Belapur Jetty to Marine Area.



17. Shifting of Marine Concrete Batching Plant for Pile Concrete at Marine Area.

Handwritten signature in blue ink.



18. Construction of Pier in Intertidal Area.



19. Construction of Pier at MP 206.

A handwritten signature in blue ink, appearing to be "V.S.J." or similar, located at the bottom right of the page.



20. Segment concreting in progress at Casting Yard Bay-1.



21. Pile Concreting in progress at Intertidal Area.

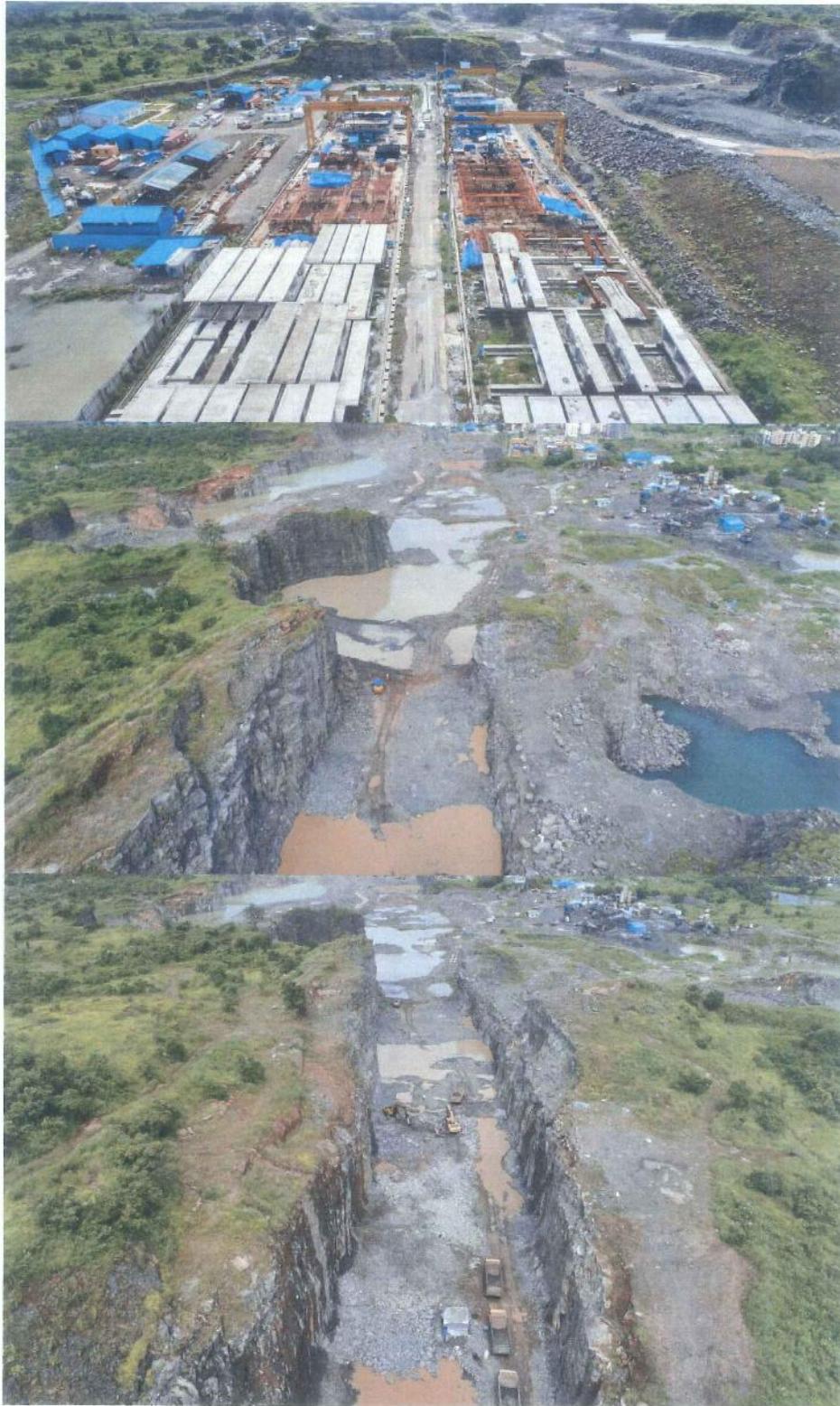
Handwritten signature in blue ink.



PROGRESS PHOTOS OF PACKAGE - 3



WJ



Handwritten signature in blue ink.



VKS



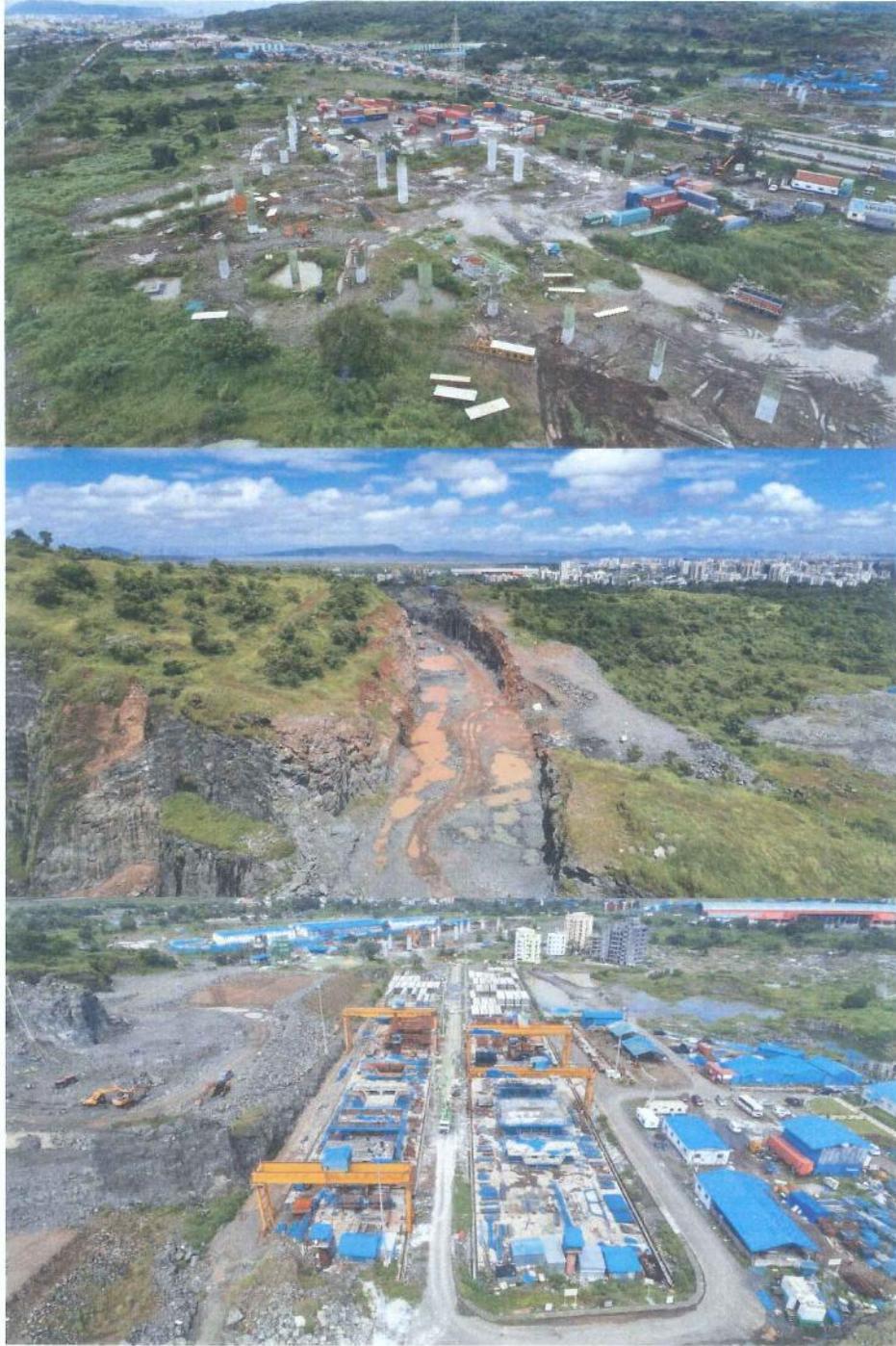
Handwritten signature in blue ink.



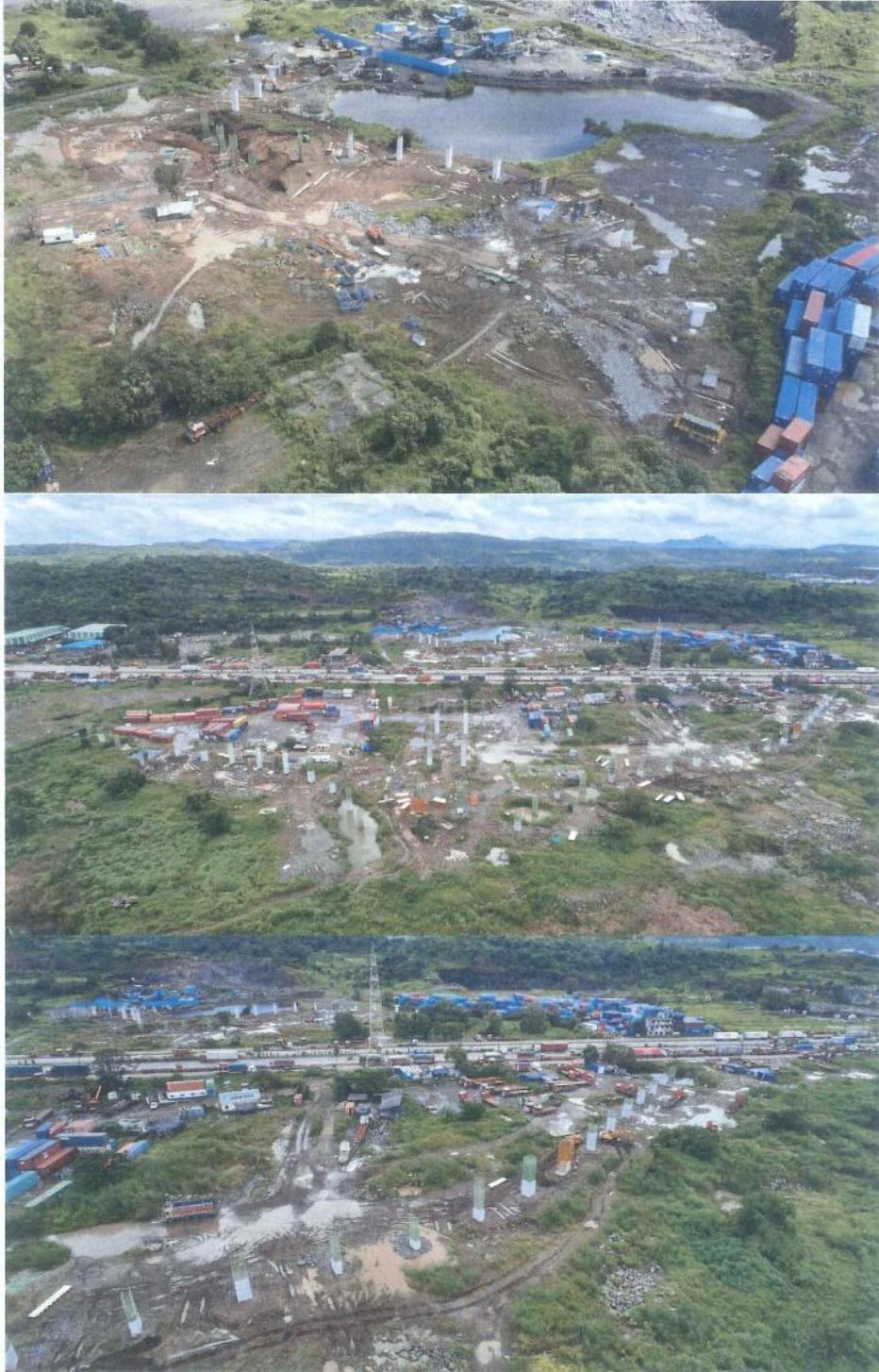
Handwritten signature in blue ink.



Handwritten signature in blue ink.



WKS



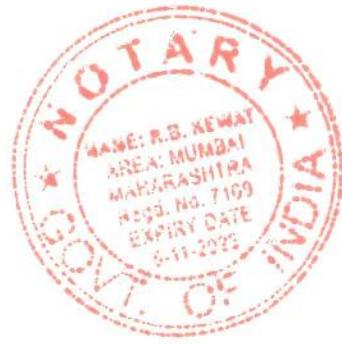
W/S



WS



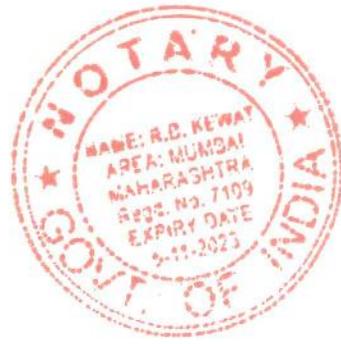
W



WS



ms



Handwritten signature in blue ink.



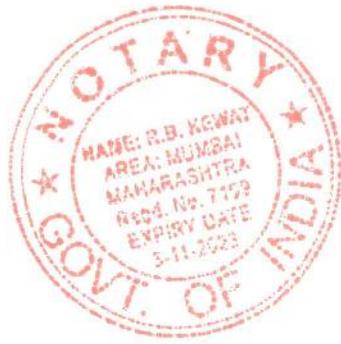
ves



Handwritten signature in blue ink.



W/S



us

EXHIBIT H

86

S.No	Activity	UoM	MTHL-Monthly Progress Report										Planned for the month	Expected time for completion
			Till Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Till Aug-20			
1	Piling	Nos	861	95	75	1	21	18	14	17	1102	65	Jun'21	
2	Pile Cap	Nos	98	25	13	2	8	1	0	1	148	22	Nov'21	
3	Land Foundations	Nos	152	18	14	1	9	8	7	4	213	16	May'21	
4	Pier	Nos	153	56	37	2	12	16	5	6	287	55	Jan'22	
5	Pier cap / Pier Head Segment	Nos	24	22	17	0	4	3	2	6	78	42	Apr'22	
6	Segment Casting	Nos	337	161	124	1	27	16	29	51	746	333	May'22	



ms

448



EXHIBIT I

88

IN THE HIGH COURT OF JUDICATURE AT BOMBAY

ORDINARY ORIGINAL CIVIL JURISDICTION

NOTICE OF MOTION NO. 498^(L) OF 2016

IN

PIL NO. 87 OF 2006

Mumbai Metropolitan Region Development Authority

..Applicant

(Orig. Respondent No. 7)

In the matter between:

Bombay Environment Action Group & Ors.

... Petitioners

Versus

State of Maharashtra & Ors.

... Respondents

INDEX

Sr. No.	Exhibits	Particulars	Page Nos.
1.		Proforma	A D
2.		Notice of Motion	1 8
3.		Affidavit in Support	9 44
4.	A	Graphical and pictorial representation of the proposed MTHL	45 46
5.	B	Copy of letter dated 26 th November 2015 bearing reference no. CRZ-2015/CR 236/TC 4 issued by MCZMA	47 51
6.	C	Copy of vide letter dated 11.12.2015 issued by Chief Conservator of Forests, Government of Maharashtra	52 54
7.	D	Copy of letter dated 22.01.2016 issued by Ministry of Environment & Forests	55 58
8.	E	Copy of CRZ Clearance dated 25 th January 2016	59 64
9.	F	Copy of office memorandum issued by the Ministry of Environment, Forest and Climate Change dated 21 st March, 2016	65
10.	G	Copy of order dated 27 th January 2010	66 70
11.	H (coll)	Copies of orders passed by this Hon'ble Court	71 108

Advocates for Respondent No.7



A

IN THE HIGH COURT OF JUDICATURE AT BOMBAY
 ORDINARY ORIGINAL CIVIL JURISDICTION
 NOTICE OF MOTION NO. OF 2016

IN

PIL NO. 87 OF 2006

Mumbai Metropolitan Region Development Authority ..Applicant
 (Orig. Respondent No. 7)

In the matter between:

Bombay Environment Action Group & Ors. ... Petitioners

Versus

State of Maharashtra & Ors. ... Respondents

Office Notes, Office Memoranda of Coram Appearance, Court's Orders or directions And Prothonotary's Orders.	Court's or Judge's Order
---	-----------------------------

YKS



B

Office Notes, Office Memoranda of Coram
 Appearance, Court's Orders or directions
 And Prothonotary's Orders.

Court's or Judge's
 Order

Handwritten signature



C

Office Notes, Office Memoranda of Coram
 Appearance, Court's Orders or directions
 And Prothonotary's Orders.

Court's or Judge's
 Order

Handwritten signature/initials in blue ink.

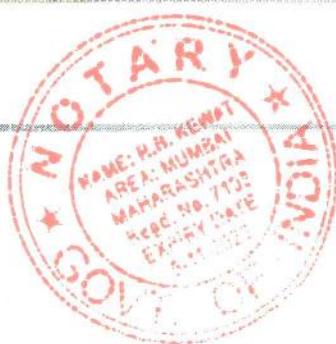


D

Office Notes, Office Memoranda of Coram
 Appearance, Court's Orders or directions
 And Prothonotary's Orders.

| Court's or Judge's
 | Order

yes



IN THE HIGH COURT OF JUDICATURE AT BOMBAY
 ORDINARY ORIGINAL CIVIL JURISDICTION
 NOTICE OF MOTION NO. OF 2016
 IN
 PIL NO. 87 OF 2006

In the matter of Articles 14, 21, 48A, 51A and
 226 of the Constitution of India;

And

In the matter of Environment (Protection)
 Act, 1986;

And

In the matter of Notification dated 19th
 February, 1991 (Amended by the
 Notification 18th August, 1994, 31st January,
 1997, 9th July, 1997 and Supreme Court
 Judgment dated 18th April, 1996) under
 Section 3(1) and Section 3(2) (v) of the
 Environment (Protection) Rules 1986;

And

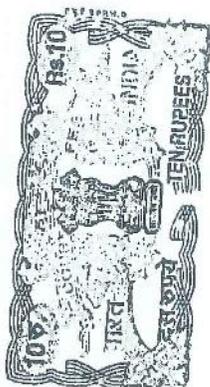
In the matter of the Forest Conservation Act,
 1980;

And

In the matter of the Maharashtra Private
 Forest (Acquisition) Act, 1975;

And

In the matter of Maharashtra Land Revenue
 Code 1966;



Handwritten signature in blue ink.



IN THE HIGH COURT OF JUDICATURE AT BOMBAY

ORDINARY ORIGINAL CIVIL JURISDICTION

NOTICE OF MOTION NO. OF 2016

IN

PIL NO. 87 OF 2006

In the matter of Articles 14, 21, 48A, 51A and
226 of the Constitution of India;

And

In the matter of Environment (Protection) Act,
1986;

And

In the matter of Notification dated 19th
February, 1991 (Amended by the Notification
18th August, 1994, 31st January, 1997, 9th July,
1997 and Supreme Court Judgment dated 18th
April, 1996) under Section 3(1) and Section 3(2)
(v) of the Environment (Protection) Rules 1986;

And

In the matter of the Forest Conservation Act,
1980;

And

In the matter of the Maharashtra Private Forest
(Acquisition) Act, 1975;

And

In the matter of Maharashtra Land Revenue
Code 1966;

And

YJS



2

In the matter of the Wild Life (Protection) Act,
1972;

And

In the matter of Maharashtra Felling of Trees
(Regulations) Act, 1964;

Mumbai Metropolitan Region Development
Authority, a statutory authority having
its office at MMRDA Building, Bandra Kurla
Complex, Bandra (E), Mumbai 400 051

... Applicant

In the matter between:

1. Bombay Environment Action Group,
A society duly registered under the
Provisions of the Societies Registration Act,
and having its address at 203, Rajendra
Chambers, 19 Nanabhai Lane,
Fort, Mumbai 400 001

2. Mr. Debi Goenka
of Mumbai, Indian Inhabitant,
residing at 502, Glengate,
Hiranandani Gardens, Powai

Mumbai 400 076

... Petitioners.

Versus

WS



1. State of Maharashtra,
Through its Government Pleader,
High Court (O.S.), Bombay
2. Union of India
Through the Ministry of Environment & Forest
Paryavaran Bhavan, CGO Complex,
Lodi Estate, New Delhi 110 003
3. The Coastal Zone Management Authority,
Having its office at Kalpataru Point
Sion (E), Sion Circle, Mumbai 400 022
4. The Brihanmumbai Mahanagarpalika
A statutory corporation incorporated
Under the BMC Act, 1888, and having
Its address at Mahapalika Marg,
Mumbai 400 001
5. The Collector, Mumbai
Having its office at Old Custom House,
1st Floor, Shaheed Bhagat Singh Road,
Mumbai 400 023
- 5A The Collector Mumbai having its
Office at New Administrative Building
4th Floor, Bandra (E), Mumbai 400 051

Yes



4

6. Chief Conservator of Forest,
(Wild Life), Secretary of the State Level
Steering Committee for Management of
Mangroves and Coral Reefs having its
Office at Dr. B.R. Ambedkar Bhavan,
MECL, Seminary hills, Civil Lines,
Nagpur 440 001
7. Mumbai Metropolitan Region Development
Authority, a statutory authority having
its office at MMRDA Building, Bandra Kurla
Complex, Bandra (E), Mumbai 400 051
8. Navi Mumbai Municipal Corporation
(NMMC), 1st floor, Legal Dept,
Belapur Bhavan, Opp. CBD Belapur
Railway Station, Navi Mumbai - 400614
9. Collector, Thane
1st floor, Court Naka,
Thane (W) - 400601
10. Tahasildar, Thane
Opp. Zilla Parishad Office,
Thane - 400601
11. Om Shree Vinayak CHS Ltd
Plot No.56, Sector 50B,

4/11



5

Nerul, Navi Mumbai, Dist. Thane

12. Dhanraj CHS Ltd.

Plot No.121, Sector 50, Nerul Node,

Navi Mumbai, Dist. Thane

13. M/s. Goodwill Developers

Through its proprietor

Mr. Hakim a. Lakdawala,

23, 2nd floor, Mahaveer Centre,

Above Golden Punjab Hotel,

Sector 17, Vashi, Navi Mumbai -

400705

14. The City and Industrial Development

Corporation of Maharashtra

Having its office at 2nd Floor,

Nirmal Building, Nariman Point,

Mumbai- 400 021

15. Shree Kashiram Laxman Chinchecha

16. Shree Moreshwar Laxman Chinchecha

17. Smt. Vatsala Laxman Chinchecha

18. Shree Vishwanath Laxman Chinchecha

The Heirs of deceased

Smt. Shantabai Laxman Chinchecha,

all residing at Dongri Lane, Chinchecha House,

Near Vetar Mandir, Versova,

was



Andheri (W), Mumbai - 400081

19. Shree Vijay Krishnaji Sawant

21/22, Aarsa Shopping Centre,

S.V. Road, Andheri (W),

Mumbai - 400058

20. Meera Bhayander Municipal Corporation

Nagar Bhawan, Phatak Road,

Bhayander (W), Mumbai 401101

... Respondents

TAKE NOTICE that this Hon'ble Court will be moved before Their Lordships the Hon'ble Mr. Justice _____ and Hon'ble Mr. Justice _____ on the _____ day of June 2016 at 11.00 O'Clock in the forenoon or soon thereafter so the counsel appearing on behalf of the Applicant (Original Respondent No.7) can be heard for the following orders:

- a) That this Hon'ble Court be pleased to grant leave to the Applicant/Respondent No.7, Mumbai Metropolitan Region Development Authority, for carrying out construction of the proposed Mumbai Trans Harbour Link (a proposed 22 km freeway grade road bridge connecting the island city of Mumbai with Navi Mumbai) in accordance with the Stage-I (in principle) approval dated 22.01.2016, granted by the Ministry of Environment and Forest, Government of India (at Exhibit-D of the Affidavit in Support), by diverting 47.417 ha of forest land (including mangroves) and in accordance with the CRZ clearance bearing No.11-65/2011-IA.III dated 25.01.2016 granted by the Ministry of Environment, Forest and Climate change, Government of India (at Exhibit-E to the Affidavit in Support) and in line with similar leave granted by this

YKS

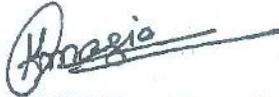


2

Hon'ble Court in pursuance of the Order dated 27th January, 2010 passed by this Hon'ble Court (at Exhibit-H colly to the Affidavit in Support);

- b) Costs of this Notice of Motion;
- c) Any other orders/ directions in furtherance of Justice as deemed fit by this Hon'ble in facts and circumstances of the present case

This Notice of Motion is taken out at)
 the instance of Vidhii Partners, Advocates)
 for the Applicant /Petitioner having their)
 office at Ground floor, Construction House,)
 5, Walchand Hirachand Marg, Ballard Estate,)
 Mumbai - 400 001)



for Vidhii Partners, Advocates
 (Advocates for Applicant / Respondent No.7)

To,

1. State of Maharashtra
2. Union of India

Through the Ministry of Environment & Forest

3. The Coastal Zone Management Authority
4. The Brihanmumbai Mahanagarpalika
5. The Collector, Mumbai
- 5A The Collector Mumbai having its
6. Chief Conservator of Forest,
 (Wild Life), Secretary of the State Level
 Steering Committee for Management of
 Mangroves and Coral Reefs





8

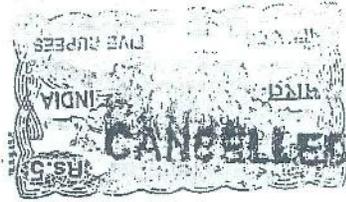
7. Mumbai Metropolitan Region Development Authority
8. Navi Mumbai Municipal Corporation
9. Collector, Thane
10. Tahasildar, Thane
11. Om Shree Vinayak CHS Ltd
12. Dhanraj CHS Ltd.
13. M/s. Goodwill Developers
14. The City and Industrial Development Corporation of Maharashtra
15. Shree Kashiram Laxman Chinchecha
16. Shree Moreshwar Laxman Chinchecha
17. Smt. Vatsala Laxman Chinchecha
18. Shree Vishwanath Laxman Chinchecha
The Heirs of deceased
Smt. Shantabai Laxman Chinchecha,
19. Shree Vijay Krishnaji Sawant
20. Meera Bhayander Municipal Corporation

NB: The affidavit of Mr. Milind H. Paranjape, the Executive Engineer of the Applicant/Respondent No.7, solemnly affirmed on 8th day of June 2016 shall be used in support of this Notice of Motion.

465

448

4ms



IN THE HIGH COURT OF JUDICATURE AT BOMBAY
ORDINARY ORIGINAL CIVIL JURISDICTION
NOTICE OF MOTION NO. OF 2016
IN
PUBLIC INTEREST LITIGATION NO.87 OF 2006

Mumbai Metropolitan
Region Development Authority ... Applicant

In the matter between:

Bombay Environmental Action Group & Anr. ... Petitioners
Versus
The State of Maharashtra & Ors. ... Respondents

AFFIDAVIT IN SUPPORT

I, Mr. Milind H. Paranjape, the Executive Engineer of the Respondent No.7/
Applicant having my office address at MMRDA Office, Plot No. R-5, 6 & 12, E-
Block, Bandra Kurla Complex, Bandra (East), Mumbai 400051, do hereby state
and submit on solemn affirmation as under:

1. I say that the Applicant is the Mumbai Metropolitan Region Development Authority (MMRDA), established in accordance with the Mumbai Metropolitan Development Act, 1974, on 26th January, 1975. I say that since its inception, the Applicant is engaged in long term planning, promotion of new growth centers, implementation of strategic projects and financing infrastructure development. The object behind establishing the Applicant Authority was to make the city of Mumbai a destination for economic activity by promoting infrastructure development and improving the quality of life. I say that in particular, the Applicant conceives, promotes and monitors the key projects for developing new

MS

MS



10

growth centres and brings about improvement in sectors like transport, housing, water supply and environment in the Region.

2. I say that, I am the Executive Engineer of the Applicant above named and am well versed with the facts and circumstances of the captioned matter. Further, I am competent and duly authorized by the Applicant to file the present Notice of Motion on behalf of the Applicant.
3. I say that the Applicant has been appointed as the implementing agency for the proposed Mumbai Trans Harbour Link (hereinafter referred to as "MTHL") project by the Respondent No. 1.
4. I say that the need for a sea bridge connecting the island city with the mainland was felt as far back as 1963. I say that transportation and traffic planning for Greater Bombay was commissioned to Wilbur Smith & Associates in the year 1962 who, after extensive studies over 18 months, submitted a detailed report to the Government of India with recommendations which included *inter alia* recommendations for the construction of a sea link connecting the island city with Navi Mumbai.
5. I say that the origin of Mumbai (Island City) - Uran (Main Land) transport link goes back to 1970, when it was first recommended in the Draft Development Plan. Subsequently, committees were formed in 1972 and 1978 to study the possible alternatives for establishing the Transportation Links across the harbour. The Committees identified alternative routes, a northern route linking Sewri with Nhava and a southern route linking Colaba with Uran, and suggested necessary engineering studies for the

Cec

ms

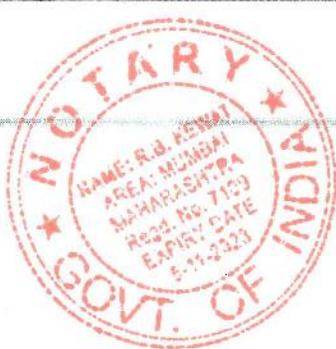


alternative routes. A Steering Group was constituted in February 1981, under the Chairmanship of Mr. J.R.D. Tata. The Steering Group reviewed the earlier studies and recommended that priority should be given to the construction of a link between Sewri and Nhava. In 1982, an International Consortium of Consultants led by Peter Frankael and Partners (PFP), UK, was appointed by the Steering Group to carry out a feasibility study and to prepare detailed project report for the proposed Mumbai Trans-Harbour Link (MTHL). PFP submitted their feasibility study report in 1983. Six alternative alignments between Sewri on the Mumbai island city side and Nhava on the main land (Navi Mumbai) were identified and studied. All the alignments started from Sewri.

6. I say that Mumbai's peculiar geographical spread imposes constraints on expansion; its great job potential has nevertheless attracted migrants from many parts of the country. The result has been severe housing shortages, lack of open spaces and civic amenities and transport bottlenecks. As per the 2011 census, the population of Mumbai is 12.25 Million. The port, market, industries, offices and above all increasing population has considerably overloaded the rail and road transportation infrastructure of the city, causing innumerable commuting hardships as well as severe strain on the city's civic services resulting in extremely poor living conditions for the majority of residents. The northern & north eastern parts of Greater Mumbai are likely to be saturated in the near future. I say that the pressure on the rail and road network can be relieved only by redirecting part of the movement into an east-west (towards Navi Mumbai) orientation. I say that due to the peculiar geography of the city,

106

106



12

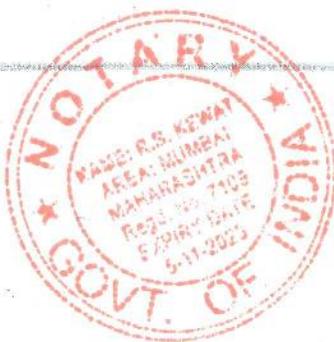
this can only be achieved by taking positive steps to encourage the development of residential areas on the mainland on the coast.

7. I say that the need for the project stems from the undisputed fact that island city of Greater Mumbai is already overcrowded and congested. The only solution to prevent the existing conditions from worsening is to expand on to the mainland, which to a limited extent, has already occurred in the northern half of Navi Mumbai. This is however, insufficient, and a major push to the development of the rest of Navi Mumbai can be given only by providing quick access to the southern half of Navi Mumbai. The southern half of Navi Mumbai is having 2,500 hectares of land, which will benefit most in terms of commuting time by the construction of the Link between mainland and south of Mumbai. When completed, MTHL will reduce the distance between the island and the mainland and travel time.

8. I say that at present, there are two road links connecting Mumbai to Navi Mumbai- Airoli bridge and Vashi bridge and both these links together are near saturation and are not equipped to meet the combined future projected traffic, thereby necessitating creation of additional links to meet traffic growth. In this context, the proposed MTHL has become a necessity. I say that the Applicant has carried out its own Comprehensive Transportation Study in July 2008 which has suggested the need of MTHL. Regional Plan for Mumbai Metropolitan Region also identifies MTHL as an important and imperative aspect. I say that from this perspective, the MTHL project will not merely provide a most efficient solution to Mumbai's acute transportation and accommodation problem, but will

448

109



13

provide the most viable solution open to the city for its survival and sustainable growth as the Economic Capital of the country.

9. I say that the MTHL is a proposed 22 km freeway grade road bridge connecting the island city of Mumbai with Navi Mumbai, its satellite city. I say that when completed, the MTHL would be the longest sea bridge in India. The MTHL will start from the Mumbai Port Trust Area with an interchange at Sewri on the Mumbai side and will end at NH-4B at Chirle Village near Nhava Sheva. The link will be a 3+3 lane elevated bridge consisting of 16.5 km long creek bridge with 5.5 km viaducts on land on either side. I say that entry and exit into the 6 lane freeway would be through the inter changes at the end points and at the intermediate points on the Navi Mumbai side. I say that the total estimated cost for the MTHL project is approximately Rs. 17843.22 Crore (As on January 2016 as per Minutes of Discussion (MoD) dated 22.01.2016 signed between Japan International Cooperation Agency (JICA) and MMRDA). Graphical and pictorial representation of the proposed MTHL are hereto annexed and marked as Exhibit 'A'.

10. I say that the proposed MTHL has been planned to facilitate decongestion of the island city of Mumbai by improving connectivity with the main land (Navi Mumbai). I say that the MTHL has also been proposed and planned keeping the development of the Navi Mumbai region in mind.

11. I say that 14.48 km (66%) of the MTHL alignment falls in creek water, 2.1 km (12%) passes through mudflats and 4.92 km (22%) alignment is on land. I say that the MTHL alignment passes through part of mangrove

[Handwritten mark]

[Handwritten signature]



14

areas, reserve forest and private forest land on the Sewri and Navi Mumbai side. I say that the mangroves forest area diversion admeasures 1.30 ha on the Mumbai (Sewri) side and 37.28 ha on the Navi Mumbai side along with additional reserve and private forest land admeasuring 8.837 ha making the total forest area diversion 47.417 ha.

12. I say that, though the total area of mangroves contemplated in the forest diversion approval is 38.58 Ha (i.e. 1.30 Ha on Sewri side and 37.28 Ha on Navi Mumbai side), MMRDA has planned for compensatory afforestation of total 47.417 Ha on non-forest land identified in four villages Morbe Tal. Panvel, Wanjle Tal Sriwardhan Ranvali Tal. Sriwardhan and Durtoli Tal. Roha at the project cost. The cost of NPV of forest land Rs.4,45,24,563/- and cost of compensatory plantation Rs. 2,14,03,323/- is deposited with the Forest Department on 22.03.20016. In addition, as recommended by Coastal Zone Management Authority, the Respondent No. 3 herein, it has been decided to undertake compensatory mangrove plantation on 223 Ha (about more than 5 times of the mangrove area proposed for diversion) through Forest Department's Mangrove Cell at the project cost. I say that MMRDA has already deposited Rs. 49.59 lakh with Chief Coservator of Forest, Mangrove Cell, Mumbai for compensatory plantation of 30 Ha mangrove. Further it is assured that, the required amounts will be deposited to Forest Department as and when demand is raised by CCF Mangrove.

13. I say that, the actual footprint area envisaged for permanent occupation for bridge piers/ramps on mangroves will be about 2.0 Ha in mangrove area. However, the actual area of mangrove that would be disturbed would



15

depend on the size and number of piers and methodology of construction adopted which will be decided later on by the Contractor being a Design-Build contract. There may also be some disturbance to mangroves during construction period. However, proliferation of mangroves is expected after completion and permanent foot print over the mangroves to the extent of bridge piers/ramps will be minimal. Despite the same, as stated above, the MMRDA, as a bona fide measure, is carrying compensatory mangrove plantation of 223 Ha for entire 38.58 Ha mangrove area.

14. I say that the Bombay Natural History Society (BNHS), an expert institution, is proposed to be appointed for addressing and assisting in various measures of environmental management. I say that EIA studies have been carried out and environmental concerns relating to the project have been considered by various expert authorities, in furtherance of which, specific mitigation measures have been stipulated in all regulatory clearances granted to the Applicant from time to time, to ameliorate any adverse environmental impact due to the MTHL project construction in addition to which, the Applicant has suo moto proposed various mitigation measures.

15. I say that the MTHL project was first accorded Environmental Clearance under the CRZ Notification 1991 and EIA Notification 1994 vide letter dated 11th March 2005. However, the MTHL project could not take off due to irrational offers received from bidders. I say that subsequently, CRZ Clearance dated 19th July 2013 was issued under the CRZ Notification 2011 based on the recommendations of the Maharashtra Coastal Zone

16

17



Management Authority (hereinafter referred to as "MCZMA") vide their letter dated 15th June 2012.

16. I say that pursuant to order passed by the Hon'ble National Green Tribunal remitting the MTHL project back to the Ministry of Environment & Forests, Government of India for fresh consideration, the MCZMA has considered the proposal for MTHL afresh and granted recommendation to the MTHL project vide letter dated 26th November 2015 bearing reference no. CRZ-2015/CR 236/TC 4, a copy of which is hereto annexed and marked as Exhibit 'B'.

Ex B

17. I say that the Forest Advisory Committee (FAC) in its meeting dated 24.11.2015 considered the proposal for MTHL and the report prepared by BNHS regarding the same wherein the matter was referred back to the State Board of Wildlife, Government of Maharashtra (SBWL). I say that the SBWL in its meeting dated 04.12.2015 ratified and approved the alignment of the MTHL and the mitigation measures pursuant to which, the Chief Conservator of Forests, Government of Maharashtra was pleased to recommend the project vide letter dated 11.12.2015 a copy of which is hereto annexed and marked as Exhibit 'C'

Ex C

18. I say that the proposal was thereafter considered in threadbare detail from all aspects by the Expert Appraisal Committee (EAC), Ministry for Infrastructure Development, Coastal Regulation Zone, Building/Construction and Miscellaneous Projects in meetings held on 22-23 December and 30th December 2015.

CEP

YKS



17

19. I say that the FAC was also pleased to accept the recommendation and mitigation measures pursuant to which the Ministry of Environment & Forests, Government of India (MoEF) was pleased to grant Stage-I (in principle) approval to the diversion of 47.417 ha of forest land (including mangroves) falling in the Right of Way of the MTHL project vide their letter dated 22.01.2016, a copy of which is hereto annexed and marked as Exhibit 'D' subject to terms and conditions mentioned therein applicable to such category of project.

Ex D

20. I say that on 25.01.2016, the Ministry of Environment, Forest and Climate Change, Government of India was pleased to grant CRZ Clearance bearing no. 11-65/2012-IA.III in terms of the provisions of the CRZ Notification 2011 under the Environment (Protection) Act, 1986, subject to terms and conditions stipulated therein. A copy of the CRZ Clearance dated 25th January 2016 is hereto annexed and marked as Exhibit 'E'.

Ex E

21. I say that subsequent to the MTHL project being granted CRZ clearance on 25th January, 2016, the Project Proponent i.e. MMRDA vide their letter dated 09.03.2016 sought clarification from the Ministry of Environment, Forest and Climate Change as to whether the said project required environmental clearance (EC) under the EIA Notification 2006. Pursuant to the same, the Ministry of Environment, Forest and Climate Change issued office memorandum dated 21st March, 2016 stating that there is no necessity for prior EC for standalone bridges, such as envisaged under the MTHL project, as per the provisions of the EIA notification 2006. A copy of the said office memorandum issued by the Ministry of Environment,



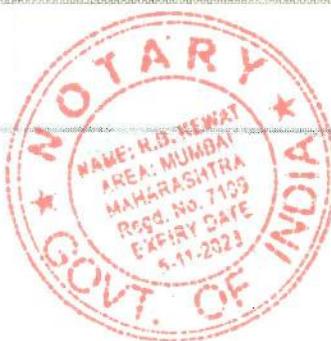
G F
Forest and Climate Change dated 21st March, 2016 is hereto annexed and marked as Exhibit 'F'.

22. I say that as per Condition (ix). of the Stage-I (in principle) approval dated 22.01.2016 to the diversion of 47.417 ha of forest land (including mangroves) falling in the Right of Way of the MTHL granted by the MoEF (Exhibit D), the Applicant is approaching this Hon'ble Court seeking permission for cutting of mangroves in terms of the order dated 27th January 2010 passed by this Hon'ble Court in the captioned PIL No. 87 of 2006. This Hon'ble Court in paragraph 8 of the said order held as follows:

8. So far as the grievance of the applicants, as regards permission which is sought to be granted by the authorities is concerned, we make it clear that nothing prevents the statutory or local and private bodies and their contractors to approach the competent authorities to seek permission for their respective projects as required in accordance with the law for the projects which are likely to affect mangroves area in the State of Maharashtra as specified in mapping of mangroves whereby mangrove areas stand delineated and the authorities on such an application being filed, would consider it strictly in accordance with law in the light of the interim orders passed by this court from time to time and keeping in mind principle of sustainable development. If such permission is granted by the competent authority the same shall be subject to approval of this court and the parties should obtain leave of the court before implementing the project in mangroves area. This will enable the court to monitor whether the principle of sustainable development is being scrupulously followed or not for the preservation, protection of mangroves area which is ecologically fragile area.

yes

GA



I say that it is evident from a bare perusal of the above reproduced para 8 that permission to construct in mangrove affected areas may be granted by the competent authority and that the same shall be subject to approval of this court wherein the parties should obtain leave of the court before implementing the project in mangroves area. A copy of the order dated 27th January 2010 is hereto annexed and marked as Exhibit 'G'.

Ex G

23. I say that this Hon'ble Court has been pleased to grant similar permissions in fit cases wherein the Applicants/Project Proponents have sought to execute projects of *bona fide* public utility and have sought to take commensurate mitigation measures in respect of diversion of forest land, clearing of mangroves, etc. Hereto annexed and marked as Exhibit 'H' (Colly.)' are copies of the said orders.

Ex H

24. I say that the Applicant has suo moto proposed the following mitigating measures to ameliorate any adverse environmental impact due to the construction/ execution of the MTHL project:

- i. Construction in mud flat areas will involve use of temporary steel bridge/jetty parallel to the permanent structure for transportation of personnel, construction materials, pre cast elements, machinery, etc on either ends so as to cause minimal disturbance to eco sensitive mud flats and mangroves. This will cost about Rs. 300 to 500 Crores itself and will be part of the Contract conditions.
- ii. No embankment to be used in the construction of the bridge alignment; the bridge is proposed as a sea link with viaducts. Therefore, only the foot print area occupied by the piers/piles/ramps would be affected.

ICP

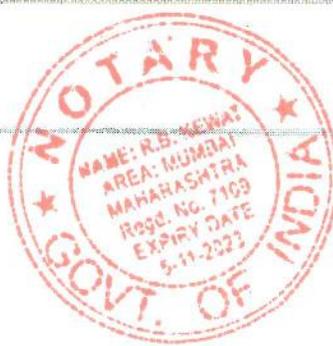
YKS



- iii. Compensatory mangrove plantation to be carried out through the Forest Department at the cost of the project proponent/user agency.
- iv. Mangrove restoration program in suitable areas to be taken up by the MMRDA through the Forest Department.
- v. Use of pre cast/fabricated units for superstructure to avoid effect on mudflats by minimizing construction activity on mud flats and also to avoid supporting system from sea bed.
- vi. As far as possible during construction, construction machinery movement (barges, etc) to bypass locations having migratory birds.
- vii. Construction machinery/equipment to be fitted with mufflers/exhaust silencers to contain noise produced along with provision of enclosures and intake silencers.
- viii. DG sets, if used, to adhere to noise standards as laid down by the MoEF.
- ix. Illumination of bridge carriage way in the mudflat stretches is proposed at low level (inner side of railing/noise barrier) to avoid disturbance to bird habitat at night.
- x. Excavated soil to be disposed off at designated/approved dumping sites located far from the mud flat areas.
- xi. No burning of waste in open air to be allowed during construction.
- xii. Implementation of surveillance management and monitoring program during construction to prevent any adverse impact on migratory birds.
- xiii. No cable stayed bridge proposed to allow free and unhindered movement of birds.
- xiv. Appointment of bird monitors during construction and even after completion of the project till the baseline levels are achieved.

SCP

MS



21

- xv. Creation of an Environment Monitoring Cell comprising MMRDA officials and experts to monitor the impact on environment during construction as well as operation.

25. I say that the expert authority, BNHS had suggested the following mitigation measures vide their report dated 23.09.2015:

- i. Construction on both ends which are passing through mudflats and mangroves must not exceed 15-18 months maximum from start date of the work to limit the disturbance period.
- ii. The distance between the supporting pillars is to be maximized (depending on the engineering consideration) from current 50 m so as to reduce number of pillars within first 4 km and last 4 km of bridge which passes through mudflats and mangroves.
- iii. Bridge should be cable free so as not to affect the free flight movement of flamingos and other water birds.
- iv. Debris in any form should not be dumped in mudflat and mangrove areas of Sewri, Thane creek and Nhava and other parts of Sewri Bay under any circumstances.
- v. Debris disposal plan to be developed in which debris disposal sites to be clearly demarcated.
- vi. Transportation of construction material to be facilitated from Sewri Jetty to avoid disturbance to mudflats.
- vii. A clear plan for construction to be provided before the work begins.
- viii. As far as possible, the spans to be pre fabricated at sites which are away from ecologically sensitive zones and brought in by barges.
- ix. Utmost care to be taken to ensure that mangroves and mudflats on either side of the bridge are not disturbed.



22:

- x. Though it is recognized that it may be beyond the mandate of MMRDA under the current project, the Respondent No. 1 must facilitate establishment of a mechanism to clean up the Sewri Mudflats and Thane Creek through integrated effluent treatment plant/plants.
- xi. Habitat quality assessment and monitoring of the conservation/mitigation measures during construction are to be continued till 5 years after completion so as to ascertain the impact of MTHL on flamingo and roosting areas.
- xii. A corpus fund to be allocated towards Mud Flat restoration.
- xiii. A walkway will have to be created north of jetty for tourists and other visitors to view the flamingos. No commercial establishment (temporary or permanent) should be permitted in and around the walkways. MMRDA should set aside corpus fund for the work. Corpus funds are essential for long term maintenance of the walkway.

26. I say that, the Forest Advisory Committee of MoEF has referred back the proposal to the State Government to take views of SBWL which has initially engaged BNHS to conduct study. I say that the SBWL has considered the BNHS report in its meeting held on 04.12.2015, wherein following decisions were taken and accepted by MMRDA;

- i) The original alignment as proposed by MMRDA is approved.
- ii) All the Wildlife Mitigation measures as proposed by BNHS in their report dated 23/09/2015 are approved for original alignment of MTHL with following modifications;



23

- iii) Construction of jetty on both the ends passing through mudflats and mangroves must not exceed 30 months and construction of actual span must not exceed more than further 12 months.
- iv) The distance between the supporting pillars shall remain 50 m as currently proposed by MMRDA.
- v) MMRDA will partly bear the cost of setting of effluent treatment plant in the region as suggested by BNHS.

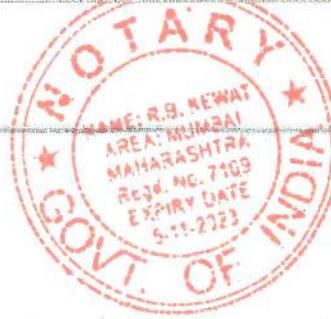
27. I say that pursuant to the decision of the SBWL on 22.06.2015, MMRDA has made adequate provision to implement the mitigation measures proposed by MMRDA, BNHS, MoEF in the Environment Management Plan (EMP) estimated to cost Rs. 335 Crores. I say that the EMP is also submitted to MoEF. As such, MMRDA is ready to invest 2% amount of project cost towards Environmental and Forest protection and conservation issues including mudflat and mangrove restoration.

28. I say that the Applicant presented the EMP proposal with the following mitigation measures along with course of action with regards the same and estimated cost which is set out herein below in a tabular format:

Sr. No.	Environmental attribute	Remark	Cost (in Rs.)
1	Environmental Monitoring - Air Act, Water Act, Noise levels	Air Noise Water-Marine and Land Solid Waste Ecology and Eco system Fishing etc. - Quarterly during CP	8 crore

CA

4/18

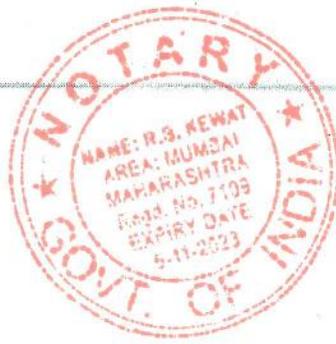


29

Sr. No.	Environmental attribute	Remark	Cost (in Rs.)
2	Compensatory Mangrove Restoration Plan	With the help of Forest department	25 crore
3	Implementation of the suggestions given by BHNS	In accordance with their report	25 crore
4	Noise barriers	Along 4.5 x 2 = 9 Km stretch abutting mudflats where flamingos gather	45 crore
5	Mitigation of marine water pollution caused due to the surrounding industries and Sewage from Urban Bodies, by providing Funding and Capacity Building for enabling Effluent Treatment	Identifying sources, treatability report, implementation of restoration and ETP	40 crore
6	Contribution to Mangroves Fund, an initiative by Govt. of Maharashtra for	In accordance with their report this money will be deposited with GoM for restoration, conservation and	25 crore

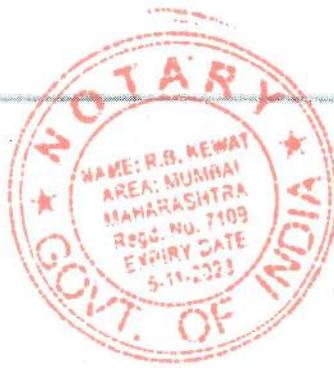
SCA

VKS



25

Sr. No.	Environmental attribute	Remark	Cost (in Rs.)
	Conservation and Protection of Mangroves in Coastal areas by depositing Seed Money. This can be used for Survey & Demarcation of Notified areas; purchase of vehicles and equipments for anti Encroachment drives, etc.	protection of mangroves in coastal areas	
7	Oil Spill Mitigation Plan	State of the air, Oil Spillage mitigation equipment, etc.	10 crore
8	<ul style="list-style-type: none"> ▪ Habitat quality assessment and monitoring ▪ Surveillance management and monitoring team for migratory birds, marine flora, turbidity in 	Carrying out detailed habitat quality monitoring of mudflats, migratory birds, marine flora and fauna and surveillance study	20 crore



26

Sr. No.	Environmental attribute	Remark	Cost (in Rs.)
	sea floor, etc. ▪ Corpus fund for mudflat restoration program		
9	Appointment of Bird Monitor and his assistant till Restoration of Baseline data	Monthly monitoring during CP and Seasonal monitoring during OP	4 crore
10	<u>Disaster Management Plan (DMP), Fire fighting, Risk analysis</u>	Necessary equipment, Quick Response Vehicles etc. for implementation of the detailed DMP	15 crore
11	Sustainable development including establishing Nature Interpretation Centre	Establishing a centre for training and workshops at schools and college level	10 crore
12	Safety and Security	It includes setting up safety measures and security measures including telecommunication systems,	15 crore

RCP

YUS



27

Sr. No.	Environmental attribute	Remark	Cost (in Rs.)
		safety boats, wireless communications etc for emergency	
13	Energy conservation	To use LED, Solar lamps on the bridge, ROW's etc	10 crore
14	Landscaping- Plantation of trees, flowering plants etc.	Along the entire bridge alignment	8 crore
15	Compensation and Capacity Building of Fisher folks due to Temporary and Permanent Loss of Fishing ground	Compensating affected fisher folk community welfare, etc.	75 crore
		Total provision in EMP	335 crore

29. I say that the Stage-I Forest Clearance granted by MoEF contained certain specific conditions to be complied with to alleviate any adverse environmental impact. I say that the Applicant has already taken steps, made budgetary allocations and set in motion action plans towards compliance with majority of the conditions aimed at mitigating the impact and safeguarding the environment, as is set out in a tabular format herein below:

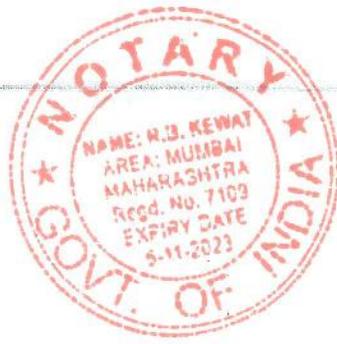


Action plan for compliance of terms and conditions stipulated in the Forest
Clearance

Sr. No.	Conditions of MoEF (no. & details)	Details	Action taken/to be taken
1	ii) Compensatory Afforestation (CA) over the non-forest land equal in extent to the forest land being diverted shall be raised and maintained by the State Forest Department at the cost of the User Agency.	Govt. of Maharashtra has allocated 47.417 ha non-forest land for CA in Raigad District. In village Morbe Tal. Panvel = 10-00-00 ha In village Wanjle tal Sriwardhan = 11-02-00 ha In village ranvali tal. Sriwardhan = 14-71-33 ha In village Durtoli tal. Roha = 11-68-37 ha Total = 47-41-70 ha Possession of CA land to be taken by	Requested to the Forest Dept to take possession of CA land, communicate cost of plantation.

WKS

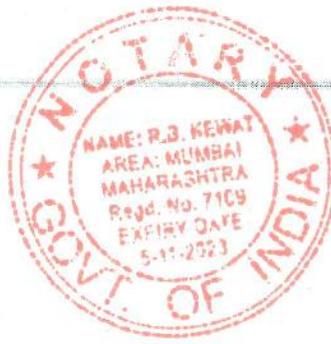
14



Sr. No.	Conditions of MoEF (no. & details)	Details	Action taken/to be taken
		Forest department from Collector Raigad. Payments to Revenue Dept.: NPV of non-forest land- Rs.1,51,60,711/- As conveyed by the Collector, Raigad vide letter dated 26.03.2013	
2	iii) The land identified for the purpose of CA shall be clearly depicted on a Survey of India topo sheet of 1:50,000 scale	Forest Dept. has shown proposed land of CA in Topo sheet of Survey of India. Confirmation to be obtained.	Requested to the Forest Dept. for providing required information
3	iv) The User Agency shall transfer the cost of raising and maintaining the compensatory afforestation, at the current wage rate, to the State Forest	Payments to Forest Deptt.: Total cost of Plantation for CA - Rs.2,14,03,323/- As conveyed by	Payment for CA plantation is made to DCF Alibag by way of Demand Draft vide MMRDA's letter dated 22.03.2016

Res

W/S



Sr. No.	Conditions of MoEF (no. & details)	Details	Action taken/to be taken
	Department. The scheme may include appropriate provision for anticipated cost increase for works scheduled for subsequent years.	the DCF, Alibag vide letter dated 01.02.2016 Note: Cost of plantation is updated by Forest department to current rates Cost of plantation includes maintaining up to 10 years	
4	v) The State Government shall charge the Net Present Value (NPV) of forest land being diverted under this proposal from the User Agency as per the orders of the Hon'ble Supreme Court of India dated 28.03.2008, 24.04.2008 and 09.05.2008 in Writ Petition (Civil) No.202/1995 and the guidelines issued by this Ministry vide its letter	Payments to Forest Deptt.: NPV of forest 47417 land - Rs.4,45,24,563/- As conveyed by the DCF, Alibag vide letter dated 01.02.2016	Payment of NPV of forest land is made to DCF Alibag by way of Demand Draft vide MMRDA's letter dated 22.03.2016

100

W/S



Sr. No.	Conditions of MoEF (no. & details)	Details	Action taken/to be taken
	No.5.3/2007-FC dated 05.02.2009 in this regard.		
5	vi) At the time of payment of the Net Present Value (NPV) at the then prevailing rate, the User Agency shall furnish an undertaking to pay the additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India	MMRDA's undertaking to Forest Dept in this regard is to be submitted	Prescribed format for undertaking is obtained from Forest Dept. and will be submitted while applying for Stage-II clearance.
6	vii) All the funds received from the User Agency under the project, shall be transferred to Ad-hoc CAMPA in the Saving Bank Account pertaining to the State concerned	MMRDA to deposit the NPV of forest land and cost of compensatory afforestation to Forest Department	The DCF, Alibag has deposited Rs. 4,45,24,563/- these payments received from MMRDA towards CA and NPV in Compensatory Afforestation Fund (CAF) Maharashtra in accordance to the guidelines prevailing in the Forest Department.

CCP

W/S



32

Sr. No.	Conditions of MoEF (no. & details)	Details	Action taken/to be taken
7	viii) The user agency shall take prior permission from Hon'ble National Green Tribunal before issue of Order for diversion of forest land in accordance with the Hon'ble Mumbai High Court, Nagpur Bench orders dated 27.04.2005 and 07.06.2006 in Writ Petition No.1277/200 as per which permission of Hon'ble High Court is necessary for taking up projects and activities in forest areas within 10 Km from protected areas in accordance with. Accordingly, this condition may be stipulated in the in-principle approval.	As the Eco-Sensitive Zone of Karnala Birds Sanctuary is notified and MTHL project falls outside of it, the applicability of this condition need to be verified	As MTHL project is out of notified eco-sensitive zone of Karnala Birds Sanctuary, the Forest Dept. requested to confirm on applicability of condition to obtain approval of Hon'ble NGT to the forest diversion proposal
8	x) The State Government / MMRDA shall implement the mitigation measures recommended by the BNHS	The mitigation measures suggested by BNHS are as	i. Forest department is requested to submit plans and estimate to



33

Sr. No.	Conditions of MoEF (no. & details)	Details	Action taken/to be taken
	<p>as modified by the State Board for Wild Life, at the project cost. The state government shall identify the recommendations which are to be implemented by the state forest department, if any and cost of such activities shall be deposited with Ad-hoc CAMPA. For the activities to be taken activities will be taken up at the project cost.</p>	<p>follows:</p> <p>a. Utmost care should be taken to ensure that mangroves and mudflats on either side of the bridge are not disturbed.</p> <p>b. Monitoring program: Habitat quality assessment and monitoring of the conservation / mitigation measures during construction and 5 yrs after completion is necessary</p> <p>c. Mud flat restoration</p>	<p>MMRDA for implementation of mitigation measures related to mangroves, mudflats, restoration of Bird habitats, development of walkways around Sewri mangroves and setting of integrated effluent treatment plants etc.</p> <p>ii. MMRDA shall provide funds to Forest department for implementation</p> <p>iii. The mitigation measures related to Engineering point of view shall be incorporated in</p>

A/c

YKS



34

Sr. No.	Conditions of MoEF (no. & details)	Details	Action taken/to be taken
		<p>program: Mudflat maintenance is a complex subject requiring long term monitoring and intervention.</p> <p>A corpus fund to be allocated towards the same. BNHS is willing to assist MMRDA in implementing the mudflat restoration program upon completion of the project.</p> <p>d. Developing walkways around mangroves at</p>	<p>contract of work</p> <p>iv. MMRDA to partly bear the cost of setting of effluent treatment plant in the region as suggested by BNHS</p> <p>v. BNHS may be requested to guide / assist MMRDA and Forest Department in implementation of mitigation measures proposed in the project for conservation of mudflats, birds and their habitats.</p>

202

W/S



35

Sr. No.	Conditions of MoEF (no. & details)	Details	Action taken/to be taken
		Sewri bay: BNHS will assist in design and development of walkway on the north side of the jetty for tourists e. Setting of integrated effluent treatment plants in the region	
9	xi) Final notification for declaration of the area of 16.90 sq.km. in Thane creek of Thane district as sanctuary shall be issued before grant of Stage II approval. MMRDA shall contribute in establishment and management of the sanctuary, modalities for	Final notification on Thane Creek Birds Sanctuary is matter pertains to domain of Forest Dept.	Forest Dept. of Govt of Maharashtra to expedite for final notification

100

448



Sr. No.	Conditions of MoEF (no. & details)	Details	Action taken/to be taken
	which shall be worked out by the State government		
10	xii) Maharashtra Forest Department, through its Mangroves and Marine Biodiversity Conservation Foundation shall prepare a Mangrove and Marine Biodiversity Conservation Plan which shall be implemented at the project cost	Forest Dept. to prepare a Mangrove and Marine Biodiversity Conservation Plan. MMRDA has already requested CCF (Mangroves) Mumbai to prepare plan for mangrove plantation and implementation for the mangrove area falling in the alignment of MTHL. MMRDA agreed to provide funds to Forest Dept. basis of the plans and estimate approved by them	i. CCF Mangroves to prepare plans and estimate required for Mangrove and Marine Biodiversity Conservation Plan. ii. MMRDA to provide funds for compensatory mangrove plantation iii. CCF Mangroves has indentified 223 ha shore land for mangrove plantation. CCF Mangroves has communicated a demand of Rs. 49.59 Lakh towards proposed mangrove

Handwritten signature in blue ink.

Handwritten initials in blue ink.



37

Sr. No.	Conditions of MoEF (no. & details)	Details	Action taken/to be taken
			plantation on 30 ha in jurisdiction of Dahanu forest range. CCF Mangroves is working on cost estimate for the balance plantation scheme.
11	xiv) The User Agency shall obtain the Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986, if required	The CRZ clearance to the project is re-awarded by MoEF on 22.01.2016. MTHL project requires only CRZ clearance and Environmental Clearance is not required	MoEF has clarified that MTHL project will not require Environmental clearance apart from CRZ clearance issued on 25.01.2016.
12	xxii) The user agency in consultation with the State Government shall create and maintain alternate habitat / home for the avifauna whose nesting	State Board of Wildlife has recommended that MMRDA shall provide fund about 2% of	i. Forest Dept. is requested to provide the approved plans and estimates to MMRDA and



Sr. No.	Conditions of MoEF (no. & details)	Details	Action taken/to be taken
	trees are to be cleared in this project. Birds nests artificially made out of eco-friendly material shall be used in the area, including forest area and human settlements, adjoining the forest area being diverted for the project	<p>project cost to Forest Dept. for implementation of conservation of mangroves, birds habitation, forests.</p> <p>MMRDA has agreed to provide funds to Forest Dept. basis on approved estimates. And on approval of UDD of Govt of Maharashtra.</p> <p>The total of all the payments to be given to Forest Dept. shall be part of conservation plan and limited to max. 2% of project cost</p>	<p>implement avifauna maintenance program on receipt of funds</p>

W/S

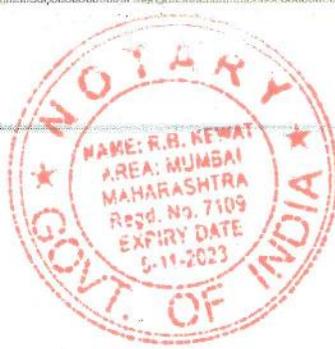
Rep



Sr. No.	Conditions of MoEF (no. & details)	Details	Action taken/to be taken
13	xxv) Wherever possible and technically feasible, the User Agency shall undertake afforestation measures along the roads within the area diverted under this approval, in consultation with the State Forest Department at the project cost	General condition	i. This condition will be incorporated in contract document of MTHL work. ii. However, Forest Dept. is requested to propose specifications for the plantation, if any, in this regards.
14	xxvi) The reclamation of quarry should be done under the supervision of the State Forest Dept. The quarry shall be reclaimed and afforested completely before the project is closed	General condition	i. This condition will be incorporated in contract document of MTHL work. ii. Project specific guidelines are to be obtained from Forest Dept.
15	xxix) The User Agency will undertake comprehensive soil conservation measures at the project cost in consultation with the State Forest Dept.	General condition	i. This condition will be incorporated in contract document of MTHL work. ii. Project specific guidelines are to

144

444



40

Sr. No.	Conditions of MoEF (no. & details)	Details	Action taken/to be taken
			be obtained from Forest Dept.
16	xxi) The User Agency will assist the State Government in preservation of flora and fauna of the area in accordance with the plan prepared by the Chief Wildlife Warden of the State Attention will be particularly given to providing safe crossing and corridors for wildlife species and protecting sensitive habitat like wetlands, grasslands and woodlands from degradation. Where canopy continuity is required for particular species, special measures shall be prescribed by the CWLW for providing crossing points. Where certain trees used for	Same as point no.VII	Requested the Plans & estimates from Forest Dept.

C4

YHS



41

Sr. No.	Conditions of MoEF (no. & details)	Details	Action taken/to be taken
	nesting / rookeries of species like birds of prey, herons, storks, hornbills etc. are to be destroyed, alternative structure shall be provided and the trees transplanted		

30. I say that the MTHL project is one of great public utility and importance. I say that the MTHL project will directly and indirectly lead to the betterment of Mumbai Metropolitan Region, both from an economic and social perspective. I say that the Direct Benefits from MTHL are as follows:

- i. Savings in travel times for commuters from Mumbai to Navi Mumbai.
- ii. Improved comfort and accessibility between the island and the mainland.
- iii. Reduced operating costs of vehicles due to lesser congestion.
- iv. Accelerated growth of Navi Mumbai.
- v. Smooth traffic flow from Navi Mumbai airport to Mumbai Island.

I say that the indirect benefits from MTHL are as follows:

- i. Rationalization of real estate prices in Greater Mumbai.
- ii. Increased demand for and better utilisation of land in Navi Mumbai.



42

- iii. Accelerated economic development of Navi Mumbai and nearby regions.
- iv. Greater economic integration of Mumbai island city with Navi Mumbai and extended regions of Pune, Panvel and Alibag.
- v. Decongestion of Mumbai Island and dispersal of population to Navi Mumbai region and beyond.
- vi. Environmental improvement and reduced pollution levels.
- vii. Improved safety due to reduction in accidents
- viii. Improvement in trade and trade competitiveness through faster and improved logistics.

31. I say that the proposed Mumbai Trans Harbour Link will therefore serve not only as an economic gateway to Navi Mumbai but also a panacea for the problems being faced by Mumbai. Navi Mumbai would therefore emerge as a vibrant satellite city to Mumbai in the same way as Gurgaon and Noida have emerged as satellites to New Delhi. A number of developmental initiatives have been proposed in the Navi Mumbai region that will not only give rise to additional traffic movement, but also accentuate the need for greater economic integration of Mumbai Island with Mainland Mumbai. Some of the key infrastructure facilities proposed and / or already developed are as follows.

- i. Navi Mumbai Integrated Special Economic Zone (SEZ)
- ii. International airport at Navi Mumbai
- iii. New container terminals at Jawaharlal Nehru Port Trust (JNPT) at Nhava Sheva
- iv. Thane Vashi, Thane-Nerul and Nerul-Uran Rail link
- v. Central Business District - Talaja-Khandeshwar-ring metro

ICP

MS



43

vi. Trans Thane Creek Industrial Area

Navi Mumbai is also well connected through rail and road links with Pune, Nasik and Thane, indicating the potential for the region to develop into a satellite city. I say that in this context, the proposed MTHL connecting Sewri to Nhava Sheva is expected to be a key driver in the development of the city by decongesting it. The link would help reduce the problems of congestion and pollution in Mumbai Island.

32. I say that the project has been accorded with Stage-I (in principle) approval to the diversion of 47.417 ha of forest land (including mangroves) falling in the Right of Way of the MTHL and CRZ Clearance in terms of the provisions of the CRZ Notification 2011 under the Environment (Protection) Act, 1986 by the MoEF and the Applicant has proposed various mitigation measures as set out hereinabove, steps in furtherance of which are already being taken and/or set in motion. I say that the project is of great economic importance to not only the city of Mumbai but to the country as a whole.

33. I say that there is an urgent need of intervention by this Hon'ble Court to grant approval to the permission for cutting of mangroves and construction in mangrove affected areas as granted by the competent authorities to the Applicant, in terms of the order dated 27th January 2010 (Exhibit F) and subsequent orders granting permission in fit cases (Exhibit H & Colly) passed by this Hon'ble Court. I say that such approval is of utmost urgency, keeping the magnitude of the project, the sizeable investments already made in the same and the need for speedy commencement of the same.

Yes

Yes



44

34. I say that in view of what is stated hereinabove urgent interim/ ad-interim reliefs be granted to the Applicant.

35. In view of the aforesaid, I pray that this notice of motion be made absolute with costs.

Solemnly affirmed at Mumbai)

Dated this 8th day of June 2016

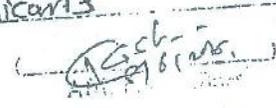
Subit Chakrabarti
Advocates for Applicants

Identified by me

Subit Chakrabarti
Advocate for Applicants

Devkar
Before me
10/06/2016
C. K. Pasnime
Associate
High Court, Bombay

Sr. No. 64
Date 08.6.16
8

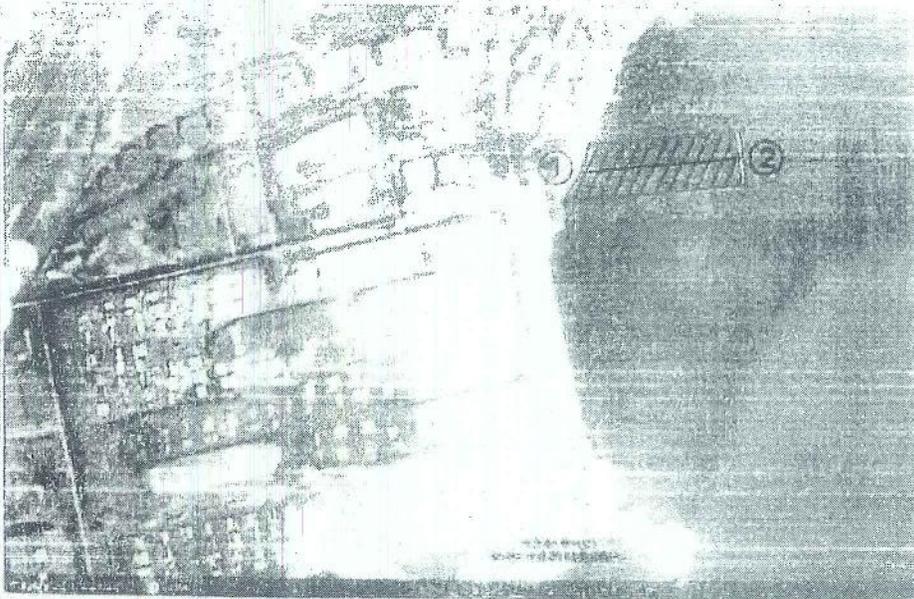
Solemnly declared/affirmed/ sworn on	<u>8</u> day of
<u>June</u>	<u>2016</u>
Identified by Me/Mrs./Ms.	<u>Subit Chakrabarti</u>
Advocate for	<u>Applicants</u>
 (C.K. Pasnime) Associate High Court, Bombay	
Note: (i) <u>Authority Letter</u> <u>6/6/16</u> must be submitted to the Court of pending Department at quarter.	

4/16



MUMBAI SUBURB

46



PROPOSED AREA FROM MUMBAI TRANS HARBOUR LINK AREA

LOCATION: ... GPS COORDINATES ...

Table with columns: S.No, Name of Village, Description, Area, etc. Row 1: 1, Proposed Area from Mumbai Trans Harbour Link Area, ...

TRUE COPY For the Partners Advocates

Handwritten signature/initials in blue ink.



EXHIBIT-B

142

Handwritten signature/initials

Exhibit 'B'

47

(9)

MAHARASHTRA COASTAL ZONE MANAGEMENT AUTHORITY

Tel. No. : 2285 2696
e-mail : mahamczma@gmail.com

No. CRZ 2015 /CR 236/ TC 4
Office of the -
Maharashtra Coastal Zone Management Authority,
Environment Department, 15th floor, New
Administrative Building, Mantralaya,
Mumbai- 400 032.

Date: 26th November, 2015

To,
✓ Director (IA-III), Coastal Zone Regulation
Government of India,
Ministry of Environment, Forests & Climate Change,
Indira Paryavaran Bhavan,
Jor Bagh Road, New Delhi - 110 003.

Received by CR Section
Ministry of Environment, Forests & Climate Change
Government of India
Indira Paryavaran Bhavan,
Jor Bagh Road, New Delhi

Subject: Proposed Mumbai Trans Harbour Link (MTHL) project by
Mumbai Metropolitan Regional Development Authority
(MMRDA)

The proposal of Mumbai Trans Harbour Link (MTHL) project by Mumbai Metropolitan Regional Development Authority (MMRDA) was considered in 107th meeting of the MCZMA held on 7th November, 2015.

2. The Additional Metropolitan Commissioner, MMRDA presented the proposal of Mumbai Trans Harbour Link (MTHL) before the Authority, in light of judgment dated 15.10.2015 of the Hon. NGT, Western Zone, Pune given in the appeal no. 4/2013. He stated that the NGT, Pune has set aside the CRZ clearance accorded to the said project by MoEF, New Delhi with a direction to remit the matter to MoEF to consider it afresh. The NGT, in particular has ordered to examine the impacts of the project on mangroves ecosystem, habitat of flamingos, mudflats besides other impacts. Hon. NGT has also directed to ascertain whether provisions of EIA Notification, 2006 are applicable to the said project. He further stated that directions have been given to MoEF to take decision independently on merit in eight (8) weeks and CRZ clearance given to the project by MoEF has been kept in abeyance for six (6) months.

3. The MMRDA officers presented the proposal before the Authority covering issues like impacts on flamingos, mudflats, mangroves, fisheries etc. and mitigation measures along with Environmental Management Plan. It was stated that Salim Ali Centre for Ornithology and Natural History has carried out studies on Flamingos and other migratory birds in the Sewri-Mahul and Nhava Mudflats in the Dec, 2008 and suggestions / observations of the report would be complied with during construction & operation phase of the project. He also informed that MMRDA has formulated a committee to assess the impact of the proposed activity on fishing communities and compensatory policy for them. Rapid Environment Impact Assessment report prepared in the year 2012, Coastal Zone Management plan prepared by IRS, Chennai, mitigation measures proposed by IRS, Chennai and report of CWPRS pertaining to the hydrodynamics is submitted.

Handwritten mark

Handwritten signature

Handwritten initials

48

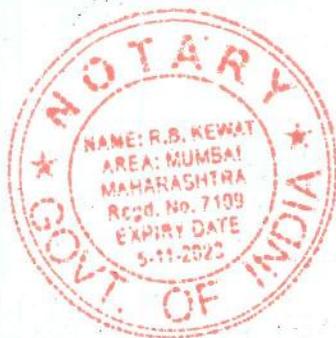


4. The MCZMA noted that as per the CZMP, the 22 Km long & six lane carriageway MTHL project passes through CRZ I, CRZ II and CRZ IV. The Sewri end of the 1.5 km alignment having chainage 1.0 to 2.5 Km passes through mudflats, sparse mangroves and abuts the flamingos breeding site. Further it was stated that the Nhave end of the 0.6 km alignment having chainage-16.98 to 17.5 km also passes through mudflats and sparse mangroves. As per the report, 14.48 km (66%) alignment falls in creek water, 2.1 Km (12%) passes through mudflats and 4.92 km (22%) alignment is on land. CRZ1 areas particularly Sewri mudflat and shivaji nagar mudflat are ecological important. The mangroves area affected at Sewri end is 576 Sqm and is 9306 Sqm at Chirle side of the proposed Sea link.

5. During presentation on EIA report & other documents, the Authority observed that typically major construction work will be done in sea area by water transportation. The approach jetties at the two ends will be in the form of piled jetties falling less obstruction to water flow. Large number of precast units will be used. As regards to CWPRS report, it was noted that i) the hydrodynamic model was well validated with actual tide, current observations ii) the centre to centre distance between two piers is large (typically 50 meters) causing minimum obstruction to the flow. Further, only small reduction in the current strength immediately upstream and downstream (upto 400 m or so) of the bridge piers was seen. From the consideration of currents, only Pir Pau Jetty may face maximum 10% reduction. iii) Most of the vital installations in the harbor channel and thane creeks, such as Mumbai and JN port, BARC Jetty, Mazgoan Dock, Oil jetties of the Jawahar dweep are less likely to get affected in terms of water levels, tidal flux and currents. As the strength and pattern of the current may not appreciably change beyond the vicinity of the MTHL piers. The sediment transport process at vital installations may not get affected.

6. The Authority further observed that to protect the bird habitat and ensure minimize damage into the mudflat area, viaducts are proposed instead of embankments in the mudflat area. The piers for the viaduct would occupy small area on mudflat and hence would not cause serious erosion. However, these pillars would alter biological diversity and invite large variety of benthic algae enabling formation of secondary community as result of ecological succession. To minimize disturbance to ecological important mudflats, it is observed that operations in the mudflats or intertidal zones would be done by using temporary jetty which will be parallel to permanent structure in the Right of Way for the transportation of labour, construction material, precast elements, machinery etc on the either ends. As per the report presented, in order to avoid the disturbance to mudflats & bird habitat especially flamingos, no reclamation in mudflats or in the water area on Sewri and Navi Mumbai side is proposed. As per the report, it is observed that all construction equipments fully fitted with mufflers and exhaust silencers to contain the noise levels. Machinery used during construction should be properly maintained to minimize the air and noise emissions. MMRDA has also proposed noise barriers of 3 m height on both side of the sea link passing through mudflat area. It is also proposed that construction machinery movement would bypass the locations having habitation of migratory birds during construction.

7. The Authority further observed that post construction vegetation of the mangroves below viaduct in mudflat area on either side will be conserved and protected to maintain ecosystem integrity. MMRDA would develop a corpus-fund for restoration of mudflat and bird habitat.



49 (29)

Further, bird monitoring and management plan is proposed to be evolved before construction activity which will comprise monitoring of active construction area, listing of bird species, monitoring during pile driving and other construction activities etc. Mangroves restoration programme /compensatory afforestation on 7 Ha. Suitable areas will be taken by MMRDA through Forest Dept/ Mangroves cell. The Authority also observed that casting yard is proposed in CRZ I (mangroves) and CRZ II area and opined that casting yard to be shifted from CRZ I (mangroves area)

8. The Authority also discussed the applicability of the Environment Clearance under EIA Notification, 2006 and opined that though activity per se is not covered in EIA Notification, 2006, however, considering the scale and ecological settings of the project area, MoEFCC, New Delhi may decide appropriately on the applicability of the EC for the said project.

9. After detailed deliberation on the submissions of the MMRDA & directions of the Hon. NGT, Pune, the Authority decided to recommend the project from CRZ point view under the provisions of CRZ Notification, 2011 to MoEFCC, New Delhi for appropriate consideration subject to compliance of following conditions:

Specific conditions:

- i. MMRDA to ensure that mangroves restoration on the identified areas is undertaken immediately through Mangroves Conservation Cell, Mumbai.
- ii. MMRDA to explore the possibility of increase in the distance between two piers of viaduct in the mudflat area, which may be more than 50 m. This will minimize the disturbance in ecologically important mudflats and bird habitat area.
- iii. The Sewri End of the Jetty should be used for transportation of construction material to avoid disturbance to the mudflats.
- iv. No reclamation is allowed in CRZ I & CRZ IV area except for viaducts & piers. MMRDA should ensure the same.
- v. MMRDA to install noise barriers of 3 m height on both side of the Sealink passing through CRZ I (mudflat & mangroves area) and CRZ IV area.
- vi. Casting yard proposed on 16.15 ha on mangroves area on Navi Mumbai side should be shifted from CRZ I (mangroves area).
- vii. MMRDA to ensure that Construction activities near flamingo habitat area may be restricted to the season when flamingos are not on the site or not in larger flocks.
- viii. MMRDA to ensure that all construction equipments are fully fitted with mufflers and exhaust silencers to contain the noise levels. Machinery used during construction should be properly maintained to minimize the air and noise emissions.
- ix. MMRDA to ensure that minimum damage is caused to mangroves ecosystem.
- x. MMRDA to ensure that operations in the mudflats or intertidal zones will be done by using temporary jetty which will be parallel to permanent structure in the Right of Way for the transportation of labour, construction material, precast elements, machinery etc on the either ends.
- xi. MMRDA to declare entire MTHL as 'No Honking area'
- xii. MMRDA to ensure that no hoardings are allowed to displayed on the MTHL to avoid disturbance due to light illumination to Marine flora, fauna and birds during night.

[Handwritten signature]

[Handwritten signature]



- 50
- xiii. MMRDA should take the expert opinions from the BNHS regarding safeguards to be placed so as to mitigate the disturbance to flamingo's habitat.
 - xiv. MMRDA to formulate a Environment Cell (EMC) to monitor impacts on environment during construction as well as during operations, under Chairmanship of Additional Metropolitan Commissioner, MMRDA. The said Cell would comprises of internal cell with Joint project Director (Environment), MMRDA and the Chief Engineer, MMRDA and other members will be from Forest Department, Maharashtra Pollution Control Board, Environment Dept and other Environmental Specialists.
 - xv. MMRDA to set aside an amount of about 2% of the project cost towards mitigation measures; restoration & Conservation of mangroves/birds/flora/fauna and mudflats restoration.
 - xvi. MMRDA to undertake training programmes for construction personnel regularly so as to cause minimum disturbance to birds, due to construction activities.
 - xvii. MMRDA to develop a nature interpretation centre in the appropriate place to create awareness about importance of conservation of flora and fauna and migratory birds.
 - xviii. MMRDA to consult expert agency to minimize the damage to the mudflats before commencement of the construction work near the mudflats.
 - xix. MMRDA should obtain the Forest Clearance since, the proposed alignment of MTHL is passing through mangroves patches at Sewri and Nhava End of the project. Prior permission from the High Court of Mumbai should also be obtained as per the Hon. High Court order dated 27.1.2010 & 6.10.2005 in WP No. 3246/2004 & PIL 87/2006
 - xx. MMRDA to consult and implement suggestions given by committee constituted for fisheries issues in the project area. Representative of fisheries commissioner, local fisherman community etc should be appointed on the committee. The committee to ensure all mitigation measures for fisheries protection and issues of the local fisherman are considered and implemented during construction by conducting regular meeting during construction phase.
 - xxi. MMRDA to ensure that no fishing activity is hampered during construction and operation phase of the project. Mudflats and creek are of vital importance to fisheries. Therefore during construction and after completion of the project, MMRDA to assess the project affected fishermen and loss of business to fishermen that may occur due to the project.
 - xxii. MMRDA to formulate project specific disaster management plan and standard operating procedures before commencement of the project.
 - xxiii. MMRDA to constitute Environmental monitoring committee over and above to internal environmental cell as proposed. This committee will ensure third party monitoring of implementation of ecological compliances. The structure of the committee should comprise experts from National Institute of Oceanography; Representative of BNHS; renowned expert in Ornithology; Director, Fisheries Institute, Versova, Andheri; Head of Coastal Engineering, IIT, Mumbai and Representative of Environment Dept and Maharashtra Pollution Control Board. The officer of MMRDA will act as a Member Secretary to coordinate the quarterly meetings of the committee during construction phase.

4



SI

**General Conditions:**

- i. The MCZMA reserves the right to revoke this recommendation, if the conditions stipulated are not complied with to the satisfaction of the MCZMA or Environment Department.
 - ii. The MCZMA or any other competent authority, MCGM may stipulate any additional conditions subsequently, if deemed necessary, for environmental protection, which shall be complied with.
 - iii. A copy of the recommendation letter shall be marked to the concerned local body/ local NGO, if any, from whom any suggestion/ representation has been received while processing the proposal.
 - iv. The environmental safeguard measures should be implemented in letter and spirit.
 - v. This recommendation will be valid for 5 years from the date of issue of recommendation for commencement of construction & operation.
 - vi. The recommendation from CRZ point of view is being issued without prejudice to the action initiated under EP Act or any court case pending in the court of law and it does not mean that project proponent has not violated any environmental laws in the past and whatever decision under EP Act or of the Hon'ble court will be binding on the project proponent. Hence this recommendation does not give immunity to the project proponent in the case filed against him, if any or action initiated under EP Act.
10. The agenda item, minutes and the copy of this letter is also available on the website of MCZMA i.e. <http://mczma.maharashtra.gov.in>.

Member Secretary (MCZMA)

Copy for information to:

1. Additional Chief Secretary, Environment Dept, Room No. 217, Annex Building, Mantralaya, Mumbai.
2. Metropolitan Commissioner, MMRDA, Bandra Kurla Complex, Mumbai. District Collector, Raigad.
3. District Collector, Mumbai City, Old Custom House, Fort, Mumbai
4. District Collector, Raigad, Alibag, Dist. Raigad
5. Select File - TC 4

TRUE COPY

For Member Secretary
TRUE COPY



MS



EXHIBIT-C

148

52

Exhibit C

(2)

Government of Maharashtra

By Speed Post

No.FLD-1313/C.R.206/F-10

Revenue and Forest Department,
Room No.456/461 Annex, Hutatma
Rajguru Chowk, Madam Cama Marg,
Mantralaya, Mumbai-400 032.

Date: - 11/12/2015

To,

The Secretary to the Government of India,
Ministry of Environment, Forests and Climate Change,
Indira Paryavaran Bhavan, Jor Bagh Road, Aliganj,
New Delhi.-110003

Subject :- Forest Land-Raigad & Thane

Diversion of 47.4170 ha. of forest land for six laning of Mumbai Trans Harbour Link Road in Raigad & Thane district of Maharashtra.

- Reference : 1) Government of Maharashtra even no. letter dated 24/11/2015
2) Minutes of the Forest Advisory Committee (FAC) meeting held on 24/11/2015 at Paryavaran Bhavan, New Delhi
3) Minutes of the State Board of Wildlife held on 4/12/2015.

Sir,

Government of Maharashtra vide above referred letter no-1, has submitted the BNHS report regarding proposal mention in the subject. The Forest Advisory Committee (FAC) in meeting held on 24/11/2015 at Paryavaran Bhavan, New Delhi, has considered the above report and referred back the proposal to the State Government to take the views of State Board of Wildlife which had initially engaged BNHS to conduct the study.

2. The State Board of Wildlife has considered the BNHS report in its meeting held on 4/12/2015. The minutes of the SBWL meeting are enclosed herewith. Considering the overall discussion regarding BNHS report the SBWL has taken following decisions -

- I) The original alignment as proposed by MMRDA is approved.
- II) All the Wildlife Mitigation Measures as proposed by BNHS in their report dated 23/ 09/2015 are approved for original alignment of MTHL with following modifications:-
 - i) Constructions of jetty on both the ends passing through mudflats and mangroves must not exceed 30 months and construction of the actual span must not exceed more than further 12 months.
 - ii) The distance between the supporting pillars shall remain 50 metre as currently proposed by MMRDA.
 - iii) MMRDA will partly bear the cost of setting of effluent treatment plant in the region as suggested by BNHS.

3. I am therefore directed to request you that Government of India may please be moved to issue approval under section-2 (ii) of Forest (Conservation) Act, 1980.

Encl : As above

Yours faithfully,

(Signature)

(Virendra Tiwari)

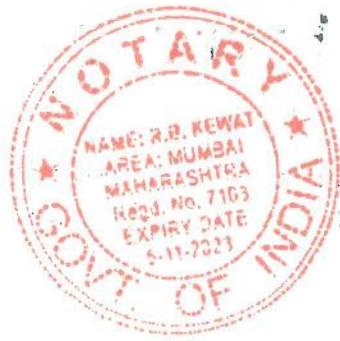
Chief Conservator of Forests (Mantralaya)

Copy to:

- 1) Principal Chief Conservator of Forests (Wildlife), Maharashtra State, Nagpur

C:\Users\Admin\Desktop\Compliance to CRZ I-14.doc

(Signature)



YKS

53

35

Minutes of the 10th meeting of the State Board for Wild Life, Maharashtra
dated 04th December 2015

Subject : 3.1. The report submitted by BNHS on the mitigation measures pertaining to MTHL

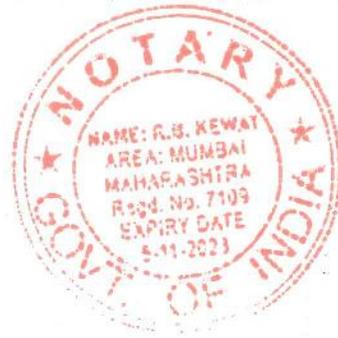
Item No.	Item	Information put forth before the Board	Discussion held & Decisions taken in the meeting
3.1	The report submitted by BNHS on the mitigation measures pertaining to MTHL	The SBWL had taken a decision in 9 th Meeting held on 22.6.2015 to approve the proposal and to get a study conducted on the mitigation measures / issues raised by BNHS representative and if required, with the help of experts. It was expected to suggest the mitigation measures. The study report is received from BNHS. The BNHS has taken view that alignment of the project must be changed and only then mitigation measures suggested in the report may be implemented. Hence, this report is put for discussion before the SBWL.	MMRDA, Mumbai stated that as proposed by BNHS change in the original alignment of MTHL is not possible due to technical and geographical reasons. They also suggested that it is not possible to increase the distance between two pillars because of technical and financial reasons. Moreover they also mentioned that the construction through mudflats and mangrove is not possible to complete within 15 to 18 months as suggested by BNHS. Construction of jetty will require minimum 24 to 30 months to complete and 12 more months for construction of the actual span. Dr. Jhala, Representative of WII, Dehradun had pointed out that after such construction is completed, birds return to their original habitat as experienced in such cases in the country like America. Hence, WII representative has expressed his view that change in original alignment is not needed. Taking in consideration the presentation and subsequent discussions, the following decisions are taken:- 1) The original alignment as proposed /by



gnd

MS

54



			<p>MMRDA is approved.</p> <p>ii) All the Wildlife Mitigation Measures as proposed by BNHS in their report dated 23/09/2015 are approved for original alignment of MTHL with following modifications:-</p> <p>i) Constructions of jetty on both the ends passing through mudflats and mangroves must not exceed 30 months and construction of the actual span must not exceed more than further 12 months.</p> <p>ii) The distance between the supporting pillars shall remain 50 metre as currently proposed by MMRDA.</p> <p>iii) MMRDA will partly bear the cost of setting of effluent treatment plant in the region as suggested by BNHS.</p>
--	--	--	---

9

TRUE COPY

 PARTNERS
 TRUE COPY

YKS

EXHIBIT-D

22/1/2016

55

34



F. No. 8-89/2013-FC
Government of India
Ministry of Environment, Forest and Climate Change
(FC Division)

Indira Paryavaran Bhawan,
Aliganj, Jorbagh Road,
New Delhi - 110003

Dated: 22nd January, 2016

To

The Principal Secretary (Forests),
Department of Environment & Forests,
Government of Maharashtra,
Nagpur.

Sub: Diversion of 47.4170 ha of forest land in favour of the Executive Engineer (MTHL), MMRDA, Bandra Kurla Complex, Bandra (E), Mumbai for six laning of Mumbai Trans Harbour Link Road in Raigad & Thane district in the State of Maharashtra.-regarding.

Sir,

I am directed to refer to the Government of Maharashtra letter No. FLD-1313/CR-206/F-10 dated 30th September 2013 on the above mentioned subject seeking prior approval of Central Government in accordance with Section-2 of the Forest (Conservation) Act, 1980 and to say that the proposal has been examined by the Forest Advisory Committee constituted by the Central Government under Section-3 of the said Act.

After careful examination of the proposal of the State Government and on the basis of the recommendations of the Forest Advisory Committee, the Central Government hereby conveys the 'in-principle' approval for diversion of 47.4170 ha of forest land in favour of the Executive Engineer (MTHL), MMRDA, Bandra Kurla Complex, Bandra (E), Mumbai for six laning of Mumbai Trans Harbour Link Road in Raigad & Thane district in the State of Maharashtra, subject to fulfillment of the following conditions:-

- i. Legal status of the diverted forest land shall remain unchanged
- ii. Compensatory afforestation over the non-forest land equal in extent to the forest land being diverted shall be raised and maintained by the State Forest Department at the cost of the User Agency.
- iii. The land identified for the purpose of CA shall be clearly depicted on a Survey of India toposheet of 1:50,000 scale.
- iv. The User Agency shall transfer the cost of raising and maintaining the compensatory afforestation, at the current wage rate, to the State Forest Department. The scheme may include appropriate provision for anticipated cost increase for works scheduled for subsequent years.
- v. The State Government shall charge the Net Present Value (NPV) of the forest land being diverted under this proposal from the User Agency as per the orders of the Hon'ble Supreme Court of India dated 28.03.2008, 24.04.2008 and 09.05.2008 in Writ Petition (Civil) No. 202/1995 and the guidelines issued by this Ministry vide its letter No. 5-3/2007-FC dated 05.02.2009 in this regard.

SSP

YKS

56

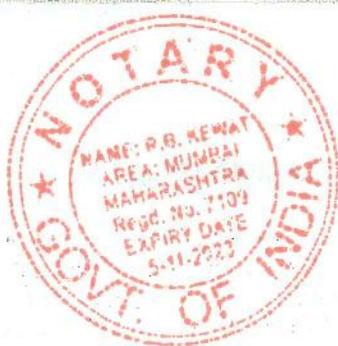


- vi. At the time of payment of the Net Present Value (NPV) at the then prevailing rate, the User Agency shall furnish an undertaking to pay the additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India.
- vii. All the funds received from the User Agency under the project, shall be transferred to Ad-hoc CAMPA in the Saving Bank Account pertaining to the State concerned.
- viii. The user agency shall take prior permission from Hon'ble National Green Tribunal before issue of order for diversion of forest land in accordance with the Hon'ble Mumbai High Court, Nagpur Bench orders dated 27/4/2005 and 7/6/2006 in Writ Petition No. 1277/2000 as per which permission of Hon'ble High Court is necessary for taking up projects and activities in forest areas within 10 Km from protected areas. in accordance with Accordingly, this condition may be stipulated in the in-principle approval.
- ix. The state government/user agency shall take prior permission from Hon'ble High Court for Mangrove cutting before issue of order for diversion of the forest land in accordance with Hon'ble Mumbai High Court order dated 27/1/2010 in PIL 87 of 2006.
- x. The state government/MMRDA shall implement the mitigation measures recommended by the BNHS as modified by the State Board for Wild Life, at the project cost. The state government shall identify the recommendations which are to be implemented by the state forest department, if any, and cost of such activities shall be deposited with Ad-hoc CAMPA. For the activities to be taken up by MMRDA they shall submit an undertaking to the effect that the the activities will be taken up at the project cost.
- xi. Final notification for declaration of the area of 16.90 sq. km. in Thane creek of Thane district as sanctuary shall be issued before grant of Stage II approval. MMRDA shall contribute in establishment and management of the sanctuary, modalities for which shall be worked out by the state government.
- xii. Maharashtra Forest Department, through its Mangroves and Marine Biodiversity Conservation Foundation shall prepare a Mangroves and Marine Biodiversity Conservation Plan which shall be implemented at the project cost.
- xiii. Non-forest land to be transferred and mutated in favour of the State Forest Department for raising Compensatory Afforestation shall be notified as reserved Forest under Section-4 or Protected Forest under Section-29 of the Indian Forest Act, 1927 or under the relevant Section(s) of the local Forest Act.
- xiv. The User Agency shall obtain the Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986, if required.
- xv. No labour camp shall be established on the forest land.
- xvi. The User Agency shall provide fuels preferably alternate fuels to the labourers and the staff working at the site so as to avoid any damage and pressure on the nearby forest areas.
- xvii. The boundary of the diverted forest land, as applicable, shall be demarcated on ground at the project cost, by erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, forward and back bearing and distance from pillar to pillar.
- xviii. The layout plan of the proposal shall not be changed without the prior approval of the Central Government.
- xix. The forest land shall not be used for any purpose other than that specified in the proposal.

Forest Dept

Govt Dept

F.D.



154

57

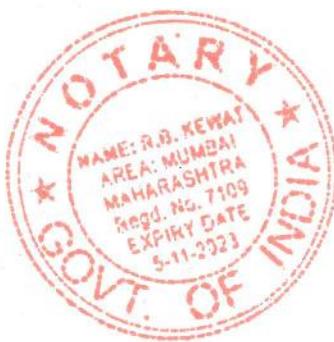
41

- xx. The forest land proposed to be diverted shall under no circumstances be transferred to any other agency, department or person without prior approval of the Central Government.
- xxi. No damage to the flora and fauna of the adjoining area shall be caused.
- xxii. The user agency in consultation with the State Government shall create and maintain alternate habitat/home for the avifauna, whose nesting trees are to be cleared in this project. Birds nests artificially made out of eco-friendly material shall be used in the area, including forest area and human settlements, adjoining the forest area being diverted for the project.
- xxiii. Felling of trees on the forest land being diverted shall be reduced to the bare minimum and the trees should be felled under strict supervision of the State Forest Department.
- xxiv. The User Agency shall raise strip plantation on either sides of the road and central verge at the project cost, as per IRC specification, with maintenance of 7-10 years. The User Agency shall also submit design of providing at least 2-3 rows of long rotation indigenous trees, as per provision of IRC-SP-21-2009 (Guidelines on landscaping & tree plantation), on either sides of the road before final clearance.
- xxv. Wherever possible and technically feasible, the User Agency shall undertake afforestation measures along the roads within the area diverted under this approval, in consultation with the State Forest Department at the project cost.
- xxvi. The reclamation of quarry should be done under the supervision of the State Forest Department. The quarry shall be reclaimed and afforested completely before the project is closed.
- xxvii. Overburden shall not be dumped outside the width of the road. The muck generated in the earth cutting will be disposed off at the designate dumping sites and in no case the muck/debris shall be allowed to roll down the hill slopes.
- xxviii. The User Agency will provide retaining walls, breast wall and drainage as per requirement to make the slope stable.
- xxix. The User Agency will undertake comprehensive soil conservation measures at the project cost in consultation with the State Forest Department.
- xxx. The State Government shall complete settlement of rights, in terms of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, if any, on the forest land to be diverted and submit the documentary evidence as prescribed by this Ministry in its letter No. 11-9/1998-FC (pt.) dated 03.08.2009 and 05th February, 2013, in support thereof;
- xxxi. The User Agency will assist the State Government in preservation of flora and fauna of the area in accordance with the plan prepared by the Chief Wildlife Warden of the State. Attention will be particularly given to providing safe crossing and corridors for wildlife species and protecting sensitive habitat like wetlands, grasslands and woodlands from degradation. Where canopy continuity is required for particular species, special measures shall be prescribed by the CWLW for providing crossing points. Where certain trees used for nesting/rookeries of species like birds of prey, herons, storks, hornbills, etc., are to be destroyed, alternative structure shall be provided and the trees transplanted.
- xxxii. The User Agency shall not collect any toll from the vehicles carrying forest officers on duty.
- xxxiii. The designing of culverts/bridges, if any, over the natural streams/rivers/canals should be done in such a manner that it does not hamper the natural course of water, does not give rise to water-logging, and also does not hamper movement of wild animals.

[Signature]

[Signature]

58



- xxxiv. The User Agency shall submit the annual self compliance report in respect of the above conditions to the State Government and to the concerned Regional Office of the Ministry regularly.
- xxxv. Any other condition that the concerned Regional Office of this Ministry may stipulate, from time to time in the interest of conservation, protection and development of forests & wildlife.
- xxxvi. The User Agency and the State Government shall ensure compliance to provisions of the all Acts, Rules, Regulations and Guidelines, for the time being in force, as applicable to the project.

After receipt of the compliance report on fulfillment of the conditions mentioned above, the proposal shall be considered for final approval under Section-2 of the Forest (Conservation) Act, 1980. Till receipt of the said final/Stage-II approval of the Central Government from this Ministry, transfer of the said forest land to the User Agency shall not be affected by the State Government.

Yours faithfully,

S.D.
(Sandeep Sharma)

Assistant Inspector General of Forests (FC)

Copy to:

1. The PCCF, Government of Maharashtra, Nagpur.
2. The Nodal Officer, Office of the PCCF, Govt. of Maharashtra, Nagpur.
3. The Add. PCCF (Central) Regional Office, Nagpur.
4. User Agency
5. Guard file/Monitoring Cell.

S.D.
(Sandeep Sharma)

Assistant Inspector General of Forests (FC)

TRUE COPY
FOTRUE COPY
A. K. Kotes

MS

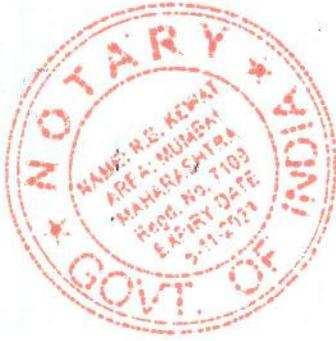


EXHIBIT - E

156

59

Exhibit 'E'

(4)

F.No.11-85/2012-IA.III
Government of India

Ministry of Environment, Forest and Climate Change
(IA-III Section)

Indira Prayavaran Bhawan,
Jor Bagh Road, New Delhi-3
Dated: 25th January, 2016

To,

The Metropolitan Commissioner,
Mumbai Metropolitan Region Development Authority (MMRDA),
Bandra - Kurla Complex, Bandra (East),
Mumbai - 51 (Maharashtra)

Sub: Mumbai Trans Harbour Link by Mumbai Metropolitan Region Development Authority (MMRDA) - CRZ Clearance - reg.

Sir,

This has reference to your proposal forwarded by the Member Secretary, Maharashtra Coastal Zone Management Authority (MCZMA) vide their letter No.CRZ 2015/CR 236/TC 4 dated 26th November, 2015 to this Ministry for grant of clearance in terms of the provisions of the Coastal Regulation Zone (CRZ) Notification, 2011 under the Environment (Protection) Act, 1986.

2. The Hon'ble National Green Tribunal (WZ) at Pune, vide their order dated 15th October, 2015 in Appeal No.4/2013 has set aside the CRZ Clearance dated 19th July, 2013 accorded to the above project by the Ministry with the direction to remit the matter to MoEFCC to consider it afresh. The Hon'ble Tribunal has ordered to examine the impacts of the project on mangroves eco-system, habitat of flamingos, mudflats besides other impacts. They have also directed to ascertain whether provisions of the Environment Impact Assessment (EIA) Notification, 2006 are applicable to the said project. Directions have been given to MoEFCC to take decisions independently on merit in eight weeks, and CRZ Clearance given to the project by MoEFCC has been kept in abeyance for six (6) months.

3. In compliance of the directions of the Hon'ble NGT, the proposal for '**Mumbai Trans Harbour Link (MTHL)**' by Mumbai Metropolitan Region Development Authority (MMRDA) was considered by the Expert Appraisal Committee (EAC) in the Ministry for Infrastructure Development, Coastal Regulation Zone, Building/ Construction and Miscellaneous projects, in its meetings held on 22-23 December & 30th December, 2015.

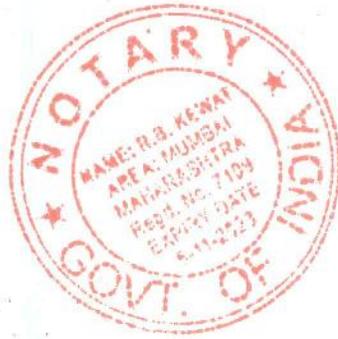
4. The details of the project, as per the documents submitted by the project proponents (PP), and also as informed during the above said EAC meetings, are reported to be as under:-

(i) The project was first accorded Environmental Clearance under the CRZ Notification, 1991 and the EIA Notification, 1994, vide letter dated 11th March, 2005. However, the project could not take off within the validity period of 5 years of the EC due to irrational offers received from bidders. Subsequently, the CRZ Clearance dated 19th July, 2013 was issued under CRZ Notification, 2011, based on the recommendations of MCZMA vide their letter dated 15th June, 2012, and taking into consideration the submissions of the project proponent that the proposal is to construct sea link and it does not attract the provisions of EIA Notification, 2006.

(ii) The present project '**Mumbai Trans Harbour Link**' (MTHL) envisages construction of 6 lanes road bridge across the Mumbai Harbour, which aims at facilitating decongestion of

MS

60



Mumbai by improving connectivity between the Island City & main land (Navi Mumbai). The project involves construction of a bridge across the Mumbai harbour between Sewri on the island city side (in the Mumbai Port Trust area) and Chirle on the Navi Mumbai side. The link is about 22 km long with a 16.5 km bridge across the sea and a 5.5 km long viaduct on the land. The exit and entry into the sea and freeway would be through interchanges at the end points and at the intermediate points on the Navi Mumbai side.

(iii) As per the Coastal Zone Management Plans (CZMP) of Mumbai and Navi Mumbai, the proposed alignment of 22 km MTHL project passes through CRZ-I, CRZ-II, CRZ-IV. The Sewri end of 1.5 km alignment (chainage 1.0 to 2.5 km) passes through mud flats, sparse mangroves and abuts the flamingos breeding site. The Nhave end of the 0.6 km alignment (chainage 16.98 to 17.5 km) also passes through mudflats and sparse mangroves.

(iv) The Maharashtra Coastal Zone Management Authority (MCZMA) has recommended the project vide their letter No. CRZ 2015/CR 236/TC 4 dated 26th November, 2015.

(v) The total cost of the project is Rs. 11,370 crore.

(vi) As per the report, 14.48 km (66%) alignment falls in creek water, 2.1 km (12%) passes through mudflats and 4.92 km (22%) alignment is on land. CRZ-I areas particularly Sewri mudflat and Shivaji Nagar mudflat are ecological important. The mangroves area affected at Sewri end is 576 sqm and is 9306 sqm at Chirle side of the proposed Sea link.

(vii) For navigational spans, a minimum vertical clearance of 2.5 m below the bridge above the highest HTL, whereas it is 9.1 m elsewhere is envisaged.

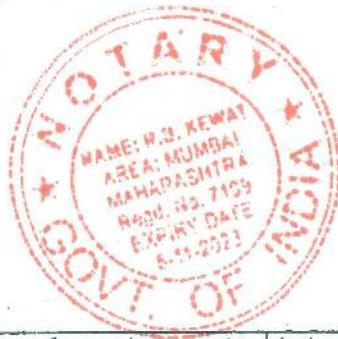
(viii) Rapid EIA studies were carried out for preparation of EIA/EMP reports wherein, mitigation measures were proposed to ameliorate the impacts due to the proposed construction/operation of the project, especially addressing the issues of mudflats/migratory birds.

(ix) Since the entire sea link is proposed on viaduct, area occupied by piers only will be affected. Compensatory mangrove plantation in area of 30 ha in Nhave side is proposed for loss of 0.1776 ha of mudflats/mangroves due to piers.

(x) The BNHS, an expert institution, has been engaged for addressing various aspects of environmental management, especially related to migratory birds and other issues.

(xi) The project proponent presented the EMP with the details as under:-

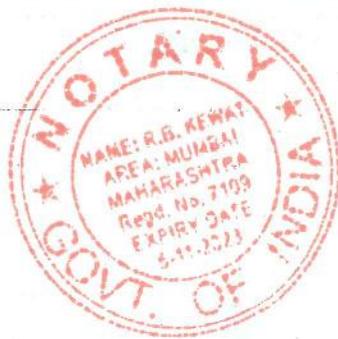
S.No.	Environmental attribute	Remark	Cost (In Rs.)
1.	Environmental Monitoring- Air Act, Water Act, Noise levels	Air Noise Water-Marine and Land Solid waste Ecology and Eco-system Fishing etc- Quarterly during CP	8 crore
2.	Compensatory Mangrove Restoration Plan	With the help of Forest department	25 crore
3.	Implementation of the suggestions given by BHNS	In accordance with their report	25 crore
4.	Noise barriers	Along 4.5 x 2 = 9 km stretch abutting mudflats where flamingos gather	45 crore



61

61

5.	Mitigation of marine water pollution caused due to the surrounding Industries and Sewage from Urban Bodies, by providing Funding and Capacity Building for Enabling Effluent Treatment	Identifying sources, treatability report, implementation of restoration and ETP	40 crore
6.	Contribution to Mangroves Fund, an initiative by Govt. of Maharashtra for Conservation and Protection of Mangroves in Coastal areas by depositing Seed Money. This can be used for Survey & Demarcation of Notified areas; Purchase of vehicles and equipments for anti Encroachment drives, etc.	In accordance with their report this money will be deposited with GoM for restoration, conservation and Protection of mangroves in coastal areas	25 crore
7.	Oil Spill Mitigation Plan	State of the air Oil Spillage mitigation equipment, etc	10 crore
8.	<ul style="list-style-type: none"> • Habitat quality assessment and monitoring • Surveillance management and monitoring team for migratory birds, marine flora, turbidity in sea floor, etc • Corpus fund for mudflat restoration program 	Carrying out detailed habitat quality monitoring of mudflats, migratory birds, marine flora and fauna and surveillance study	20 crore
9.	Appointment of Bird Monitor and his assistant till Restoration of Baseline data	Monthly monitoring during CP and Seasonal monitoring during OP	4 crore
10.	DMP, Fire fighting, Risk Analysis	Necessary equipment, Quick Response Vehicles etc for implementation of the detailed DMP	15 crore
11.	Sustainable development including establishing Nature Interpretation Centre	Establishing a centre for training and workshops at schools and college level	10 crore
12.	Safety and Security	It includes setting up safety measures and security measures including telecommunication systems, safety boats, wireless communications etc for emergency	15 crore
13.	Energy conservation	To use LED, Solar lamps on the bridge, ROW's etc	10 crore
14.	Landscaping-Plantation of trees, flowering plants etc.	Along the entire bridge alignment	8 crore
15.	Compensation and Capacity Building of Fisher folks due to Temporary and Permanent Loss of Fishing ground	Compensating affected fisher folk community welfare, etc	75 crore



62

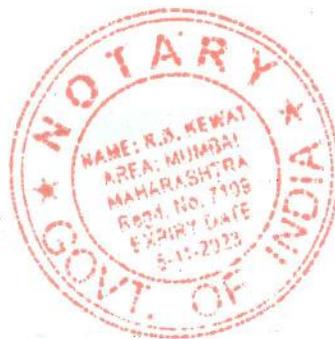
5. The EAC, after deliberation on the proposal in its 155th meeting held on 30 December, 2015, recommended the project for grant of CRZ Clearance. As per recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords CRZ Clearance to the above project 'Mumbai Trans Harbour Link (MTHL)' by Mumbai Metropolitan Region Development Authority (MMRDA), under the provisions of the CRZ Notification, 2011 and amendments thereto, and circulars issued thereon, and subject to the compliance of the specific and general conditions as below:-

A. SPECIFIC CONDITIONS:

- (i) All the terms and conditions stipulated by the MCZMA in their letter No. CRZ 2015/CR 236/TC 4 dated 26th November, 2015, shall be strictly complied with.
- (ii) All the terms and conditions as mentioned in the earlier CRZ Clearance dated 19th July, 2013, shall also be complied with in letter and spirit.
- (iii) The Environment Management Plan as presented during the meeting shall be implemented in consultation with all the stakeholders.
- (iv) The project/activity shall be carried out strictly be in accordance with the provisions of CRZ Notification, 2011, and shall not affect the coastal ecology of the area including flora and fauna.
- (v) The project proponent shall obtain all permissions from concerned authorities prior to commencement of the project, and shall observe all safety requirements onshore and offshore.
- (vi) The project proponent shall not undertake any blasting/construction activities during night hours.
- (vii) The proposal indicates the diversion of 47.417 ha forest land for which the proponent shall obtain the requisite Forest Clearance. The project may be executed in the entire stretch in non-forest land, and while making application to get the Forest Clearance, the execution of work on non-forest land shall not be cited as a reason for grant of FC and in case FC is declined, the forest land shall be maintained at its existing condition. The PP shall submit an undertaking to this effect at the earliest to the concerned Regional Office to this Ministry.
- (viii) All the wildlife mitigation measures as proposed by BNHS in their report dated 23.09.2015 for original alignment shall be implemented with the following modification:-
 - (a) construction of jetty on both the ends passing through mud flats and mangroves must not exceed 30 months and construction of actual spans must not exceed more that further 12 months.
 - (b) the distance between the supporting pillars shall remain 50 m as currently proposed by the MMRDA.
 - (c) MMRDA will partly bear the cost of setting of effluent treatment plant in the region as suggested by BNHS.
- (ix) The project proponent shall not undertake any blasting/construction activities during night hours.

[Handwritten signature]

[Handwritten signature]



69 160
i

B. GENERAL CONDITIONS:

- (i) Adequate provision for infrastructure facilities including water supply, fuel and sanitation must be ensured for construction workers during the construction phase of the project to avoid any damage to the environment.
 - (ii) Full support shall be extended to the officers of this Ministry/Regional Office at Nagpur by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.
 - (iii) A six-Monthly monitoring report shall need to be submitted by the project proponents to the Regional Office of this Ministry at Nagpur regarding the implementation of the stipulated conditions.
 - (iv) MoEFCC or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.
 - (v) The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with to the satisfaction of the Ministry.
 - (vi) In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the MoEFCC.
 - (vii) The project proponents shall inform to the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.
 - (viii) A copy of the clearance letter shall be marked to concerned Panchayat/ local NGO, if any, from whom any suggestion/ representation has been made received while processing the proposal.
 - (ix) A copy of the CRZ Clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The Clearance letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/Tehsildar's Office for 30 days.
6. The above stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification 1994, including the amendments and rules made thereafter.
7. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, and clearances under the Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.
8. The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded CRZ Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the Ministry of Environment, Forest & Climate Change at <http://www.envfor.nic.in>. The advertisement should be made within Seven

skd

YHS



days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Nagpur.

9. This Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.

10. Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

11. Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent on its website.

12. A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.

13. The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.

14. The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEFCC, the respective Zonal Office of CPCB and the SPCB.

15. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEFCC by e-mail.

S.K.
25/11/2016
(S.K. Srivastava)
Scientist E

Copy to:-

- 1) The Secretary, Department of Environment, Govt. of Maharashtra, Mantralaya, Mumbai - 32
- 2) The Chairman, CPCB, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
- 3) The Chairman, Maharashtra Coastal Zone Management Authority, Room No.217 (Annexe), Mantralaya, Mumbai - 32
- 4) The Member Secretary, Maharashtra Pollution Control Board, Sion (E), Mumbai
- 5) The APCCF (C), Ministry of Environment, Forests and Climate Change, Regional Office (WCZ), Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur - 1
- 6) Guard File/Monitoring Cell

TRUE COPY

TRUE COPY
Advocates

S.K.
25/11/2016
(S.K. Srivastava)
Scientist E

EXHIBIT-F

11/6/2016

65



No.11-65/2012-IA.III
Ministry of Environment, Forest & Climate Change
Government of India
IA-III Division

Indira Paryavaran Bhawan
Jor Bagh
New Delhi.

March 21, 2016

OFFICE MEMORANDUM

Mumbai Trans-Harbour Link (MTHL) project was accorded clearance under CRZ Notification, 2011 vide order of even number dated 25.1.2016. The project proponent; i.e., Mumbai Metropolitan Region Development Authority (MMRDA) vide their letter number ED/MTHL/CRZ clearance/16/2 dated 9.3.2016 has sought clarification as to whether the said project requires environmental clearance (EC) under EIA Notification, 2006.

The subject matter has been examined with specific reference to the orders of National Green Tribunal (Western Zone) Bench in Pune dated 15.10.2015 in Appeal No. 4/2013. MTHL project envisages the construction of bridges. The bridges fall in the category of 'infrastructure projects'. The EIA Notification, 2006 in category 7 describes the infrastructure entities requiring prior EC under the heading "Physical Infrastructure including Environmental Services" where stand-alone bridges do not find a mention. Item No. 8 of the Schedule to EIA Notification, 2006 is specifically for building, construction, township and area development projects, and bridges do not form part of these activities. Accordingly, it is clarified that there is no necessity for prior EC for stand alone bridges under EIA Notification, 2006.

(Signature)
(Bishwanath Sinha)
Joint Secretary
Tel: 24695274

Additional Metropolitan Commissioner-II
MMRDA
Bandra-Kurla Complex
Mumbai 400051

TRUE COPY
TRUE COPY
Advocate

(Signature)



MS



EXHIBIT-G

EXHIBIT - G

164

66

IN THE HIGH COURT OF JUDICATURE AT BOMBAY
ORDINARY ORIGINAL CIVIL JURISDICTION

NOTICE OF MOTION NO. 417 OF 2006

IN

PUBLIC INTEREST LITIGATION NO. 87 OF 2006

WITH

NOTICE OF MOTION NOS. 502, 555 & 549 OF 2009

WITH

CHAMBER SUMMONS NO. 172, 196 OF 2007

And

CHAMBER SUMMONS NOS. 10, 11, 260 OF 2009

And

CHAMBER SUMMONS NOS. 175, 192 OF 2009

Bombay Environmental Action Group & anr.Petitioner

versus

The State of Maharashtra & others.....Respondents.

And

Dhanraj CHS Ltd.

....Applicant.

Mr. N.H. Seervai a/w. Sharan Jagtiani i/b. M.V. Jayakar & Co.
adv. for the Petitioner.

Mr. R.N. Kadam A.G. With N.P. Pandit AGP for the Respondent-
State.

Mr. R.N. Narula a/w. A. Dasgupta i/b. M/s. Niryoah & Asso. For
applicant in Notice of Motion.

Mr. Janak Dwarkadas a/w. C.S. Balsare, Vipul Bilve & Udit Mehta
i/b. Mulla & Mulla for applicant in N.M. 502, 555/09

Mr. K.K. Singhvi a/w Mrs. Geeta Joglekar for BMC.

Mr. Rui Rodrigues a/w N.R. Prajapati for Union of India.

Mr. R.R. Naik for respondents 15 and 19.

Mr. N.R. Bubna for applicant in N.M. 549/09.

Ms. Jai Kanade i/b G.S. Godbole for applicant in C.S. No. 172,
196/07 & 10,11,260/08.

Ms. Jai Kanade i/b. Nitin Mulye for applicant in C.S. 175, 192/09.

Mr. A.A. Garge for Navi Mumbai Mun. Corpn.

YKS



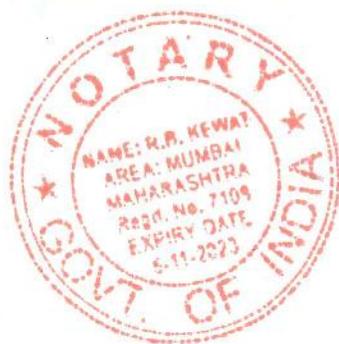
2

CORAM: J.N. PATEL Acting C.J.
AND
B. R. GAVAI, J.
DATED : 27th January, 2010.

P.C.:

1. Heard the learned advocates appearing for the parties.
2. The learned counsel appearing for the petitioner has drawn our attention to the order passed by this court on 6-10-2005 and submitted that the respondents particularly the authorities i.e. the State of Maharashtra and others have till date failed to comply with the order, on its various aspects and particularly it has failed to comply with the directions issued by this court in para 8 of the order and inspite of the court directing the State to declare all these areas which are found to be covered by Mangroves in the entire State of Maharashtra as forests.
3. The learned Advocate General has informed the court that the process is going on in so far as the other parts of the State is concerned and that unless proper procedure is followed the lands cannot be notified as forests and the State has taken steps to get the revenue record updated so as to implement the order passed by this court. The Advocate General has also submitted that so far as the forests on private land which has come under order passed by this court cannot be implemented unless proper procedure as incorporated in the Maharashtra Private Forests (Acquisition) Act, 1975 is followed by the State and the affected

MS



68



3

persons are given an opportunity of being heard.

4. Mr. K.K. Singhvi the learned Senior counsel appearing for the Corporation submits that some of the important projects of the Corporation in respect of the development aspect is concerned, are held up for want of permission from the respondent State for the reason that the application for seeking permission for implementation of the project is not being considered on the ground that the order dated 6th October 2005 prohibits consideration of such application for granting permission.

5. The learned counsel for Tata Power submitted that atleast the court may direct the authorities to consider the application in accordance with law as it is affecting a very important project of power generation and supply, which is urgently required for erection of thermal power station and transmission line for supply of power to north and south Mumbai. Advocate Ms. Jai Kanade further submitted that at least the authorities may be directed to consider their application for grant of permission for their project.

6. We find much substance in the submission made by the learned counsel appearing for the petitioner, in so far as it pertains to effective and meaningful implementation of the order dated 6th October 2005. The State may take its own time for implementing the order dated 6th October 2005 but this court was very much concerned and was required to pass this order to prevent further destruction of mangroves and to ensure the conservation and rejuvenation of mangroves in the State of Maharashtra. It further

UKS

69



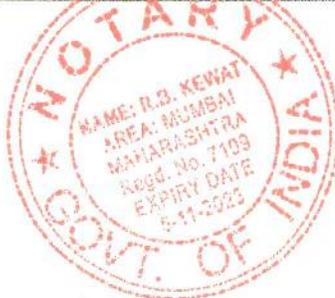
4

directed that the Maharashtra State using Satellite Remote Sensing is directed to prepare phase-II of the mapping for carrying out mangroves study using high resolution satellite data of 65 cms. spatial resolutions/one meter spatial resolution for detailed mapping of mangroves with a view to identify more precisely mangrove areas. After receiving the said date transfer of mangrove details on city survey/village maps (cadastral map) would be done. Thereafter this court directed and the learned Advocate General gave assurance that the said exercise is likely to take about six months. By mentioning that it has become imperative to pass interim order to protect the mangroves during the interregnum. It further clarified that this order shall not apply to all those cases which are specifically governed by injunction or stay order passed by the courts.

7. We are therefore making it clear that as the State has not been able to notify the areas which are covered by mangroves which has been identified and whether it falls under the public or private domain no non forests activity should be permitted by the respondent State in these mangroves area through out the State of Maharashtra which shall be subject to section 2 of the Forests (Conservation) Act 1980 and Environment Protection Act and Rules, without taking permission from the competent authority.

8. So far as the grievance of the applicants, as regards permission which is sought to be granted by the authorities is concerned, we make it clear that nothing prevents the statutory or local and private bodies and their contractors to approach the

MS



competent authorities to seek permission for their respective projects as required in accordance with the law for the projects which are likely to affect mangroves area in the State of Maharashtra as specified in mapping of mangroves whereby mangrove areas stand delineated and the authorities on such an application being filed, would consider it strictly in accordance with law in the light of the interim orders passed by this court from time to time and keeping in mind principle of sustainable development. If such permission is granted by the competent authority the same shall be subject to approval of this court and the parties should obtain leave of the court before implementing the project in mangroves area. This will enable the court to monitor whether the principle of sustainable development is being scrupulously followed or not for the preservation, protection of mangroves area which is ecologically fragile area.

Stand over to 17-2-2010.

(Acting C.J.)

(B.R. Gavai, J.)

TRUE COPY

TRUE COPY
Advocates

usf



usl

EXHIBIT - H (COII)108
21/01/2016

71



1/6

920-nmwL.49.2016(gr).doc

DSC.

**IN THE HIGH COURT OF JUDICATURE AT BOMBAY
ORDINARY ORIGINAL CIVIL JURISDICTION**

**NOTICE OF MOTION (L)NO.49 OF 2016
IN
PUBLIC INTEREST LITIGATION NO.87 OF 2006**

Navi Mumbai Municipal Corporation

...Applicant

IN THE MATTER BETWEEN

The Bombay Environmental Action Group and Anr.

...Petitioners

Vs

The State of Maharashtra and Ors.

... Respondents

Mr.Rohit P. Sakhadeo, for the Applicant in NMWL No.49 of 2016.

Ms.Shreya Parikh v/b M/s.M.V.Jayakar and Co., for the Petitioners.

Mr.Rui Rodrigues a/w Mr.Upendra Lokegaonkar for the UOI.

Ms.P.H.Kancharia, Government Pleader for the Respondent – State.

**CORAM : V.M.KANADE &
REVATI MOHITE DERE, JJ.**

DATE : 4th FEBRUARY, 2016

PC.:

1. Heard learned counsel appearing on behalf of the

ms



72

2/6

920-nmw1.49.2016(gr).doc

applicant and the learned counsel appearing on behalf of the petitioners.

2. A Notice of Motion is filed seeking permission of this Court to implement the project of laying down sewerage pipe line in Navi Mumbai.

3. This Court vide order dated 27th January, 2010 had directed all statutory or local and private bodies to seek permission of this Court for their respective projects which are likely to affect the mangroves area in the State of Maharashtra. In view of the order passed by us, the applicant who is the Navi Mumbai Municipal Corporation has filed this motion. The applicant intends to lay down main underground sewerage line, of about 1400 mm diameter from Juinagar to Sanpada STP (Sewerage Treatment Plant). It is stated in the affidavit in support that the other sewerage lines connecting other areas to the Sanpada STP are already laid down. However, only a portion of about 110 meters is not completed since permission from this Court was not obtained. It is stated in the affidavit in support that



73

3/6

920-nmwL49.2016(gr).doc

the applicant had already obtained permission from the Maharashtra Coastal Zone Management Authority ("MCZMA"). It is submitted that all the conditions mentioned in the said permission are being complied with by the applicant. It is submitted by the learned counsel appearing on behalf of the applicant that if the mangroves are removed from these areas they are willing to replant the mangroves as directed by this Court. It is submitted that for the purpose of laying down this sewerage line, it will be necessary to construct a concrete slab and therefore it may take about two months time for the purpose of laying down under ground pipe line. It is further submitted that before laying down the proposed pipe line, the mangroves occupying the said water channel will have to be temporarily removed and temporary bunds be erected on both the sides as the work progresses and thereafter the proposed pipe line will be laid through the channel. After the work of construction of concrete slab and pipe line is over the temporary bunds will be demolished and the water flow will be restored through the channel. It is submitted that in all probabilities the mangroves will survive and if for some reasons they do not survive the applicant undertakes to replant five times the number of



4/6

920-nmw1.49.2016(gr).doc

mangroves which are destructed at some other suitable area within the area of operation of the applicant.

4. Learned Counsel appearing on behalf of the petitioners submitted that they have an apprehension regarding the procedure which is followed for laying down of the pipe line. It is submitted that if the bunds are blocking the water flow, this will result in destruction of the mangroves not only in the area where the pipe lines are being installed but also in the adjoining areas as a result of stoppage of the water flow to the other mangroves. It is also submitted that proper representation was not made to the MCZMA before obtaining permission.

5. On the other hand, learned counsel appearing on behalf of the applicant submitted that the applicant does not propose to put up a bund in the entire area. However they proposed to do it in a phase manner so that the water flow in the entire area is not stopped.

6. After having heard both the sides, we are satisfied that the project is of great importance even from the environmental point of view

4/8



nmwl.869.15.doc

**IN THE HIGH COURT OF JUDICATURE AT BOMBAY
ORDINARY ORIGINAL CIVIL JURISDICTION
NOTICE OF MOTION (LODGING) NO. 869 OF 2015
IN
PUBLIC INTEREST LITIGATION NO. 87 OF 2006**

Brihanmumbai Mahanagarpalika.

...Applicant
Respondent No. 4

IN THE MATTER OF :

The Bombay Environment Action
Group & Anr.

...Petitioner

Versus

The State of Maharashtra & Ors.

...Respondents

Mr. S. U. Kamdar, Sr. Counsel with Ms. Trupti Puranik for
Applicant/Respondent No.4-BMC

Mr. Jai Chhabria D/o Jaykar & Partners for the Petitioner

Mr. Rui Rodrigues with Mr. N. R. Prajapati for the Respondent-UIO

**CORAM : V. M. KANADE &
REVATI MOHITE DERE, JJ.
TUESDAY, 12TH JANUARY, 2016**

P.C. :

1. Brihanmumbai Mahanagarpalika was the original respondent No. 4 in the petition. The applicant is seeking following reliefs in the Motion:



nmwl.869.15.doc

"a) That the Hon'ble Court be pleased to permit these respondents for diversion of mangroves from Gazdar Bandh Storm Water Pumping Site, near Khardanda, Khar (W), Mumbai pursuant to the orders passed by this Hon'ble Court dated -----

b) Such other reliefs as the Hon'ble Court may deem fit."

2. The Corporation proposes to construct a Storm Water Pumping Station on SNTD Nalla and the said project has been undertaken as per BRIMSTOWAD report. It is their contention that as a result of the said project, areas like Daulat Nagar, Shastri Nagar, Post and Telegram Office, Linking Road, Navli Agripada School and part of Milan Subway will be relieved from flooding situation on commissioning of the said pumping station. It is submitted that the work of construction of the said project commenced on 1st October, 2014 and the Corporation deadline for completing the work is end of November 2016. It is submitted that total number of 156 mangrove plants from 8 locations as shown in the plan will have to be removed and replanted elsewhere. The applicants approached the Chief Conservative of Forest (Mangrove Division) seeking their permission for shifting these mangroves. They were informed that Corporation should take permission from the Government of India under

YKS



nmwl.869.15.doc

Section 2 of the Forest Conservation Act, 1980 and Environment Act, 1986 from the Environment Corporator and they should also seek permission from the State. In view of the said letter dated 7th October, 2015, the applicants have filed this application seeking leave of this Court.

3. In Public Interest Litigation No. 87 of 2006, by order dated 6th October, 2005, a general order of prohibition was granted by this Court for removal of mangroves. That order was partly modified by order dated 27th January, 2010 passed by the Division Bench of this Court. A large number of applications were filed from Corporation, Government and other Government Corporations and it was brought to the notice of this Court that large number of public utility projects are stalled on account of the said order, dated 6th October, 2005 which granted a complete ban on the consideration of such applications for granting permissions. In view of this, the Court observed in para 8 as under :

"8. So far as the grievance of the applicants, as regards permission which is sought to be granted by the authorities is concerned, we make it clear that nothing prevents the statutory or local and private bodies and their contractors to approach the competent authorities to seek permission for their respective projects as required in accordance with the law for the projects which are likely to affect mangroves area in the State of Maharashtra as



80

nmwl.869.15.doc

specified in mapping of mangroves whereby mangrove areas stand delineated and the authorities on such an application being filed, would consider it strictly in accordance with law in the light of the interim orders passed by this court from time to time and keeping in mind principle of sustainable development. If such permission is granted by the competent authority the same shall be subject to approval of this court and the parties should obtain leave of the court before implementing the project in mangroves area. This will enable the court to monitor whether the principle of sustainable development is being scrupulously followed or not for the preservation, protection of mangroves area which is ecologically fragile area."

4. Learned Counsel appearing on behalf of the petitioners submitted that the Corporation has to first seek permission for their projects from the concerned Authorities and thereafter approach this Court. Mr. Kamdar, learned Senior Counsel appearing on behalf of the Corporation submitted that the experience of the Corporation is that whenever applications are filed before these Forest Department (Mangrove Division) and other Environmental Authorities, instead of complying with the directions given by this Court in para 8 and processing their application in accordance with law and granting or rejecting permission, these Authorities again insist that leave should be obtained from this Court. It is submitted that therefore the Corporation is constrained to approach this



81

nmwl.869.15.doc

Court. It is submitted that the Corporation shall first obtain the requisite permission from the concerned authorities namely Forest Department (Mangrove Division) or Environment Department and only thereafter, proceed with the removal of mangroves and start the process of relocating them.

5. We appreciate the concern expressed by the petitioners/NGO and we must also appreciate the good work done by them in the other petitions which have been filed by them from time to time in this Court and the Apex Court. We must also note that they have not taken any adversarial stand in these applications which are filed by the Corporation. Their only concern is that before starting the work, permissions from the Competent Authority should be taken in accordance with law. It is, therefore, submitted that in view of the observation made in para 8, the Corporation should first obtain permission from the Forest Department (Mangrove Division) and thereafter, they should obtain leave of this Court.

6. In our view, though it is true that in para 8, it is observed that the Competent Authorities should seek permission for their respective

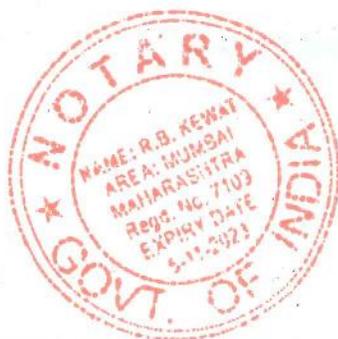
Yes



nmwl.869.15.doc

82

projects and after permission is granted, they should obtain leave of the Court, we are of the view that the said observation cannot be construed to literally mean that unless application is filed and permission is obtained before the respective Authorities, no application can be filed in this Court. We are, therefore, of the view that merely because permission is not granted by the concerned Authority, the present application cannot be treated as not maintainable. It has to be remembered that these public utility projects are ultimately undertaken in the interest of the public at large and they can never be equated with the building projects undertaken by builders and estate agents. At the same time, it cannot be forgotten that the direction which have been given by this Court are also in public interest and the Corporation and State Authorities, therefore, are not absolved from the responsibility of obtaining permissions from Competent Authorities as directed by the Court in the earlier orders passed in the PIL. It must be remembered that the entire object and purpose is to ensure that there is sustainable development and therefore, the said orders cannot be construed to mean that the work of the development is stopped for eternity and at the same time, the said orders also cannot be construed to mean that Corporation, State Authorities and the Government undertakings can flout



83

nmwl.869.15.doc

the directions given by this Court with impunity and destroy the mangroves and forest on the ground of development of the public utility project. A balance therefore has to be struck between the two interests namely one of development of public utility projects and at the same time maintaining a proper balance between environmental protection and development. Sustainable development, therefore, means that such development which protects the interest of the posterity also has to be kept in mind and all the natural resources cannot be exhausted by this generation. The concept of trust, therefore, evolved over a period of time, cannot be lost sight of.

7. So far as the present project is concerned, this project has been undertaken on account of the BRIMSTOWRD report. Sometime on 25th July, 2005, the City witnessed torrential rains which brought the entire city to a standstill. An investigation was made and it was noticed that since the accumulated rain water could not reach the high seas on account of blockage of sewerage, rain water accumulated in the city, which resulted in flooding of various parts of the city. A report was submitted and suggestion was made that if such type of projects like the one which is undertaken by the Corporation, is completed expeditiously, then the said rain water can be



84

nmwl.869.15.doc

diverted to the seas through this project.

8. Mr. Kamdar, learned Counsel appearing on behalf of the Corporation has invited our attention to a map. It is submitted that the work has already commenced but they have not removed the mangroves since leave has to be obtained from this Court and also from the Competent Authorities. Total number of 156 mangroves which are situated in areas which are shown in the map, have to be relocated. The Corporation proposes to relocate it above the creek. They have already applied to the Forest Department seeking permission to relocate these mangroves. The Corporation undertakes not to remove or relocate these mangroves as long as the permission is not granted by the Forest Department (Mangrove Division) and the concerned Environmental Department, as the case may be, as required in accordance with law.

9. In view of this statement, we grant leave to the Corporation, subject to the statement made by them. It is clarified that only after the requisite permission is granted from the Competent Authorities in accordance with law, the Corporation would then relocate the mangroves.



85

nmwl.869.15.doc

10. The Competent Authorities shall consider the application of the Corporation in accordance with law, expeditiously within eight weeks. If such permission is granted then it is not necessary to approach this Court again.

11. Needless to state that parties have liberty to approach this Court in the event, it is found that the work of relocating mangroves is being undertaken without obtaining the requisite permission.

12. The Notice of Motion is allowed in the aforesaid terms and is disposed of.

REVATI MOHITE DERE, J.

V. M. KANADE, J.

VMS



WSP



86

NMWL. 712-15

VPH

IN THE HIGH COURT OF JUDICATURE AT BOMBAY
ORDINARY ORIGINAL CIVIL JURISDICTION

NOTICE OF MOTION (L) No. 712 OF 2015
IN
PUBLIC INTEREST LITIGATION No. 87 OF 2006

The Bombay Environment Action
Group and Anr.

Petitioners

Vs.

The State of Maharashtra & Ors.

Respondents

AND

City and Industrial Development
Corporation of Maharashtra Ltd.

... Applicants
(in NMWL. 712/2015)

Ms. Shreya Parikh i/o M. V. Jaykar & Co., for the Petitioners.

Mr. N. P. Pandit, AGP for the Respondent No. 1 – State.

Mr. N. R. Prajapati a/w Rui Rodrigues, for Respondent – UOI.

Ms. Sharmila Deshmukh, for Respondent No. 3.

Mr. G. S. Hegde, for Applicant in NMWL No. 712/2015.

CORAM : V. M. KANADE, &
REVATI MOHITE-DERE, JJ.

DATE : DECEMBER 21, 2015

PC.

1. The Applicants – CIDCO have taken out this motion
seeking following reliefs:

YMS



NMWL. 712-15

- (a) That the order dated 6.10.2005 passed in the above petition be modified and the applicants be permitted to construct the coastal road from Junction of NH-4B near Navghar, along Karanja creek to change, in Dronagiri Node area, Navi Mumbai.
- (b) that such other and further reliefs as this Hon'ble Court may deem fit and proper as the nature and circumstances of the present case may require.

2. It is an admitted position that in PIL No. 87 of 2006 this Court by order dated 6.10.2005 was pleased to give a general direction that in the event any fresh construction is being made by the authority or the government undertaking, they should obtain leave of this Court.

3. Pursuant to the said direction given by this Court dated 6.10.2015, the Applicant CIDCO has filed this motion. It is contention of the Applicants that they need fresh permission to construct three bridges and for that purpose they are required to remove the mangroves, which have grown on the said land due to non construction of the bridges. It is submitted that initially new road was built; permission was obtained by the CIDCO from the relevant authorities, including MCZMA. However, since the construction of

88



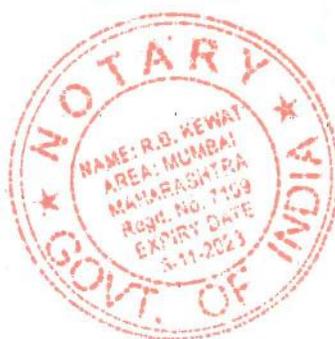
NMWL. 712-15

these bridges could not take place in time, they had applied for re-validation. Accordingly, re-validation was granted by all the concerned authorities. It is submitted that on account of lapse of time, mangroves came up through view on the said land where the bridges were to be constructed. It is submitted that therefore, applicants have filed this motion seeking to remove those mangroves.

4. Learned counsel Mrs. Sharmila Deshmukh, appearing on behalf of the MCZM has submitted that re-validation has been granted. The other concerned authorities have also granted their NOC.

5. Mr. G. S. Hegade, learned counsel appearing on behalf of the Applicants submitted that the question of again obtaining NOC from the various department did not arise since at the relevant time when permission was granted in 2007, at that time there were no mangroves and during the intervening period these mangroves have grown up. It is submitted that the connecting roads have been constructed after obtaining all relevant permissions and after spending huge amount of money, running into several hundred crores of rupees. However, only on account of non construction of these three Bridges, the Port Authorities have not been in a position to give this road for

3/7



NMWL. 712-15

quick clearance of the goods from the Port. He also invited our attention to the plan, which is annexed at Exhibit "B" (page 15) to the notice of motion, and also the permissions which have been granted by various authorities. He submitted that the motion may be allowed in terms of prayer clause (a).

6. The learned counsel appearing on behalf of the Original Petitioner i.e. Bombay Environment Action Group submitted that the said bridges are being constructed contrary to the restrictions imposed by this Court. She invited our attention to the conditions, which were imposed by the said order. Secondly, she submitted that while granting permission, the competent authority, including MCZMA, has imposed a specific condition that area of mangroves should not be disturbed. She submitted that acts of the Applicants are causing gross violation of order of this Court, as well as the conditions imposed by the authorities while granting the permission. She further submits no objection from the Forest Department has been taken.

7. We are afraid that we are not in a position to accept the submissions made by the learned counsel appearing on behalf of the Bombay Environment Action Group. It is admitted position that



90

NMWL. 712-15

initially when permission was granted to construct the bridges, there were no mangroves in the said area and only as a result of delay in construction, mangroves had cropped up to a certain extent. Even if the bridges are allowed to be constructed, only area of mangroves below the pillars of the bridge would be affected and these mangroves can be re-planted in other suitable and convenient area, and no ecological damage thereby would be caused by construction of these pillars, over which bridges are to be constructed. Moreover, the conditions which are imposed by this Court in the PIL No. 87 of 2006 are of a general nature and in appropriate cases the authorities after examining the fact of the case can always pass the suitable orders. It cannot be said that in view of the said condition which is being imposed, no construction can be carried out in the intervening period or for an indefinite period of time. Upon satisfaction, this Court itself would grant leave and such an infrastructural project can be undertaken. We are satisfied that in the present case no ecological damage would be caused since mangroves were not in existence when initially permission was granted.

8. It is a matter of common knowledge that as a result of

5/7



NMWL. 712-15

stay granted by this Court, several infrastructural projects which are initially for the benefit of the public at large and are public utilities are stalled. Whenever the Court intervenes and grants stay and this results in the escalation of costs and by the time when the stay is vacated, thousand crores of rupees go down the earth and public money is, therefore, wasted. Initially, the learned counsel appearing on behalf of the original Petitioner requested for time to file additional documents. However, said request has been refused, taking into consideration that this is an infrastructure project and the entire project has been stalled for several years only on the ground that leave was not being granted by this Court. We are, therefore, not inclined to grant further time to the Respondent / original Petitioner. When a query is made by this Court to the counsel appearing on behalf of the original Petitioner as to whether they are willing to give an undertaking to this Court that if finally permission is granted after reopening, the costs which would be incurred by the Applicants on account of delay in execution of the project, would be reimbursed by the Original Petitioner. The counsel on instructions of the Petitioner, who is present in the Court, informs us that no such statement can be made.



92

NMWL. 712-15

9. It is true that Bombay Environment Action Group has filed some important petitions and has brought important facts to the notice of the Court on the basis of which PILs were entertained and several orders were passed. However, we are of the view that such NGOs should not take adversarial stand and oppose every project for the sake of opposition, without taking into consideration the heavy burden which is cast on the public exchequer as a result of the delay in completion of such infrastructural projects. We are, therefore, satisfied that this is a fit case where permission can be granted to the Applicants to complete their project. In our view, therefore, question of obtaining NOC from the Forest Department in the present case does not arise. Notice of motion is, therefore, allowed in terms of prayer clause (a) and is accordingly disposed of.

Sd/-

[REVATI MOHITE-DERE, J.]

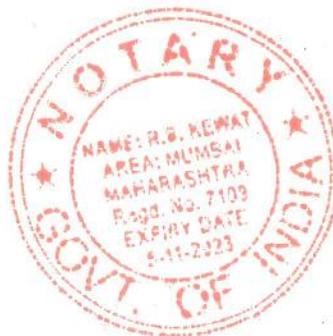
Sd/-

[V. M. KANADE, J.]

Vinayak Halemah



Yes



75

5/6

920-nmwl.49.2016(gr).doc

and also from the point of view of hygiene and sanitation of the people who are living in the entire area. Secondly, this is the main terminal underground sewerage line connecting the Sanpada STP at Sector 20 from Nerul Sector 22. Thirdly, the said line carries partial sewerage load of Nerul and Sanpada node to STP at Sector 20 Sanpada. Fourthly, the work of other sewerage lines connecting the other areas to the Sanpada STP is already over and STP has not become functional only on account of non-connection of STP because these lines have not been laid under ground at this particular junction. The Corporation proposes to start a new STP plant which is having modern technology. The old STP plant is outdated and functions in an open area. In our view, it is therefore eminently necessary to start the STP plant at Sanpada and for that purpose this work of laying down underground sewerage line has to commence and has to be completed in a shortest possible time. We are therefore satisfied about the public utility of this project. We are therefore of the view that permission will have to be granted to the applicant.

7. So far as destruction of mangroves in the said area as a result of laying down of this pipe line is concerned, pursuant to the earlier order



6/6

920-nmw1.49.2016(gr).doc

passed by us, we direct the applicant to ensure that if there is a destruction of mangroves in the said area, they shall replant all the mangroves to the extent of five times more than the destruction caused at places which are recommended by the Environmental Action Group. Google map may be submitted to the applicant. The applicant may if possible under the supervision of the Forest Department replant the mangroves at these sites or any other sites which may be recommended by the Forest Department. We hope and trust that the project is completed within three months. The Corporation shall also ensure that the flow of water is not hampered as far as possible.

8. The Notice of Motion is accordingly disposed of

REVATI MOHITE DERE, J.

V.M.KANADE, J.

4/8



93

nmw213.13

IN THE HIGH COURT OF JUDICATURE AT BOMBAY
ORDINARY ORIGINAL CIVIL JURISDICTION

NOTICE OF MOTION NO.213 OF 2013
IN
PUBLIC INTEREST LITIGATION NO.87 OF 2006

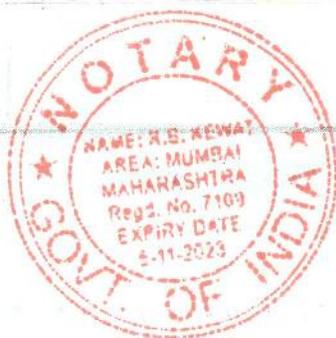
The Bombay Environment Action Group	.. Petitioner.
Vs.	
The State of Maharashtra & Ors. And	.. Respondents.
City and Industrial Development Corporation of Maharashtra Ltd.	.. Applicants.

Mr. G. S. Hegde with Mr. P. M. Bhansali for the Applicants.
Mr. Sharan Jagtiani with Mr. Jai Chhabor i/b M/s. M. V. Jayakar &
Co. for the Petitioner.
Ms. Sharmila Deshmukh for the Respondent-MCZMA.
Ms. T. H. Puranik for the Respondent-BMC.
Mr. Rui Rodrigues with Mr. N. R. Prajapati for UOI.
Mr. J. S. Saluja AGP for the State.

CORAM : MOHIT S. SHAH, C.J. &
A.K. MENON, J.

DATED : 10 JULY 2015

PC. :



nmw213.13

construct the water supply pipeline support structure on Gadi River at Navi Mumbai.

2. In Writ Petition (Lodging) No.3246 of 2004 by the order dated 6 October 2005 this Court had restrained any destruction of mangroves and any construction activity within the 50 meters buffer zone without permission of this Court.

3. CIDCO approached Maharashtra Coastal Zone Management Authority (MCZMA) for CRZ clearance for above construction activity for water supply pipeline support structure as the area in question falls in CRZ-I and CRZ-II area. The structure will pass over mangrove region and about 50 sq. mtrs. of mangrove will be disturbed. The span of the structure over water is 200 mtrs. and on land it is 50 mtrs. on either side. There are nine columns in the alignment. MCZMA by its communication dated 4 December 2012 recommended the CRZ clearance subject to certain specific conditions including mangrove replantation over 250 sq. mtrs. as also certain general conditions. After receiving the above recommendation, the Government of India in



95

nmw213.13

the Ministry of Environment and Forests (MoEF) has by communication dated 15 March 2013 granted CRZ clearance subject to certain specific conditions some of which are as under:

“(i) Due permission from the Hon'ble High Court of Bombay shall be obtained. At least five times re-plantation of mangroves shall be carried out as committed.

“(ii) All the recommendations of MCZMA shall be complied with.”

One of the general condition is as follows :

“8. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.”

In view of above CIDCO has moved this Court for obtaining permission.

4. Our attention has been invited to the averments made



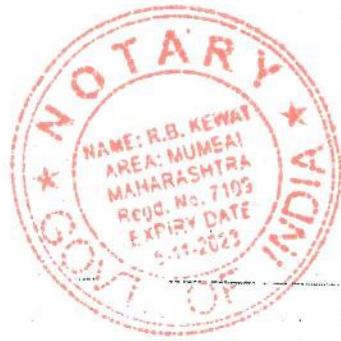
nmw213.13

in the affidavit dated 18 April 2013 in support of Notice of Motion wherein it is stated that CIDCO will plant and grow compensatory mangrove over an area of 250 sq. mtrs. marked on the map annexed at Exhibit-D.

5. Having heard the learned counsel for CIDCO and the learned counsel for the PIL Petitioner and having considered the record and aforesaid submissions, we allow the Notice of Motion and permit CIDCO to construct the water supply pipeline support structure on Gadi River at Navi Mumbai in accordance with MCZMA communication dated 4 December 2012 at Exhibit-A and communication dated 15 March 2013 from Ministry of Environment and Forests for CRZ clearance and all conditions stipulated therein. CIDCO shall comply with all conditions stipulated by the MCZMA and MoEF.

(CHIEF JUSTICE)

(A.K.MENON, J.)



96

1 of 3

NMW.72.2013

IN THE HIGH COURT OF JUDICATURE AT BOMBAY
ORDINARY ORIGINAL CIVIL JURISDICTION

NOTICE OF MOTION NO.72 OF 2013
IN
PUBLIC INTEREST LITIGATION NO.87 OF 2006

Mumbai Metropolitan Region Development Authority Applicant

In the matter of :

The Bombay Environment Action Group and another Petitioners
versus
State of Maharashtra and others Respondents

- Ms.Kiran Bagalia for MMRDA.
- Mr.Jai Chabria i by Jayakar & Partners for Petitioners.
- Mr.Rui Rodrigues with Mr.N.R.Prajapati for Union Government.
- Ms.Sharmila Deshmukh for MCZMA.
- Ms.T.H.Putanik for MCGM.
- Mr.N.RPandit, AGP for State.

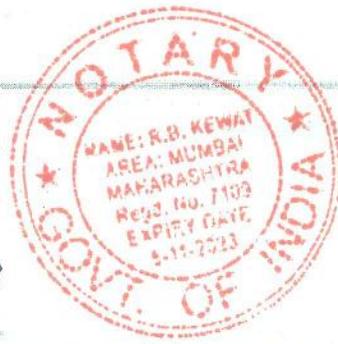
CORAM : MOHIT S. SHAH, C.J. AND
G.S.KULKARNI, J.

DATE : 25 March 2015

PC :

By an order dated 12 March 2013, this Court had

97



2 of 3

NMW.72.2013

Conservator of Forests on a long term basis with MMRDA to attend to all such obligations including selection of the site for planting and actual re-plantation.

2. Learned counsel for MMRDA places on record a copy of the order dated 18 February 2015 of the State Government in the Revenue and Forest Department deputing Mr.V.G.Jukar, Deputy Director, Social Forestry, Raigad Division on deputation with MMRDA. The order is taken on record and marked "X" for identification.

3. Learned counsel for MMRDA further submits that permission may be granted to MMRDA for construction of rail over bridge near Naigaon Railway Station, District Thane on the basis of permission granted by MCZMA on 2 July 2012.

4. MCZMA had granted permission dated 2 July 2012 for construction of rail over bridge near Naigaon Railway Station subject to certain terms and conditions including mangroves re-plantation programme and ten times re-plantation of mangroves to be carried out by MMRDA and compliance report to be submitted to the MCZMA.

5. In view of the deputation of Mr.V.G.Jukar, Deputy Director, Social Forestry, Raigad Division with MMRDA, MMRDA should be in a position to comply with the above conditions. In



3 of 3

NMW.72.2013

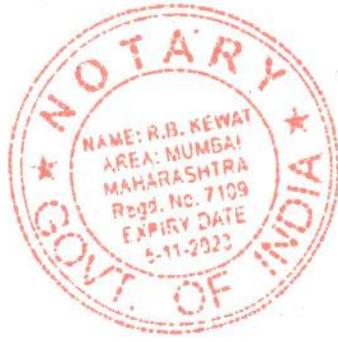
view of the above, MMRDA is permitted to construct rail over bridge near Naigaon Railway Station, District Thane in accordance with the terms and conditions incorporated in the approval granted by MCZMA on 2 July 2012. Notice of Motion stands disposed of in the above terms.

6. It is made clear that MMRDA shall send periodical compliance reports of the plantation work to MCZMA as per terms and conditions of approval granted by MCZMA.

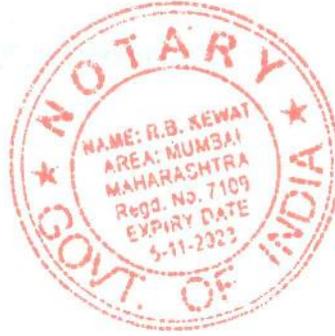
(CHIEF JUSTICE)

(G.S.KULKARNI, J.)

MST



Handwritten signature in blue ink.



99

NMWL. 75-15

VPH

IN THE HIGH COURT OF JUDICATURE AT BOMBAY
ORDINARY ORIGINAL CIVIL JURISDICTION

NOTICE OF MOTION (L) No. 75 OF 2015

IN

PUBLIC INTEREST LITIGATION No. 87 OF 2006

Dedicated Freight Corridor Corporation
of India Ltd.

... Applicant

In the matter between

Bombay Environment Action Group & Anr. ... Petitioner

Vs.

The State of Maharashtra & Ors. ... Respondents

Mr. Navroj Seervai, Sr. Counsel a/w Ms. Shreya Parikh i/b M/s. M. V. Jaykar & Co., for the Petitioner.

Ms. Kiran Bagaliya i/b Krishna Kelkar, for the Applicant.

Mr. Rui Rodrigues a/w N. R. Prajapati, for Union Of India.

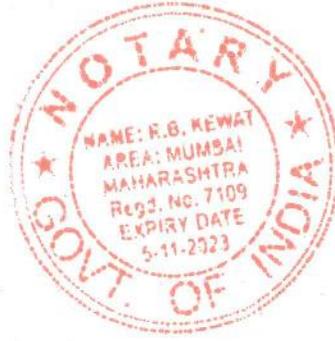
Ms. Sharmila Deshmukh, for Respondent No. 3.

CORAM : V. M. KANADE, &
A. R. JOSHI, JJ.

DATE : MARCH 2, 2015

PC.

1. Perused the affidavit filed in support of the notice of motion. It is submitted that in the order passed by the Division Bench on 27th January, 2010, this Court had observed that if permission is granted by the competent authority, the same shall be subject to the approval of this Court and the party should obtain leave of the Court



NMWL. 75-15

before before implementing the project in mangroves area.

2. It is submitted that permissions have been granted by the concerned authority for cutting 543 mangrove trees and for carrying out construction of new Freight Railway Double Line from JNPT (Maharashtra) to Dadri (UP), in the State of Maharashtra. It is submitted that even the Supreme Court has granted approval and all other authorities have granted permission. Our attention is invited to the permission granted by the Ministry of Environment and Forest and the other authorities, including diversion of Sanjay Gandhi National Park to a certain extent. We are satisfied that necessary permission has been obtained for cutting 543 mangroves. Taking into consideration that it is a project of national importance, and permission is granted by all other authorities, we grant leave in terms of prayer clause (a).

Sd/-
[A. R. JOSHI, J.]

Sd/-
[V. M. KANADE, J.]

Vinayak Halemath



101

NMW 290-2014

IN THE HIGH COURT OF JUDICATURE AT BOMBAY
 ORDINARY ORIGINAL CIVIL JURISDICTION
 NOTICE OF MOTION NO. 290 OF 2014
 IN
 PIL NO. 87 OF 2006

Hindustan Petroleum Corporation Ltd. .. Applicants
 Bombay Environmental Action Group & Anr. .. Petitioners
 V/s
 State of Maharashtra & Ors. .. Respondents

Mr. M.D. Siodia i/b Rustomji & Givwala for the applicant.
 Mr. N.R. Prajapati with Mr. Rui Rodrigues for the respondent – Union
 of India.
 Mr. N.P. Pandit, A.G.P. for the respondent – State.

CORAM: MOHIT S. SHAH, C.J. &
 B.P. COLABAWALLA, J.

DATE : 20 DECEMBER 2014

P.C.

The applicants have taken out this notice of motion for
 the following relief:

- (a) This Hon'ble Court may be pleased to grant permission
 to the Applicants for laying 12" dia LPG pipeline along
 with Optical Fiber Cable (OFC) by horizontal
 directional drilling method, below the root of the
 mangroves near Karanja Creek near Navghar and



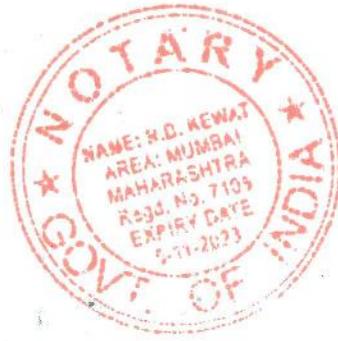
102

NMW 290-2014

Ghasakoshi village in Uran (as shown in the map which is annexed and marked as Exhibit "D" and Exhibit "E" to the affidavit in support) and at Patalganga River near Kharpada village in Pen Tehsil, District Raigad (as shown in the map which is annexed and marked as Exhibit "F" to the affidavit in support) without disturbing/cutting the mangroves."

2. The learned counsel for the applicants invites our attention to the submission dated 7 June 2014 of the Principal Chief Conservator of Forests (Head of Forest Force), Maharashtra State, Nagpur and the approval dated 11 November 2014 granted by Ministry of Environment, Forests and Climate Change of the Government of India for laying the above pipeline to the Chief Manager, LPG Project, Hindustan Petroleum Corporation Ltd. in Raigad District subject to terms and conditions mentioned therein. One of the terms and conditions is that the User Agency shall obtain the permission of this Court for implementing the project in mangrove areas as per the order dated 27 January 2010 in PIL No. 87 of 2006.

3. The learned counsel for the applicants also invites our attention to the undertaking dated 17 December 2014 given by Shri P.S. Murthy, Deputy General Manager, LPG Projects of the applicants. Paragraphs 2, 3 and 4 of the undertaking read as under:



103

NMW 290-2014

"2. I say that the Applicant is laying underground pipeline for LPG from Uran to Chakan and Shikrapur near Pune. The said LPG pipeline is crossing Karanja creek in Ghasakoshi village (Uran Tehsil) and Patalganga river in Kharpada village (Pen Tehsil) and at both places it is encouraging small patches of Mangroves forest.

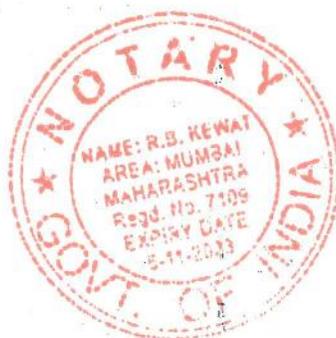
3. I say that to avoid damaging the mangroves Applicants are laying pipeline by Horizontal Directional method while crossing the said mangroves areas. The said drilling method is state of art technology and the same is done by imported drilling machine. The said LPG pipeline would be laid at a depth of 10 meters below the ground level without cutting and/or disturbing the mangroves and also the pipeline will not even touch the roots of the mangroves.

4. We hereby undertake to comply with the recommendations by Maharashtra Coastal Zone Management Authority and Ministry of Environment and Forests, Government of India. We also undertake that the Applicant will not be cutting and/or disturbing the mangroves as the LPG pipeline will also not touch the roots of the mangroves."

We accept the above undertaking.

A handwritten signature in blue ink, appearing to be "U/S".

104



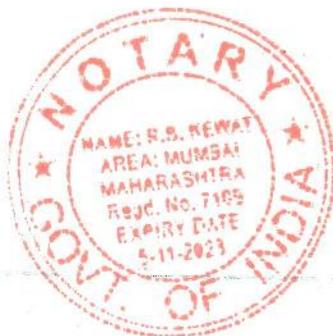
NMW 290-2014

4. In view of the permission granted by Ministry of Environment and Forest and in view of the above undertaking, we see no impediment for grant of permission to the applicant, which is a public sector undertaking for laying the pipeline.

5. In view of the above, we allow the notice of motion in terms of prayer clause (a) quoted hereinabove.

CHIEF JUSTICE

(B.P. COLABAWALLA, J.)



dgm

1

906-nmw-62-13.sxw

IN THE HIGH COURT OF JUDICATURE AT BOMBAY
ORDINARY ORIGINAL CIVIL JURISDICTION
NOTICE OF MOTION NO.62 OF 2013

IN

PUBLIC INTEREST LITIGATION NO. 87 OF 2006

Mumbai Railway Vikas Corporation

.... Applicants

vs

1 The Bombay Environment Action Group
and another

... Petitioners

vs.

1 State of Maharashtra and others

.... Respondents

Mr. Kiran Bagalia i/by Chitra Phadke for the applicants.

Mr. Gulnan Mistry i/by M. V. Jayakar for the petitioners.

Mr. N. P. Pandit, AGP for respondents-State

Mr. Rui Rodrigues with Mr. N.R. Prajapati for respondent No.2-Union of
India.

Ms. Sharmila Deshmukh for respondent no.3-MCZMA.

**CORAM: MOHIT S. SHAH, C.J.
AND ANOOP V. MOHTA, J.**

DATE : March 06, 2013

P.C.:

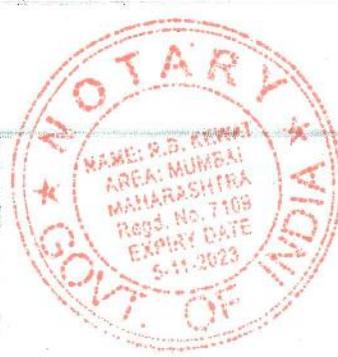
This Notice of Motion has been taken out by the Mumbai
Railway Vikas Corporation, a Government of India undertaking, under the
Ministry of Railways, for the following relief:

"a) The Hon'ble court be pleased to grant leave to
the Applicant, Mumbai Railway Vikas Corporation
Ministry of Railways for carrying out construction of
5th & 6th lines between Thane and Diva Station of

dgm

2

906-nmw-62-13.sxw



2 By the aforesaid permission dated 5th December, 2012 the applicants have been granted approval in principle for diversion of 3.231 hectare reserved forest land for construction of 5th and 6th lines between Thane and Diva station of Central Railway and subject to the conditions stipulated in the said communication. The communication sets out 11 conditions. After setting out those conditions, it is further stated that after receipt of the compliance report on the fulfillment of condition Nos. 2(b), 3, 4, 5 and 6 from the State Government, formal approval will be issued in this regard under section 2 of the Forest (Conservation) Act, 1980 by the Conservator of Forests (C), under the Ministry of Environment and Forests, Regional Office, Western Region, at Bhopal.

3 Having heard the learned counsel for the parties and in view of the above in principle approval granted by the Ministry of Environment and Forests on 5 December, 2012, we allow this Notice of Motion in terms of prayer (a).

4 Notice of Motion stands disposed of accordingly.

The parties to act on a copy of this order duly authenticated by the Court Associate.

CHIEF JUSTICE

(ANOOP V. MOHTA, J.)

TRUE COPY

 COURT ASSOCIATE





MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY

मुंबई महानगर प्रदेश विकास प्राधिकरण

*Rep
2/6/2016*

Date - 06.06.2016

TO WHOMSOEVER IT MAY CONCERN

With respect of the PIL No. 87/2006 in the High Court, Bombay Environmental Action Group & Anr. V/s. The State of Maharashtra & Ors. I hereby authorize Mr. Milind H. Paranjpe, Executive Engineer, Engineering Division, MMRDA to file MMRDA's Affidavit in the said matter on behalf of MMRDA the specimen signature of Mr. Milind H. Paranjpe is as below :

Paranjpe
Milind H. Paranjpe
(Specimen Signature)

Yours faithfully,

Mandapure
(Prakash Mandapure)
Engineer in Chief

TRUE COPY
For Vidhi Advocates

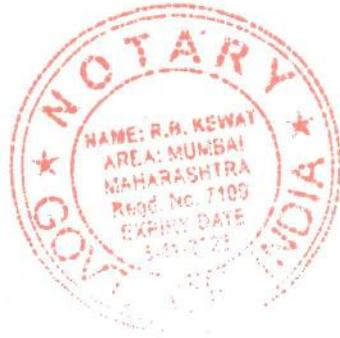
MS

Bandra - Kurla Complex, Bandra (East), Mumbai - 400 051.

EPABX : 2659 0001 - 04 / 2659 4000 • FAX : 2659 1264 • WEB SITE : <https://mmrda.maharashtra.gov.in>



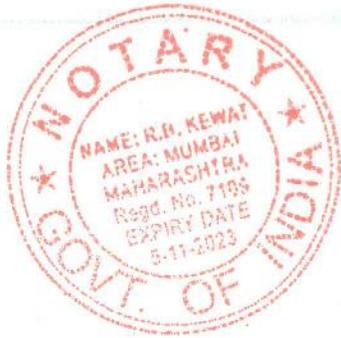
YKS



Handwritten signature in blue ink.



ukj



IN THE HIGH COURT OF JUDICATURE
AT BOMBAY
ORDINARY ORIGINAL CIVIL JURISDICTION
NOTICE OF MOTION NO. OF 2016

IN

PIL NO. 87 OF 2006

Mumbai Metropolitan Region
Development Authority ... Applicant
(Orig. Respondent No. 7)

In the matter between:

Bombay Environment Action Group
& Ors. ... Petitioners

Versus

State of Maharashtra & Ors. ... Respondents

AFFIDAVIT IN SUPPORT OF NOTICE OF
MOTION

Dated this 8 day of June, 2016

Vidhi Partners, Advocates
Mrs. Chitra Phadke
Advocates for Applicant/Respondent No.7,
Ground floor, Construction House,
5, Walchand Hirachand Marg,
Ballard Estate,
Mumbai - 400 001

MS

VOLUME II

BEFORE THE NATIONAL GREEN TRIBUNAL
WESTERN ZONE
APPEAL NO. 9 OF 2016 (WZ)



Dileep B. Nevatia

...Appellant

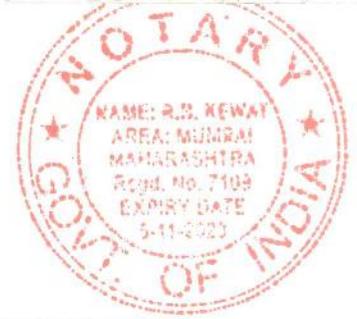
Versus

Union of India &Ors.

...Respondents

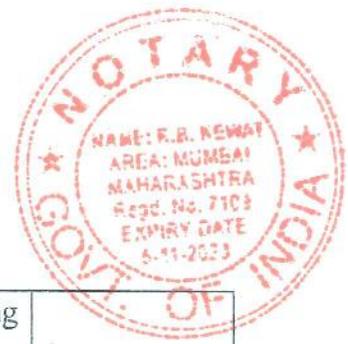
INDEX

Sr. No.	Date	Particulars	Page No.
VOLUME I			
1.	19 September 2019	Affidavit on Behalf of Respondent No. 6, setting out the status of the Project and environmental impact mitigation measures taken by the Respondent No. 6	1 – 19
2.	17 November 2017	Exhibit A Copies of letters of acceptance for Packages 1, 2 and 3 sent by Respondent No. 6 to contractors	20 – 25
3.	23 March 2018	Exhibit B Copies of commencement of works notices sent to contractors by Respondent No. 6	26 – 28
4.	23 March 2020	Exhibit C Copy of notification issued by State of Maharashtra regarding lockdown regulations due to the CoVid-19 pandemic	29 – 33
5.	16 and 18 April 2020	Exhibit D Copies of letters from Respondent No. 6 to contractors for Packages 2 and 3 asking them to commence essential pre-monsoon activities	34 – 38
6.	17 April 2020	Exhibit E Letter from Respondent No. 6 to contractor for Package 1 asking it to commence essential pre-monsoon activities	39 – 42
7.	31 August 2020	Exhibit F Copy of guidelines issued by the Government of Maharashtra regarding	43 – 52



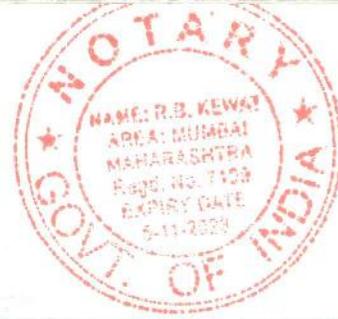
		relaxing of restrictions in place due to CoVid-19	
8.	31 August 2020	Exhibit G Photographs showing the status of the Project as of 31 August 2020	53 – 85
9.		Exhibit H Monthly progress report for the months of February 2020 till August 2020	86 – 87
10.		Exhibit I Copy of Notice of Motion No. 307 of 2016 filed by Respondent No. 6 in Public Interest Litigation No. 87 of 2006 (earlier Writ Petition (L) No. 3246 of 2004)	88 – 215
VOLUME II			
11.	28 November 2016	Exhibit J Copy of order of Bombay High Court in Public Interest Litigation No. 87 of 2006	216 – 217
12.	15 January 2020	Exhibit K Copy of letter of the General Consultant enclosing checklist detailing the compliance	218 – 228
13.	9 May 2016	Exhibit L Copy of letter showing payment of Rs. 49,59,822 to the Chief Conservator of Forests	229 – 230
14.	17 October 2016	Exhibit M Copy of letter showing payment of Rs. 4,56,29,600 to the Chief Conservator of Forests	231 – 232
15.	6 December 2019	Exhibit N Copy of letter of the General Consultant enclosing status report vis-à-vis mangroves afforestation of the Mangroves Cell	233 – 257
16.	26 December 2016	Exhibit O Copy of letter showing payment of Rs. 2,86,35,000.00 to IIT-Bombay	258 – 259
17.	6 September 2017	Exhibit P Copy of letter showing payment of Rs. 2,93,82,000.00 to IIT-Bombay	260 – 261
18.	11 September 2020	Exhibit Q Copy of letter received from the Mangrove and Marine Biodiversity	262 – 265

WS



		Conservation Foundation confirming receipt of Rs. 86,31,00,000/-	
19.	25 September 2017	Exhibit R Copy of the letter from Respondent No. 6 to the Mangroves and Marine Biodiversity Conservation Foundation, Mumbai enclosing a cheque for an amount of Rs. 31,92,73,240/-	266 – 268
20.		Exhibit S Report of the BNHS (Respondent No. 7) for October 2019 to March 2020 on ' <i>Monitoring and Mitigating the Impacts of Mumbai Trans-Harbour Link on Flamingos and Other Avifauna and Formulating a Conservation Blueprint for the Sewri-Nhava Seascape</i> '	269 – 325
21.	24 January 2020	Exhibit T 4 th Meeting of the Environmental Monitory Committee constituted by the Respondent No. 6	326 – 329
22.	May 2018 to February 2020	Exhibit U Photographs taken of the flamingos between this period near the project site	330 – 370
23.		Exhibit V Photographs of construction equipment fitted with mufflers and exhaust silencers	371 – 374
24.	4 April 2005	Exhibit W Approval from Archaeological Survey of India	375
25.	12 March 2013	Exhibit X Approval from Bhabha Atomic Research Centre	376
26.	31 January 2005	Exhibit Y Approval from Central Water and Power Research Station	377
27.	4 March 2013	Exhibit Z Approval from Jawaharlal Nehru Port Trust	378
28.	30 March 2013	Exhibit AA Approval from Mumbai Port Trust	379
29.	31 August 2012	Exhibit BB Approval from Maharashtra Maritime Board	380 – 381

MS



30.	18 January 2016	Exhibit CC Approval from Central Railways	382
31.	25 December 2015	Exhibit DD Approval from Mumbai JNPT Port Road Company Limited	383 – 384
32.	22 March 2016	Exhibit EE Proof of payment of the amount of Rs. 6,59,27,886/- to the Deputy Conservator of Forest, Alibaug	385 – 387
33.	22 January 2016	Exhibit FF In-principle Stage-I Clearance from the Respondent No. 1 for diversion of the said 47.417 hectares of forest land	388 – 391
34.	26 February 2014	Exhibit GG Order from District Collector Raigad designating 47.417-hectares of previously non-forest land as forest land for compensatory afforestation	392 – 394
VOLUME III			
35.	2 November 2018	Exhibit HH Letter from Chief Conservator of Forests to the Respondent No. 1 setting out compliance by Respondent No. 6 of the conditions for grant of the Stage-II clearance	395 – 580
36.	22 March 2017	Exhibit II Letter from CCF to Respondent No. 6 allowing construction activities in the land designated from forest to non-forest land.	581 – 587
37.		Exhibit JJ Photograph showing the installation of the barrier	588
38.		Exhibit KK Photographs showing installation of the special lighting system	589

YKS

EXHIBIT J

1/2



216

NM/307/2016

BDPPS

IN THE HIGH COURT OF JUDICATURE AT BOMBAY
ORDINARY ORIGINAL CIVIL JURISDICTON
NOTICE OF MOTION NO.307 OF 2016
IN
PUBLIC INTEREST LITIGATION NO.87 OF 2006

Mumbai Metropolitan Region
Development Authority

..... Applicant.

In the matter between

Bombay Environment Action Group
and Another

.....Petitioners.

V/s

State of Maharashtra and Others.

.... Respondents.

Mr. Saket Mone a/w Mr. Subit Chakrabarti i/b Vidhi Partners for
applicant in Notice of Motion No. 307 of 2016 in PIL No.87 of 2016.

Mr. Navroz Seeryai, Senior Counsel a/w Ms. Shreya Parikh for the
Petitioner in PIL No.87 of 2006.

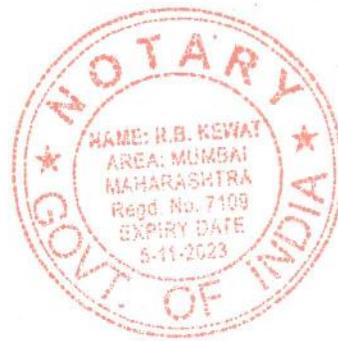
Mrs. P.H. Kantharia, AGP for Respondent/State in PIL No.87 of 2006.

Ms. Trupti Puranik for Respondent/BMC.

Ms. Sharmila Deshmukh for CRZ.

CORAM: V. M. KANADE &
MS. NUTAN D. SARDESSAI, JJ.

DATE: 28th November, 2016



217

2/2

NM/307/2016

P.C.:-

1. This Notice of Motion is taken out by the Applicant for carrying out construction of the proposed Mumbai Trans Harbour Link (a proposed 22 km freeway grade road bridge connecting the island city of Mumbai with Navi Mumbai).

2. The learned Counsel appearing on behalf of the Applicant submits that Applicant has obtained clearance from all the concerned authorities. He submitted that Ministry of Environment and Forest, Government of India has granted approval on 22/01/2016 and CRZ clearance has been granted on 25/01/2016. Applicant has given an undertaking in paras 12 and 27 of the affidavit in support of the Notice of Motion. The said undertaking is accepted. Applicant shall comply with all the conditions which are imposed in the said letters of sanction granted by both the authorities.

3. We are satisfied that the said project is public utility project and we grant leave in terms of prayer clause (a) of the Notice of Motion subject to conditions imposed by both the authorities.

4. Notice of Motion is accordingly allowed in terms of prayer clause (a) and disposed of.

(MS. NUTAN D. SARDESSAI, J.)

(V.M. KANADE, J.)

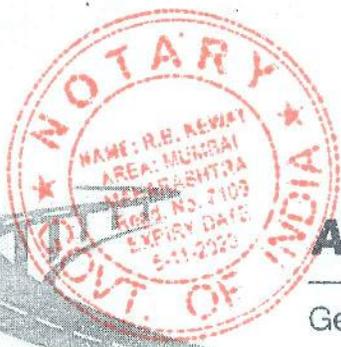


EXHIBIT K

AECOM

PADECO

dar al-handoosah
char and partnersTYLUN
INTERNATIONAL
218

General Consultant for Mumbai Trans Harbour Link Project

Ref No: MTHL/GC/MMRDA/LT/ENV- 1157 /2020

15th January 2020

To,
The Chief Engineer
Engineering Division
Mumbai Metropolitan Regional Development Authority (MMRDA)
2nd Floor, New MMRDA Building,
Plot No R-06 & R-12, 'E' Block
Bandra Kurla Complex, Bandra (E),
Mumbai, Maharashtra, India 400051

Sub: General Consultancy services for Mumbai Trans Harbour Link (MTHL) project -
Uploading of CRZ and MCZMA compliance on MMRDA website

Dear Sir,

We are hereby submitting the updated version of the CRZ and MCZMA checklist along with their compliance.

This may please be uploaded on your Website which will be reflected in the six-monthly progress report to be submitted to Regional Office Nagpur.

Thanking you,

Yours faithfully,

M2 on 15 January 2020

Dr. S H Robin Sham, CBE
(BSc, PhD, DIC, FCGI, FRSA, CEng, FICE, FStructE, FHKIE)
The Engineer
General Consultant (MTHL)

Encl: As above

CC: Superintendent Engineer – MMRDA - Mr. Sakhalkar
Executive Engineer – MMRDA – Mr. Bhisikar
Executive Engineer – MMRDA – Mr. Vishal Jambhale

us

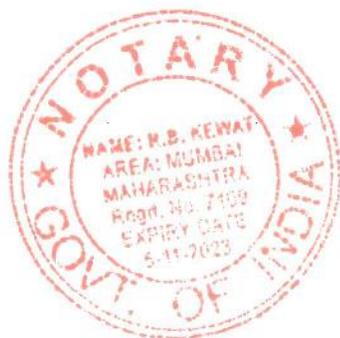


Rev VIII- 08.01.2020 219

**MUMBAI TRANS HARBOUR LINK
CRZ MOEF CHECKLIST**

SR. NO.	RET. NO.	ENVIRONMENTAL ATTRIBUTE	COMPLIANCE STATUS
The project proponent presented the EMP with the details as under			
1	4 (XI) 1	Environmental Monitoring- Air Act, Water Act, Noise levels: - Air Noise Water-Marine and Land Solid waste Ecology and Ecosystem Fishing etc. - Quarterly during Construction Phase.	Complied. Air Act, Water Act, Noise levels: - Air Noise Water-Marine and Land Solid waste Ecology and Ecosystem Fishing etc. are being regularly monitored on quarterly basis.
2	4 (XI) 2	Compensatory Restoration Plan Mangrove: - With the help of Forest department	Complied. Mangrove Cell of Maharashtra State Forest Department is entrusted with the job of Compensatory plantation over 200 Ha areas. Rs. 5.05 crores has been deposited with the Mangrove and Marine Biodiversity Foundation for the purpose. The Mangrove Cell has planned to carry out the necessary compensatory plantation in an area of 223 Ha plus maintenance for 7 year as informed by them vide their letter dated 27-07-2018. Mangroves Cell has completed plantation on 105 Ha in degraded land in different locations of Palghar and Mumbai Suburban Districts. Balance 118 Ha Mangrove Plantation will be done in identified areas in Palghar district.
3	4 (XI) 3	Implementation of the suggestions given by BNHS: - In accordance with their report	Complied. MMRDA has appointed BNHS for Implementation of Flamingos and Birds mitigation measures & birds monitoring program and Mudflat restoration for the MTHL project and this assignment will be executed & monitored through Mangrove Foundation Mumbai. A tripartite agreement between MMRDA, BNHS and Mangroves Foundation has been signed. Accordingly, MMRDA has deposited Rs. 31.92 crore with the Mangrove and Marine Biodiversity Foundation for disbursement to BNHS on the basis of deliverable activities. A project Implementation Committee (PIC) is also constituted which will monitor the progress.
4	4 (XI) 4	Noise barriers: - Along 4.5 x 2 = 9 km stretch abutting mudflats where flamingos gather	Complied. MMRDA has made provisions for installation of 3 m height (4.5 x 2 = 9 km stretch abutting mudflats where flamingos gather) on both side of the Sea link passing through CRZ I (mudflat & mangroves area) and CRZ IV area.
5	4 (XI) 5	Mitigation of marine water pollution caused due to the surrounding industries and Sewage from Urban Bodies, by providing Funding and Capacity Building for Enabling Effluent Treatment: - Identifying sources, treatability report, implementation of restoration and ETP	Complied. IIT Mumbai has been engaged to carry out water pollution study & designing of Effluent Treatment Plant in Mahul Creek. An amount of Rs. 5.8 crore has been paid to IIT towards the same. The final report is awaited. Based on the report, the mitigation measures would be implemented.
6	4 (XI) 6	Contribution to Mangroves fund, an initiative by Govt. of Maharashtra for Conservation and Protection of Mangroves in Coastal areas by depositing Seed Money. This can be used for Survey & Demarcation of Notified areas; Purchase of vehicles and equipment's for anti-Encroachment drives, etc.: - In accordance with their report this money will be deposited with GOM for restoration, conservation and Protection of mangroves in coastal areas	Complied. Mangrove Marine Biodiversity and Conservation Foundation, Mumbai (Mangroves Foundation) is entrusted with the job for which an amount of Rs 86.31 Cr. has been deposited with them.
7	4	Oil Spill Mitigation Plan: - State of the air Oil Spillage mitigation	Complied.

YKS



	(XI) 7	equipment, etc.	The provision for the same has been incorporated in the contracts for all three packages. Regular monitoring in this regard is being carried out as a part of their environmental monitoring plans.
8	4 (XI) 8	Habitat quality assessment and monitoring * Surveillance management and monitoring team for migratory birds, marine flora, turbidity in sea floor, etc. * Corpus fund for mudflat restoration program: - Carrying out detailed habitat quality monitoring of mudflats, migratory birds, marine flora and fauna and surveillance study	Complied. BNHS has been appointed for the purpose and it is included in the assignment referred at Sr. No. 3 above amounting Rs. 31.92 Cr. has been deposited with the Mangrove and Marine Biodiversity Foundation for Execution, monitoring and disbursement to BNHS on the basis of deliverable activities.
9	4 (XI) 9	Appointment of Bird Monitor and his assistant till Restoration of Baseline data: - Monthly monitoring during CP and Seasonal monitoring during OP	Complied. BNHS has been appointed for the purpose and it is included in the assignment referred at Sr. No. 3 above amounting Rs. 31.92 Cr. has been deposited with the Mangrove and Marine Biodiversity Foundation for Restoration of Baseline data and Seasonal monitoring during OP to BNHS on the basis of deliverable activities.
10	4 (XI) 10	DMP, Firefighting, Risk Analysis: - Necessary equipment, Quick Response Vehicles etc. for implementation of the detailed DMP	Complied. The provision for the same has been made in all the 3 packages and regular monitoring and mock drills are taking place.
11	4 (XI) 11	Sustainable development including establishing Nature Interpretation Centre: - Establishing a centre for training and workshops at schools and e level	Complied. An amount of Rs. 10 crores have been paid to Mangroves & Marine Biodiversity Foundation of Maharashtra towards establishing Marine Nature Interpretation Centre at Airoli, Mumbai.
12	4 (XI) 12	Safety and Security: - It includes setting up safety measures and security measures including telecommunication systems, safety boats, wireless communications etc.	Complied. Regular monitoring and implementation in this regard is being carried out as a part of our Safety and Security programme.
13	4 (XI) 13	Energy conservation: - To use LED, Solar lamps on the bridge, ROW's etc.	Necessary provisions towards the use of LED, Solar lamps on the bridge would be considered along with package IV for ITS.
14	4 (XI) 14	Landscaping-Plantation of trees, flowering plants etc.: - Along the entire bridge alignment	Complied. The provisions for Landscaping-Plantation of trees, flowering plants etc.: - Along the entire bridge alignment has been made by MMRDA.
15	4 (XI) 15	Compensation and Capacity Building of Fisher folks due to Temporary and Permanent Loss of Fishing ground: - Compensating affected fisher folk community welfare, etc.	Complied. The Compensation Policy in respect of project affected fisher folks has been formulated. Necessary survey for identifying the affected fishermen is in progress and the Fisherman Compensation Committee has been constituted by MMRDA to ensure disbursement to PAPs through Fishery Department. The process for the same is ongoing and till end of June 2018, Fisheries Department has approved 1165 fisher folk (families) from Mumbai side fishermen villages and 1399 fisher folk(families) from Navi Mumbai side fisherman villages. Till so far an amount of Rs. 22.18 Cr plus Rs.27.65 Cr has been deposited with Fisheries Department for disbursement to the 2371 eligible PAPs. Till date, about 23,786 fishermen were surveyed and more than 5520 families were identified as eligible for compensation.

yes



SR. NO.	REF. NO.	SPECIFIC CONDITIONS	COMPLIANCE STATUS
16	A (I)	All the terms and conditions stipulated by the MCZMA in their letter No. CRZ 2015/CR236/TC 4 dated 26 th November 2015 shall be strictly complied with.	Noted and shall be complied.
17	A (II)	All the terms and conditions as mentioned in the earlier CRZ Clearance dated 19th July 2013, shall also be complied with in letter and spirit.	Noted and shall be complied
18	A (III)	The Environment Management Plan as presented during the meeting shall be implemented in consultation with all the stakeholders.	Noted and shall be complied
19	A (IV)	The project/activity shall be carried out strictly in accordance with the provisions of CRZ Notification, 2011, and shall not affect the coastal ecology of the area including flora and fauna.	Noted and is being complied
20	A (V)	The project proponent shall obtain all permissions from concerned authorities prior to commencement of the project and shall observe all safety requirements onshore and offshore.	Complied. MMRDA / contractors for all 3 packages have obtained all permissions from concerned authorities prior to commencement of the project and shall observe all safety requirements onshore and offshore.
21	A (VI)	The project proponent shall not undertake any blasting/construction activities during night hours.	Complied. MOEF vide their letter dated 28-08-2017 amended the condition for carrying out construction activities during night hours.
22	A (VII)	The proposal indicates the diversion of 47.417 ha forest land for which the proponent shall obtain the requisite Forest Clearance. The project may be executed in the entire stretch in non-forest land, and while making application to get the Forest Clearance, the execution of work on non-forest land shall not be cited as a reason for grant of FC and in case FC is declined, the forest land shall be maintained at its existing condition. The PP shall submit an undertaking to this effect at the earliest to the concerned Regional Office to this Ministry.	a) Stage I Forest Clearance (Working Permission) has been obtained by MMRDA from the Forest Department vide their letter no B/20/Jamin/637/2018-19. Dt. 16-05-2018 from DCF Alibaug for execution of work. b) Stage I Forest Clearance (Working Permission) has been obtained by MMRDA from the Forest Department vide their letter no kaksha-9/Jamin/136/2018-19 Dt. 11-04-2018 from DCF Kurla for execution of work. c) Stage I Forest Clearance (Working Permission) has been obtained by MMRDA from the Forest Department vide their letter no kaksha-9/Jamin/432/2018-19 Dt. 19-05-2018 from DCF Kurla for execution of work. d) Reply to queries received from DCF Alibaug in regard to stage II proposal has been submitted by MMRDA on date 1 st September 2017 vide letter No. MMRDA/ MTHL/ Forest Clearance/ Stage II / Queries / 17 and on date 10 th September, 2018 vide letter No. MMRDA/ MTHL/ Forest Clearance/ Stage II / Queries / 18.
23	A (VIII)	All the wildlife mitigation measures as proposed by BNHS in their report dated 23.09.2015 for original alignment shall be implemented with the following modification (a) Construction of jetty on both the ends passing through mud flats and mangroves must not exceed 30 months and construction of actual spans must not exceed more that further 12 months. (b) The distance between the supporting pillars shall remain 50 m as currently proposed by the MMRDA.	Noted and being complied

221



222

SER. NO.	REF. NO.	GENERAL CONDITIONS	COMPLIANCE STATUS
		(c) MMRDA will partly bear the cost of setting of effluent treatment plant in the region as suggested by BNHS.	
24	A (IX)	The project proponent shall not undertake any blasting/construction activities during night hours.	Complied. MOEF vide their letter dated 28-08-2017 amended the condition for carrying out construction activities during night hours.
1	B (I)	Adequate provision for infrastructure facilities including water supply, fuel and sanitation must be ensured for construction workers during the construction phase of the project to avoid any damage to the environment.	Noted and shall be complied as per contract terms and conditions.
2	B (II)	Full support shall be extended to the officers of this Ministry/Regional Office at Nagpur by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.	Noted and shall be complied
3	B (III)	A six-Monthly monitoring report shall need to be submitted by the project proponents to the Regional Office of this Ministry at Nagpur regarding the implementation of the stipulated conditions.	6 monthly progress reports from June 2016 till June 2019 will be submitted by GC by mid of January
4	B (IV)	MoEFCC or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary, in the interest of environment and the same shall be complied with.	Noted
5	B (V)	The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with to the satisfaction of the Ministry.	Noted
6	B (VI)	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the MoEFCC.	Noted
7	B (VII)	The project proponents shall inform to the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	Noted
8	B (VIII)	A copy of the clearance letter shall be marked to concerned Panchayat/ local NGO, if any, from whom any suggestion/ representation has been made received while processing the proposal	No comments received
9	B (IX)	A copy of the CRZ Clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The Clearance letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/Tehsildar's Office for 30 days.	Noted.
10	6	The above stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the	Noted

ms



		Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification 1994, including the amendments and rules made thereafter.	
11	7	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, and clearances under the Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.	Noted
12	8	The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded CRZ Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the Ministry of Environment, Forest & Climate Change at. The advertisement should be made within Seven days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Nagpur.	Complied. Published in Loksatia and Indian Express on 30.01.2016
13	9	This Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.	Noted
14	10	Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Noted
15	11	Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent on its website.	Noted and will be implemented.
16	12	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Vide letter No .ED/MTHL/CRZ Clearance/ Publish/60 dated 29.01.2016
17	13	The proponent Shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	Noted and will be implemented.
18	14	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEFCC, the respective Zonal Office of CPCB and the SPCB.	Noted and will be implemented.

223



19	15	15. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEFCC by e-mail.	Noted and will be implemented.
----	----	---	--------------------------------

224

A handwritten signature in blue ink, appearing to be "VKS".



225

Rev. VII- 08.1.2020

**MUMBAI TRANS HARBOUR LINK PROJECT
CRZ MCZMA CHECKLIST**

Sr. No.	REF. NO.	SPECIFIC CONDITIONS	COMPLIANCE STATUS
1	9 (I)	MMRDA to ensure that mangroves restoration on the identified areas is undertaken immediately through Mangroves Conservation Cell, Mumbai.	Complied. MMRDA has deposited Rs. 5.05 Cr. to Mangroves Cell towards plantation of Mangroves over 200 Ha areas. Till date 105 Ha plantation has been completed as per letter enclosed.
2	9 (II)	MMRDA to explore the possibility of increase in the distance between two piers of viaduct in the mudflat area, which may be more than 50 m. This will minimize the disturbance in ecologically important mudflats and bird habitat area.	Complied. The GAD for packages 1 and 2 in the marine area contemplates pier distances of 60 m centre to centre.
3	9 (III)	The Sewri End of the Jetty should be used for transportation of construction material to avoid disturbance to the mudflats.	Complied. The Sewri Jetty area has been handed over to the contractor for transportation of construction material to avoid disturbance to the mudflats on 18.04.2018
4	9 (IV)	No reclamation is allowed in CRZ I & CRZ IV area except for viaducts & piers. MMRDA should ensure the same.	Complied. No reclamation is proposed in CRZ I & CRZ IV areas except for piers and viaducts.
5	9 (V)	MMRDA to install noise barriers of 3 m height on both side of the Sea link passing through CRZ I (mudflat & mangroves area) and CRZ IV area.	Complied. MMRDA has made provisions for installation of 3 m height on both side of the Sea link passing through CRZ I (mudflat & mangroves area) and CRZ IV area.
6	9 (VI)	Casting yard proposed on 16.15 ha on mangroves area on Navi Mumbai side should be shifted from CRZ I (mangroves area).	Complied. CIDCO has allocated 13.24 Ha casting yard area beyond CRZ I zone on Navi Mumbai.
7	9 (VII)	MMRDA to ensure that Construction activities near flamingo habitat area may be restricted to the season when flamingos are not on the site or not in larger flocks.	Complied. MOEF vide their letter dated 28-08-2017 has waived off the condition however with a suggestion that "MMRDA must exercise every possible effort to minimise disturbance to Flamingo habitat during construction phase of the project." However MMRDA is taking all measures to minimise the disturbance and the same is substantiated by photographs and videos of the site during construction showing Flamingos close to the construction site.
8	9 (VIII)	MMRDA to ensure that all construction equipment is fully fitted with mufflers and exhaust silencers to contain the noise levels. Machinery used during construction should be properly maintained to minimize the air and noise emissions.	Complied. All construction equipment are fully fitted with mufflers and exhaust silencers to contain the noise levels. Machineries used during construction are properly maintained to minimize the air and noise emissions. This is evidenced in the photographs attached.
9	9 (IX)	MMRDA to ensure that minimum damage is caused to mangroves ecosystem.	Noted. During the monitoring visits, the GC members are observing if there are any visible impacts on the mangroves.

WHS



226

10	9 (X)	MMRDA to ensure that operations in the mudflats or intertidal zones will be done by using temporary jetty which will be parallel to permanent structure in the Right of Way for the transportation of labour, construction material, precast elements, machinery etc. on the either ends.	Complied. The Temporary access bridge is under construction to ensure that operations in the mudflats or intertidal zones are done by using the same which is parallel to permanent structure in the Right of Way for the transportation of labour, construction material, precast elements, machinery etc. in both packages 1 and 2.
11	9 (XI)	MMRDA to declare entire MTHL as 'No Honking area'	Noted and will be complied with the help of traffic police after commissioning.
12	9 (XII)	MMRDA to ensure that no hoardings are allowed to display on the MTHL to avoid disturbance due to light illumination to Marine flora, fauna and birds during night.	Noted and will be complied.
13	9 (XIII)	MMRDA should take the expert opinions from the BNHS regarding safeguards to be placed so as to mitigate the disturbance to flamingo's habitat.	Complied. MMRDA has appointed BNHS for Implementation of Flamingos and Birds mitigation measures & birds monitoring program and Mudflat restoration for the MTHL project and this assignment will be executed & monitored through Mangrove Foundation Mumbai. A tripartite agreement between MMRDA, BNHS and Mangroves Foundation has been signed. Accordingly, MMRDA has deposited Rs. 31.92 crore with the Mangrove and Marine Biodiversity Foundation for disbursement to BNHS on the basis of deliverable activities. As per recommendations of JICA Study Group and various suggestions from BNHS, Forest Department, MMRDA is implementing mitigation measures during the construction phase.
14	9 (XIV)	MMRDA to formulate an Environment Cell (EC) to monitor impacts on environment during construction as well as during operations, under Chairmanship of Additional Metropolitan Commissioner, MMRDA. The said Cell would comprise of internal cell with Joint project Director (Environment), MMRDA and the Chief Engineer, MMRDA and other members will be from Forest Department, Maharashtra Pollution Control Board, Environment Department and other Environmental Specialists.	Complied. MMRDA has constituted the EMC. 1st EMC was held on 20th of June 2018. 2nd EMC was held on 5th February 2019. 3rd EMC was held on 22nd August 2019. 4th EMC was held on 08th January 2020. The suggestions in the EC meetings are being complied with.
15	(XV)	MMRDA to set aside an amount of about 2% of the project cost towards mitigation measures; restoration & Conservation of mangroves/birds/flora/fauna and mudflats restoration.	Complied. MMRDA has year marked Rs. 325 Cr. towards implementation of Environment Management Plan. The details of EMP are mentioned in the CRZ clearance approval given by MOEF on 25.01.2016.
16	9 (XVI)	MMRDA to undertake training programmes for construction personnel regularly so as to cause minimum disturbance to birds, due to construction activities.	BNHS has held the first training workshop at the board room, 4th floor, MMRDA on 11th June 2019 and it was attended by key Engineers and Environmental Experts of all three packages. However, a mechanism has to be devised to ensure further training of workmen and staff who are actually engaged in construction process.
17	9 (XVII)	MMRDA to develop a nature interpretation centre in the appropriate place to create awareness about importance of conservation of flora and fauna and migratory birds.	Complied. An amount of Rs. 10 crores have been paid to Mangroves & Marine Biodiversity Foundation of Maharashtra towards establishing Marine Nature Interpretation Centre at Airoli, Mumbai. MMRDA to seek progress from Mangrove Foundation on the development of the interpretation centre.



227

18	9 (XVIII)	MMRDA to consult expert agency to minimize the damage to the mudflats before commencement of the construction work near the mudflats.	Complied. BNHS has been appointed for suggestions and preparing blue print for restoration of Mudflats on completion of the project. The assignment is executed and monitored by Mangrove Foundation Mumbai. The process of constitution of Project Implementation Committee (PIC) is in progress. The Temporary access bridge is under construction to ensure that operations in the mudflats or intertidal zones are done by using the same which is parallel to permanent structure in the Right of Way for the transportation of labour, construction material, precast elements, machinery etc. in both packages 1 and 2.
19	9 (XIX)	MMRDA should obtain the Forest Clearance since; the proposed alignment of MTHL is passing through mangroves patches at Sewri and Nhava End of the project. Prior permission from the High Court of Mumbai should also be obtained as per the Hon. High Court order dated 27.1.2010 & 6.10.2005 in WP No. 3246/2004 & PIL 87/2006	Complied. Necessary permissions from Hon. High Court Mumbai has been obtained by MMRDA on 28.11.2015 and forwarded to MOEF in compliance of Forest clearance proposal. Thereafter, MMRDA has received Stage -I clearance from MOEF and Working Permission from Forest Department.
20	9 (XX)	MMRDA to consult and implement suggestions given by committee constituted for fisheries issues in the project area. Representative of fisheries commissioner, local fisherman community etc. should be appointed on the committee. The committee to ensure all mitigation measures for fisheries protection and issues of the local fisherman are considered and implemented during construction by conducting regular meeting during construction phase.	Complied. MMRDA has constituted a Coordination Committee on 08.10.2015 headed by Additional Metropolitan Commissioner and members- Commissioner of Fisheries, CEO MMB, Collector Mumbai City & Raigad, Dy. Police Commissioners from Mumbai and Navi Mumbai sides, Expert in fisheries and invite members- local Fisherman Cooperative Societies. This Committee has drafted and approved the Fishermen Compensation Policy in its 4th meeting held on 23.12.2015. Thereafter, MMRDA has so far surveyed about 8000 fisherman families likely to be affected due to construction of MTHL project.
21	9 (XXI)	MMRDA to ensure that no fishing activity is hampered during construction and operation phase of the project. Mudflats and creek are of vital importance to fisheries. Therefore, during construction and after completion of the project, MMRDA to assess the project affected fishermen and loss of business to fishermen that may occur due to the project.	Complied. The Compensation Policy in respect of project affected fisher folks has been formulated. Necessary survey for identifying the affected fishermen is in progress and the Fisherman Compensation Committee has been constituted by MMRDA to ensure disbursement to PAPs through Fishery Department. The process for the same is ongoing and till end of June 2018, Fisheries Department has approved 1165 fisher folk (families) from Mumbai side fisherman villages and 1399 fisher folk(families) from Navi Mumbai side fisherman villages. Till so far an amount of Rs. 22.18 Cr plus Rs.27.65 Cr has been deposited with Fisheries Department for disbursement to the 2371 eligible PAPs. Till date, about 23,786 fishermen were surveyed and more than 5520 families were identified as eligible for compensation
22	9 (XXII)	MMRDA to formulate project specific disaster management plan and standard operating procedures before commencement of the project.	Complied. All packages have the DMP in place to safe guard the underground utilities, fire, accidents, spillage of oil, grease paints etc.



23	9 (XXIII)	MMRDA to constitute Environmental monitoring committee over and above to internal environmental cell as proposed. This committee will ensure third party monitoring of implementation of ecological compliances. The structure of the committee should comprise experts from National Institute of Oceanography; Representative of BNHS; renowned expert in Ornithology; Director, Fisheries Institute, Versova, Andheri; Head of Coastal Engineering, IIT, Mumbai and Representative of Environment Department and Maharashtra Pollution Control Board. The officer of MMRDA will act as a Member Secretary to coordinate the quarterly meetings of the committee during construction phase.	Complied. 1st Environmental Monitoring Committee was held on 20th of June 2018. 2nd Environmental Monitoring Committee was held on 5th February 2019. 3rd Environmental Monitoring Committee was held on 22nd August 2019. 4th Environmental Monitoring Committee was held on 03rd January 2020. The suggestions in the EMC meeting are being complied with.
Sl. No.	Ref. No.	GENERAL CONDITION	COMPLIANCE STATUS
24	GC (I)	The MCZMA reserves the right to revoke this recommendation, if the conditions stipulated are not complied with to the satisfaction of the MCZMA or Environment Department.	Noted
25	GC (II)	The MCZMA or any other competent authority, MCGM may stipulate any additional conditions subsequently, if deemed necessary, for environmental protection, which shall be complied with.	Noted
26	GC (III)	A copy of the recommendation letter shall be marked to the concerned local body/ local NGO, if any, from whom any suggestion/ representation has been received while processing the proposal.	Noted The same has been sent to BNHS, Conservation Action Trust, etc., who had participated in the Public Consultation in the year 2015.
27	GC (IV)	The environmental safeguard measures should be implemented in letter and spirit.	Noted
28	GC (V)	This recommendation will be valid for 5 years from the date of issue of recommendation for commencement of construction & operation.	Noted
29	GC (VI)	The recommendation from CRZ point of view is being issued without prejudice to the action initiated under EP Act or any court case pending in the court of law and it does not mean that project proponent has not violated any environmental laws in the past and whatever decision under EP Act or of the Hon'ble court will be binding on the project proponent. Hence this recommendation does not give immunity to the project proponent in the case filed against him, if any or action initiated under EP Act.	Noted

ms



EXHIBIT L

1/229



MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY
मुंबई महानगर प्रदेश विकास प्राधिकरण

No. ED/MTHL/CCF Mangroves/Payment/16

Engineering Division

Date: 09/05/2016.

To

The Chief Conservator of Forests (Mangroves),
 A-Wing, 2nd Floor, SRA Building,
 Anant Kanekar Marg, Bandra (E),
 Mumbai -400051.

Sub: Mumbai Trans Harbour link

- Deposition of payment to for compensatory plantation of mangroves on 30 ha area.

Ref: 1) Your letter dated 30.12.2015 regarding identifying 223 ha area for compensatory mangrove plantation for MTHL project
 2) Your letter dated 16.03.2016 raising demand of funds for plantation on 30 ha area .

You are aware that, MMRDA has been assigned the task of implementation of Mumbai Trans Harbour Link (MTHL) by the Govt. of Maharashtra. The total diversion of forest area comprises to 47.4170 ha. in this project.,

In this regard, MMRDA has requested you vide T. O. letters dated 17/04/2013, 26.08.2013 and 29.09.2015 to prepare a mangrove plantation program for the area likely to be affected due to construction of MTHL bridge structure. The details of mangrove affected land admeasuring 38.58 Ha were submitted

2. Accordingly, you have communicated to MMRDA vide their letter dated 30.12.2015 that you have identified suitable land parcels admeasuring total about 223 ha in Palghar, Thane, Mumbai Suburb and Ratnagiri forest area under your jurisdiction for proposed compensatory mangrove plantation related to MTHL project.

5. Pursuant to the your demand for funds raised amounting Rs. 49,59,822/- towards compensatory mangrove plantation on 30 ha area in the letter dated 16.03.2016 for year 2015-16 and pre-monsoon preparation, please find enclosed payment by cheque no. 217917 dated 04.05.2016 of amount Rs. 49,59,822/- (drawn from Bank of Maharashtra).

Acknowledge / receipt for the same is requested. You are also requested forward the plans and estimate for funds for the balance mangrove plantation contemplated in MTHL project at the earliest please.

Yours Faithfully,

(Signature)
 (M. H. Paranjape)
 Executive Engineer

Encl: Cheque no. 217917 dated 04.05.2016 (in Original)

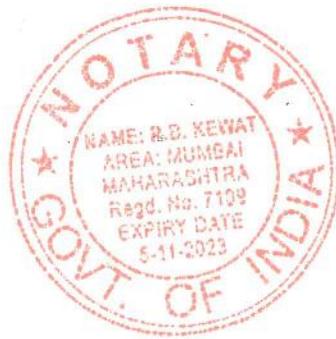
Bandra - Kurla Complex, Bandra (East), Mumbai - 400 051.

EPABX : 2659 0001 - 04 / 2659 4000 • FAX : 2659 1264 • WEB SITE : <https://mmrda.maharashtra.gov.in>

Received
 Cheque No. 217917
 dt. 4/5/2016
(Signature)

Received
 on 4/5/2016
 Chief Conservator of Forests (Mangroves)
 Kandaivan Cell, Mumbai

230



बान्द्रा (पूर्व), मुंबई - 400 051
 BANDRA (EAST), MUMBAI - 400 051.
 IFSC MAHB0000164

JAD
 BND

Valid For Three Months From The Date Of Issue

3 4 0 5 2 0 1 0
 D D M M Y Y Y Y

No Payee Only
 Not Negotiable
 Pay अदा करें

CHIEF CONSERVATOR OF FOREST, MANGROVES CELL, MUMBAI

Or Order

या उनक आदेशपर

Rupees रुपये Forty Nine Lakh Fifty Nine Thousand Eight Hundred Twenty Two Only

अदा करें।

₹ 49,58,822.00

खाता सं. / A/c. No. 20045301020

CBS

For MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY (MMRDA)

PAYABLE AT PAR AT ALL BRANCHES

[Signature]
 Authorised Signatory

[Signature]
 Authorised Signatory
 Please Sign above

⑈ 217917⑈ 400014043⑈

[Handwritten mark]



EXHIBIT M

231



MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY

मुंबई महानगर प्रदेश विकास प्राधिकरण

No. ED/MTHL/CCF Mangroves/Balance payment/16

Engineering Division
Date: 17/10/2016.

To

The Chief Conservator of Forests (Mangroves),
A-Wing, 2nd Floor, SRA Building,
Anant Kanekar Marg, Bandra (E),
Mumbai -400051.

Sub: Mumbai Trans Harbour link

- Deposition of balance payment to for compensatory plantation of mangroves on 170 ha area and maintaining all 200 ha plantation.

Ref: 1) Your letter dated 16.03.2016 raising demand of funds for plantation on 30 ha area.
2) Payment for 30 ha plantation made by MMRDA vide T.O. letter dated 09.05.2016
3) Your letter dated 20.09.2016 regarding cost of balance 170 ha area and maintenance of all 200 ha for compensatory mangrove plantation for MTHL project.

Sir,

MMRDA had requested you to prepare a mangrove plantation program for the area likely to be affected due to construction of MTHL bridge structure. The details of mangrove affected land admeasuring 38.58 Ha were submitted. For the compensatory mangrove plantation related to MTHL project, you have identified suitable land parcels in Palghar, Thane, Mumbai Suburb and Ratnagiri forest area under your jurisdiction.

2. This office has received your letter dated 20.09.2016 referring the subject matter and this office has noted that the mangrove plantation area is revised to total 200 ha.
3. Pursuant to your demand letter, MMRDA had already deposited Rs. 49,59,822/- vide T.O. letter dated 09.05.2016 towards plantation on 30 ha area.
4. Now, you have raised demand of Rs. 4,56,29,600/- towards payment for balance compensatory plantation of mangroves on 170 ha area and maintaining all 200 ha plantation over period of next 4 years. Please find enclosed payment by cheque no. 216609 dated 13.10.2016 of amount Rs. 4,56,29,600/- (drawn from Bank of Maharashtra). Acknowledge / receipt for the same is requested.
5. In view to fulfill auditory requirements, your are requested to submit;
 - i) Plans and estimate for all 200 ha mangrove plantation and maintenance for next 4 years for MMRDA's record purpose.
 - ii) Quarterly progress report
 - iii) Quarterly Utilization Certificate on use of funds.

Yours Faithfully,

(Signature)
(M. H. Paranjape)
Executive Engineer

Encl: Cheque no. 216609 dated 13.10.2016 (in Original)

Bandra - Kurla Complex, Bandra (East), Mumbai - 400 051.

EPABX : 2659 0001 - 04 / 2659 4000 • FAX : 2659 1264 • WEB SITE : <https://mmrda.maharashtra.gov.in>

(Signature)
17/10/2016
लिपीक
मुख्य वनसंरक्षक (मंग्रोव)
कांदळवन कक्षा, मुंबई.

(Signature)

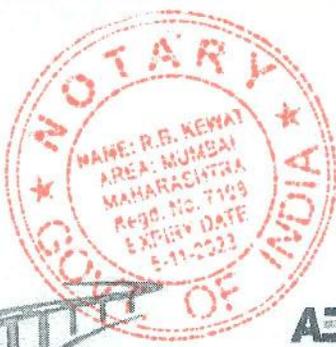


EXHIBIT N

AECOM

PADECO



dar al-hindesah
Other And partners

TYLIN 233
INTERNATIONAL

General Consultant for Mumbai Trans Harbour Link Project

Ref No: MTHL/GC/MMRDA/LT/ENV- 1092 /2019

6th December 2019

To,
The Chief Engineer
Engineering Division
Mumbai Metropolitan Regional Development Authority (MMRDA)
2nd Floor, New MMRDA Building,
Plot No R-06 & R-12, 'E' Block
Bandra Kurla Complex, Bandra (E),
Mumbai, Maharashtra, India 400051

**Sub: General Consultancy services for Mumbai Trans Harbour Link (MTHL) project -
Status report from Mangroves Cell**

Ref: MTHL/Forest land/CA/DCF Alibaug /Status Report/19/62 Dt. 16-10-2019

Dear Sir,

We had requested APCCF Mangroves Cell for status report on Mangroves Afforestation executed for MTHL vide letter under reference. We are in receipt of the report vide their Letter No. ja. kra. Kaksh-6/yojana/1867/2019-20 Dt. 04-12-2019 which is enclosed for your record and perusal.

Thanking you,

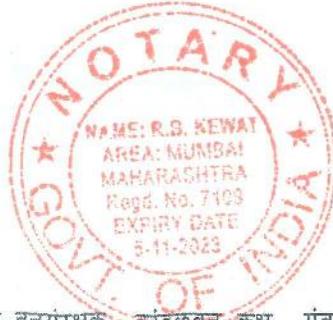
Yours faithfully,

Mr. Sham 8 December 2019

[Signature]
Dr. S H Robin Sham, CBE
(BSc, PhD, DIC, FCGI, FRSA, CEng, FICE, FStructE, FHKIE)
The Engineer
General Consultant (MTHL)

Encl: As above

CC: Superintendent Engineer – MMRDA - Mr. Sakhalkar
Executive Engineer – MMRDA – Mr. Bhisikar
Executive Engineer – MMRDA – Mr. Vishal Jambhale



234



अपर प्रधान मुख्य वनसंरक्षक, कांदळवन कक्ष, मुंबई यांचे कार्यालय,
एस.आर.ए. विल्डींग, ए-विंग, दुसरा मजला, अनंतर काणेकर मार्ग, बांद्रा (पूर्व), मुंबई-400 051.
फोन व फॅक्स-022 26591586, Email:-ccfmanagrove@mahaforest.gov.in/ccfmmumbai@gmail.com

विषय :- MMRDA अंतर्गत घेण्यात आलेल्या कांदळवन
रोपवनाच्या कामाबाबत.

जा.क्र.कक्ष-6/योजना/ 1867/ 2019-20
बांद्रा, मुंबई- 400 051, दि. 24/12/2019.

प्रति,

श्री. जी.जी.देशपांडे,

कार्यकारी अभियंता,

मुंबई महानगर प्रदेश विकास प्राधिकरण,

मुंबई.

- संदर्भ :-1) आपले कडील पत्र क्र.एमटीएचएल/फॉरेस्ट लॅण्ड/सीए/डीसीएफ अलीबाग/
स्टेट्स रिपोर्ट /18/87, दि. 21.06.2018.
2) आपले कडील पत्र क्र.इ.डी./एमटीएचएल/सीसीएफ
मॉग्रोव्ह/पेमेंट16/ दि.9.3.2016.
3) आपले कडील पत्र क्र.इ.डी./एमटीएचएल/सीसीएफ
मॉग्रोव्ह/पेमेंट16/ दि.17.10.2016.
4) आपले कडील पत्र क्र. एमटीएचएल/फॉरेस्ट लॅण्ड/सीए/डीसीएफ अलीबाग/
स्टेट्स रिपोर्ट/19/ 62/ दि. 16.10.2019.
5) या कार्यालयाचे पत्र क्र. कक्ष-6/ योजना/975/ दि. 27.07.2018.

आपले कडील उपरोक्त संदर्भिय पत्र क्र.2 व 3 अन्वये कांदळवनाकरिता 200.00 हे. रोपवनाचे उद्दिष्ट साध्य करण्याकरिता आपणाकडून रक्कम रु.5,05,89,422/- प्राप्त झालेले आहे. मुंबई महानगर प्रदेश विकास प्राधिकरण अंतर्गत मुंबई ट्रान्स हार्बर (MTHL) या योजने मध्ये एकूण 200.00 हे. रोपवन क्षेत्राचे उद्दिष्ट खालीलप्रमाणे वनविभागास वाटप करण्यात आले होते. त्यापैकी सन 2017-18 व 2018-19 च्या पावसाळ्यात 200.00 हे. क्षेत्रावर कांदळवनांचे रोपवन घेण्यात आलेले आहे. त्याचा तपशिल खालीलप्रमाणे.

अ.क्र.	वनविभाग	साध्य केलेले उद्दिष्ट						
		वर्ष	वनक्षेत्र		स. नं.	क्षेत्र	पूर्व पावसाळी व प्रथम वर्षी रोपवनावर झालेला खर्च रक्कम रु. (Preplantation operation+ First	2 ते 7 व्या वर्षाकरिता लागणारे अनुदान
1	डहाणू (रोपवाटीकासह)	2015-16	बोईसर	मोजे पामटेंभी ✓	161	15.00	2351479/-	
2			सफाळे	मोजे करवेला ✓	47	15.00	2608343/-	
3		2017-18	बोईसर	मोजे पामटेंभी	161	10.00	2044986/-	
4			बोईसर	सालवड	107	10.00	2044986/-	
5			बोईसर	चंडीगाव	729	10.00	2136455/-	
6			सफाळे	साकुणसार	283/अ व 247/2	20.00	4319819/-	

D/plan /plan 2019-20/MMRDA

YMS



235

7	मुंबई कांदळवन संधारण घटक	2017-18	ठाणे खाडी फलेभिगो	काजूर	275 न.भू.क्र 657अ.	10.00	(प्रथम वर्ष) 1216996/- (द्वितीय वर्ष) 243336/-	
8				मुलूंड व भांडूप	157 न.भू.क्र 1318.	15.00	(प्रथम वर्ष) 1825494/- (द्वितीय वर्ष) 197101/-	
9	डहाणू वनविभाग	2018-19	डहाणू	पालघर	धनसार 64	45.00	2569984/-	2,76,67,879/-
10				सफाळे	करवेळा 47	20.00	2569984/-	
11				बोईसर	नवापूर 161	10.00	1284992/-	
12					सालवड 107	10.00	1284992/-	
13				पालघर	शिरगाव 1287	10.00	1284992/-	
	एकुण क्षेत्र					200.00	2,79,83,939/-	2,76,67,879/-
	एकुण एकंदर					200.00	5,56,51,818/-	

मुंबई महानगर प्रदेश विकास प्राधिकरण अंतर्गत घेण्यांत येणाऱ्या MTHL प्रस्ताव अंतर्गत कांदळवन कक्षामध्ये 200.00 हे. रोपवन लागवडीचे कामे झालेली आहेत. व त्यास आपणा कडून मंजुरी व एकूण अनुदान रक्कम रु.5,05,89,422/- प्राप्त झाले होते. परंतु हाती घेण्यांत आलेल्या 200.00हे. करिता अंदाज किती खर्चअपेक्षित राहिल याबाबत रोपवनाचे 1 ते 7 वर्षांचे अंदाजपत्रक तयार करून सोबत जोडण्यांत आले आहे. त्यानुसार अनुदानाची अपेक्षित राहिल. अंदाजपत्रकीय 1 ते 7 वर्षांचे एकूण रक्कम रु. 5,56,51,818/- अशी होते. व आपणा कडून रक्कम रु.5,05,89,422/- प्राप्त झालेली आहे. कृपया नमुद केलेली सदरची वाढीव रक्कम रु. 50,62,396/- मिळण्यास विनंती आहे.

तसेच या कार्यालयाचे पत्र क्र. कक्ष-6/योजना/975/ दि. 27.7.2018चे पत्रातील नमुद करण्यांत आलेल्या प्रत्येक रोपवन ठिकाणाचे आपणाकडून KML फाईलची संदर्भिय पत्राअन्वये मागणी केल्याप्रमाणे वरिल प्रपत्रात नमुद केलेल्या कांदळवन रोपवनाचे KML फाईल यासोबत सादर करण्यांत येत आहे. कृपया अवलोकन होण्यास विनंती.

अपर प्रधान, KML कार्यालय (ए.प.कोश)
अहमदनगर

अपर प्रधान मुख्य वनसंरक्षक,
कांदळवन कक्ष, मुंबई

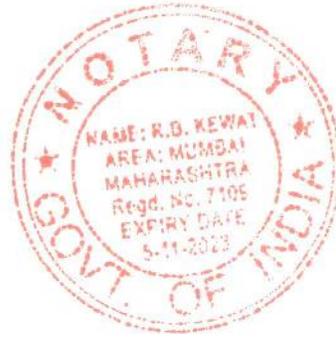


236

मुंबई महानगर प्रदेश विकास प्राधिकरण (MMRDA) अंतर्गत
घेण्यांत येणाऱ्या MTHL प्रस्ताव अंतर्गत घेण्यांत येणाऱ्या 200.00 हे. कांदळवन
रोपवनाचे 1 ते 7 वर्षांचे अंदाजपत्रक

गोषवारा

Sr.No.	Year	Amount
1	First Year	29320931
2	Second Year	9070370
3	Third Year	6361044
4	Forth Year	6852500
5	Fifth Year	5497684
6	Sixth Year	6047387
7	Seventh Year	665202
	Total	55651818 ✓

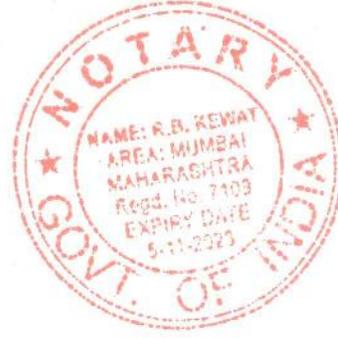


237

village
Spacing : 1.5 m x 1.5 m

First Year Operations
Estimate of Mangrove Plantation
Daily Wages rates - 360.76

Sr.No.	Item of work	1 ha.				200 ha			
		mandys	wages	m/s	Total	mandys	wages	m/s	Total
1	Preparation of site (including removal of weeds and climber etc.) and alignment etc.	25	8538.5	311	8849.5	5000	1803800	62200	1866000
2	Nursery cost	30	10246.2	1126	11372.2	6000	2164560	225200	2389760
3	Excavation of primary and secondary canals in hard stiff clay for letting in tidal waters (92 cmt/ha.)	140	47815.6	0	47815.6	28000	10101280	0	10101280
4	Transport of plants by Boat/Tempo from nursery to plantation site incl. loading etc.	12.54	4282.912	14000	18282.91	2508	904786.1	2800000	3704786
5	Planting incl. carrying of plants by headload	70	23907.8	0	23907.8	14000	5050640	0	5050640
6	Purchase of material (Ghamela, phawda, rope etc. plantation board etc.)	0	0	2500	2500	0	0	500000	500000
7	Casualty Replacement (20%) including carrying the plants by headloads.	20	6830.8	0	6830.8	4000	1443040	0	1443040
8	Removal of garbage and moss around the plants etc.	20	6830.8	0	6830.8	4000	1443040	0	1443040
9	Controlling of pests and insects by using pesticides and insecticides . Spraying nutrients for better growth of plants	0	0	1500	1500	0	0	300000	300000
10	Watch and ward, period 6 monts , 1 lab for 10 ha.	15.6	5328.024	0	5328.024	3120	1125571	0	1125571
11	Repairs of channels	7	2390.78	0	2390.78	1400	505064		505064
		340.14					24541781	3887400	28429181
12	labour welfare 3% on wages								736253.4
13	Contingencies 4% on M & S								155496
	Total								29320931



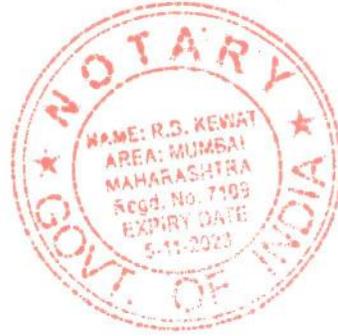
238

0
village
Spacing : 1.5 m x 1.5 m

Second Year Operations
Estimate of Mangrove Plantation
Daily Wages rates - 376.98

Sr. No.	Item of work	1 ha.				200 ha			
		mandys	wages	m/s	Total	mandys	wages	m/s	Total
1	Nursery cost for 890 plants	6	2261.88	1800	4061.88	1200	452376	360000	812376
2	Transport of seedlings from nursery to planting site by vehicles incl. loading and unloading	2.5	942.45	2800	3742.45	500	188490	560000	748490
3	Casualty replacement incl. transport by headload	20	7539.6	0	7539.6	4000	1507920	0	1507920
4	Maintenance of canals	19	7162.62	0	7162.62	3800	1432524	0	1432524
5	Removing moss, algae and other litter around plants	20	7539.6	0	7539.6	4000	1507920	0	1507920
6	Controlling pestes by spraying pesticides	1	376.98	200	576.98	200	75396	40000	115396
7	watch and ward 1 watchman for 10 ha. For 12 months	31.2	11761.78	0	11761.78	6240	2352355	0	2352355
	total			0					8476981
	Equipment and contingencies 3% + labour welfare 4% Total 7%								593388.7
	Total								9070370

ms



239

village
Spacing : 1.5 m x 1.5 m

Third Year Operations
Estimate of Mangrove Plantation
Daily Wages rates - 414.67

Sr.No.	Item of work	1 ha.				200 ha			
		mandys	wages	m/s	Total	mandys	wages	m/s	Total
1	removing moss, algae and other litter around plants	20	8293.4	0	8293.4	4000	1658680	0	1658680
2	maintenance of canals	19	7878.73	0	7878.73	3800	1575746	0	1575746
3	controlling pastes by spraying pesticides	1	414.67	200	614.67	200	82934	40000	122934
4	watch and ward 1 watchman for 35 ha. For 12 months	31.2	12937.7	0	12937.7	6240	2587541	0	2587541
	total			0					5944901
	Equipment and contingencies 3% + labour welfare 4% Total 7%								416143.1
									6361044

W/S



240

village
Spacing : 1.5 m x 1.5 m

forth Year Operations
Estimate of Mangrove Plantation
Daily Wages rates - 456.14

Sr.No.	Item of work	1 ha.				200/ha			
		mandys	wages	m/s	Total	mandys	wages	m/s	Total
1	Removing moss, algae and other litter around plants	20	9122.8	0	9122.8	4000	1824560	0	1824560
2	maintenance of canals	19	8666.66	0	8666.66	3800	1733332	0	1733332
3	watch and ward 1 watchman for 35 ha. For 12 months	31.2	14231.57	0	14231.57	6240	2846314	0	2846314
	total			0					6404206
	Equipment and contingencies 3 % + labour welfare 4% Total 7%								448294.4
	Total								6852500

ms



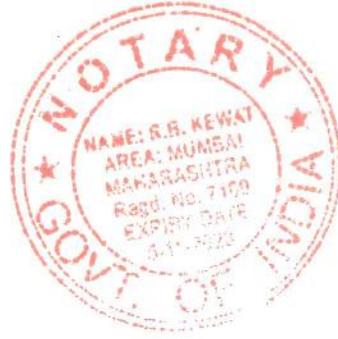
241

Village
Spacing : 1.5 m x 1.5 m

Fifth Year Operations
Estimate of Mangrove Plantation
Daily Wages rates - 501.76

Sr.No.	Item of work	1 ha.				200 ha			
		mandys	wages	m/s	Total	mandys	wages	m/s	Total
1	Removing moss, algae and other litter around plants	20	10035.2	0	10035.2	4000	2007040	0	2007040
2	Watch and ward 1 watchman for 35ha. For 12months	31.2	15654.91	0	15654.91	6240	3130982	0	3130982
	total			0					
	Equipment and contingencies 3%+labour welfare 4% Total 7%								5138022
	Total								359661.6
									5497684

44



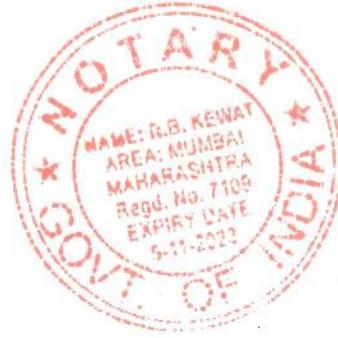
242

village
Spacing : 1.5 m x 1.5 m

Sixth Year Operations
Estimate of Mangrove Plantation
Daily Wages rates - 551.93

Sr.No.	Item of work	1 ha.				200 ha			
		mandys	wages	m/s	Total	mandys	wages	m/s	Total
1	Removing moss, algae and other litter around plants	20	11038.6	0	11038.6	4000	2207720	0	2207720
2	Watch and ward 1 watchman for 35 ha. For 12months	31.2	17220.22	0	17220.22	6240	3444043	0	3444043
	total			0					5651763
	Equipment and contingencies 3%+labour welfare 4% Total 7%								395623.4
	Total								6047387

4/11



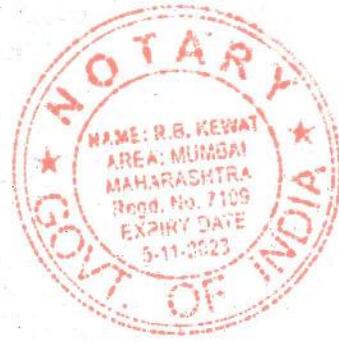
243

village
Spacing : 1.5 m x 1.5 m

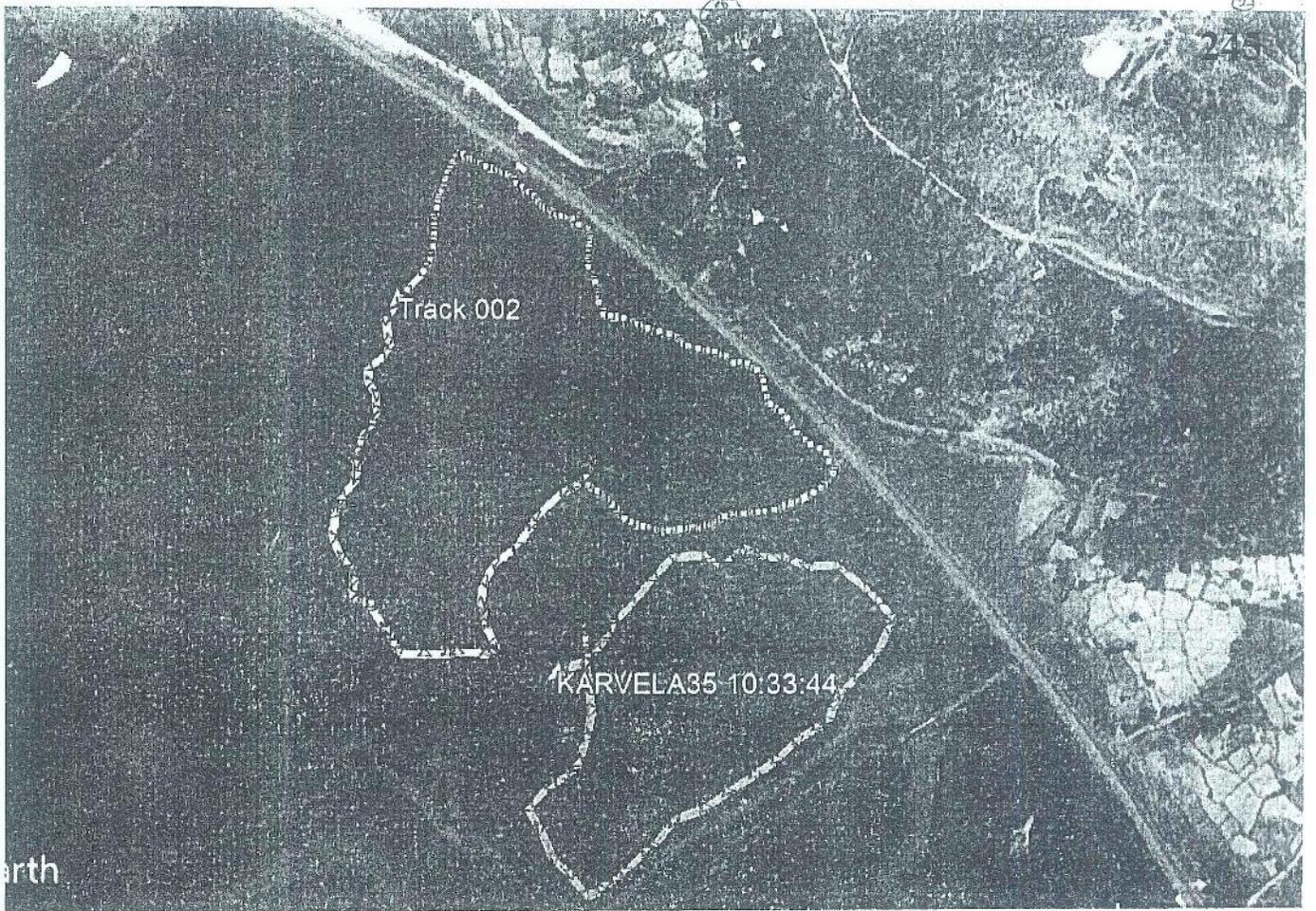
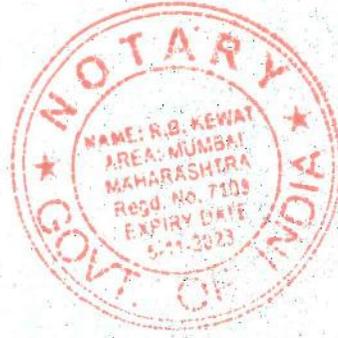
Seventh Year Operations
Estimate of Mangrove Plantation
Daily Wages rates - 607.13

Sr.No.	Item of work	1 ha.				200 ha			
		mandys	wages	m/s	Total	mandys	wages	m/s	Total
1	Removing moss, algae and other litter around plants	20	12142.6	0	12142.6	4000	2428520	0	2428520
2	Watch and ward 1 watchman for 35 ha. For 12 months	31.2	18942.46	0	18942.46	6240	3788491	0	3788491
	total			0					6217011
	Equipment and contingencies 3%+labour welfare 4% Total 7%								435190.8
	Total								6652202

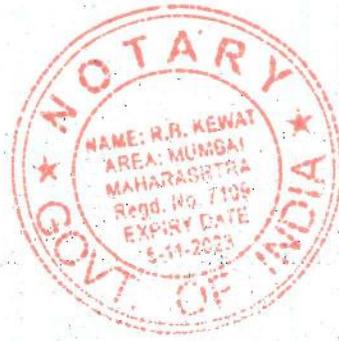
W/S



Yes

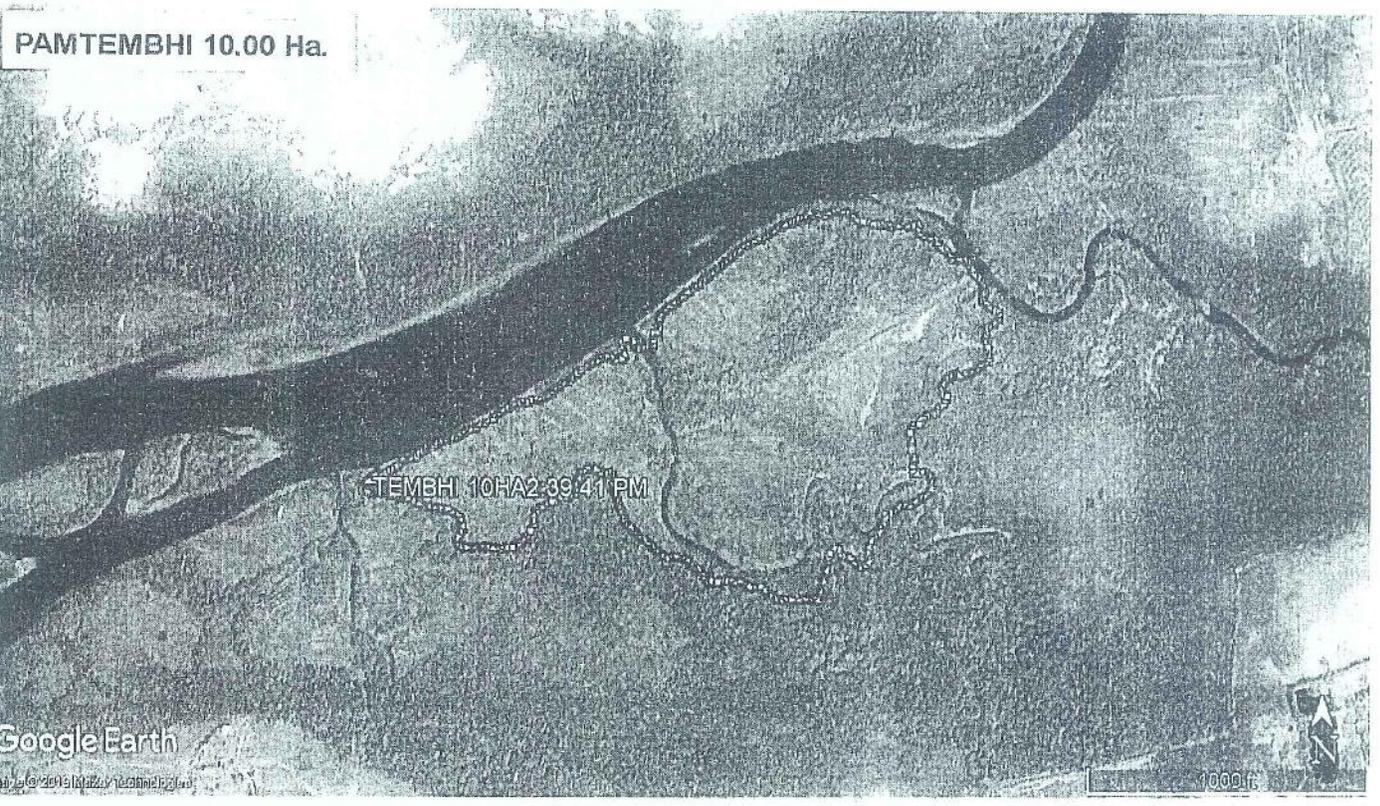


Handwritten signature in blue ink.

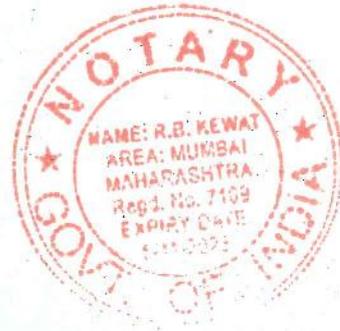


3

246 3



Handwritten signature in blue ink.

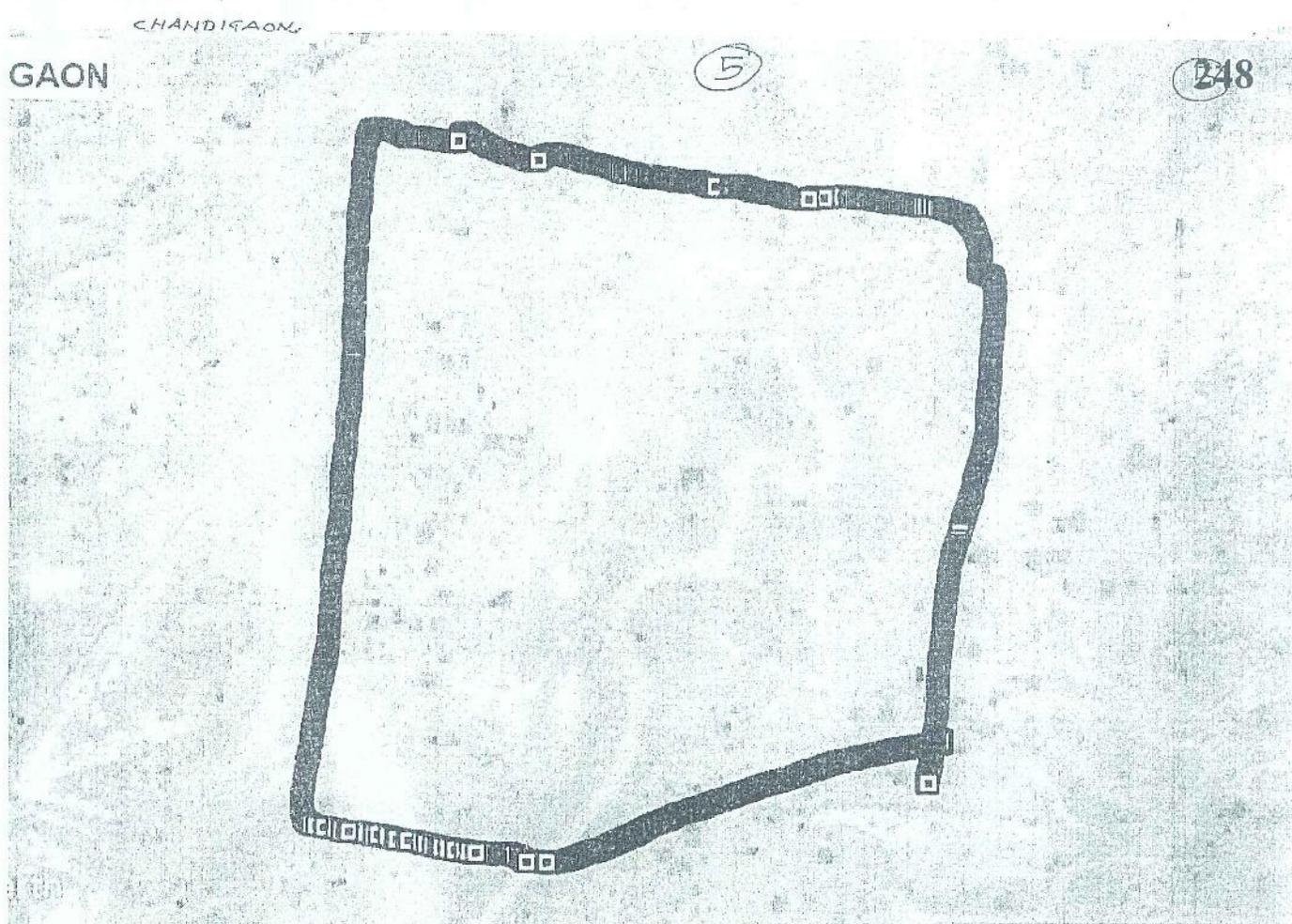


④

②47



Wef

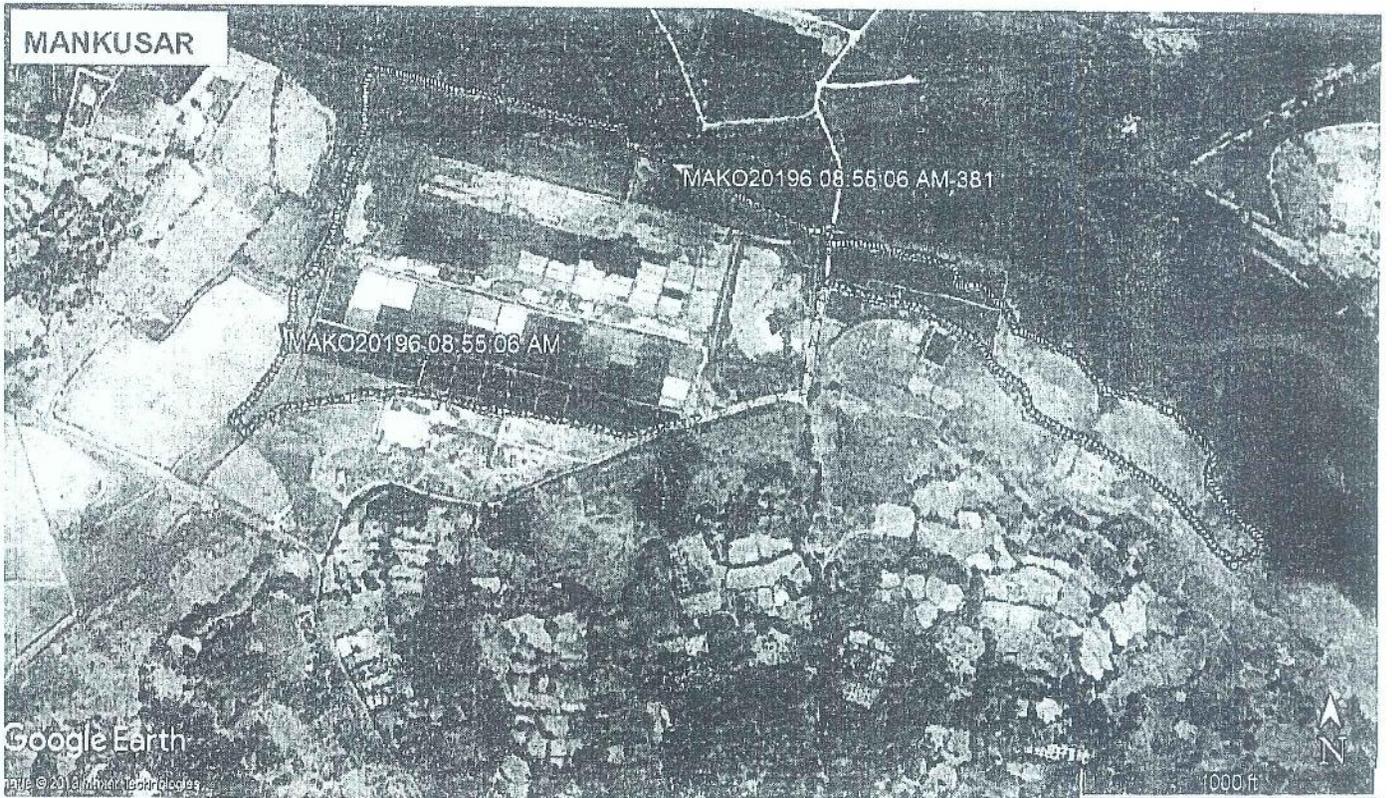


Handwritten signature in blue ink.



6

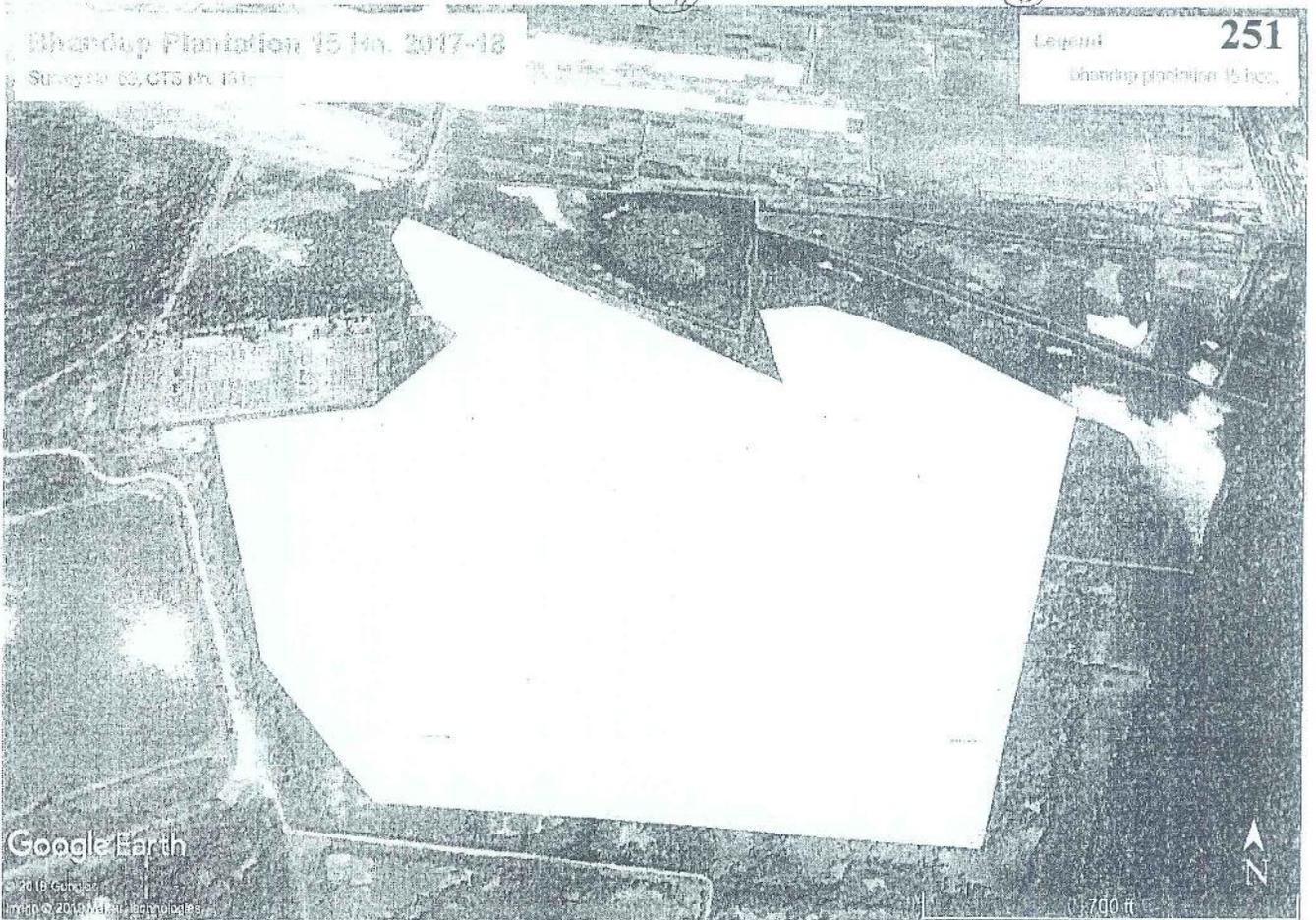
6 249



Handwritten signature in blue ink.



WJ

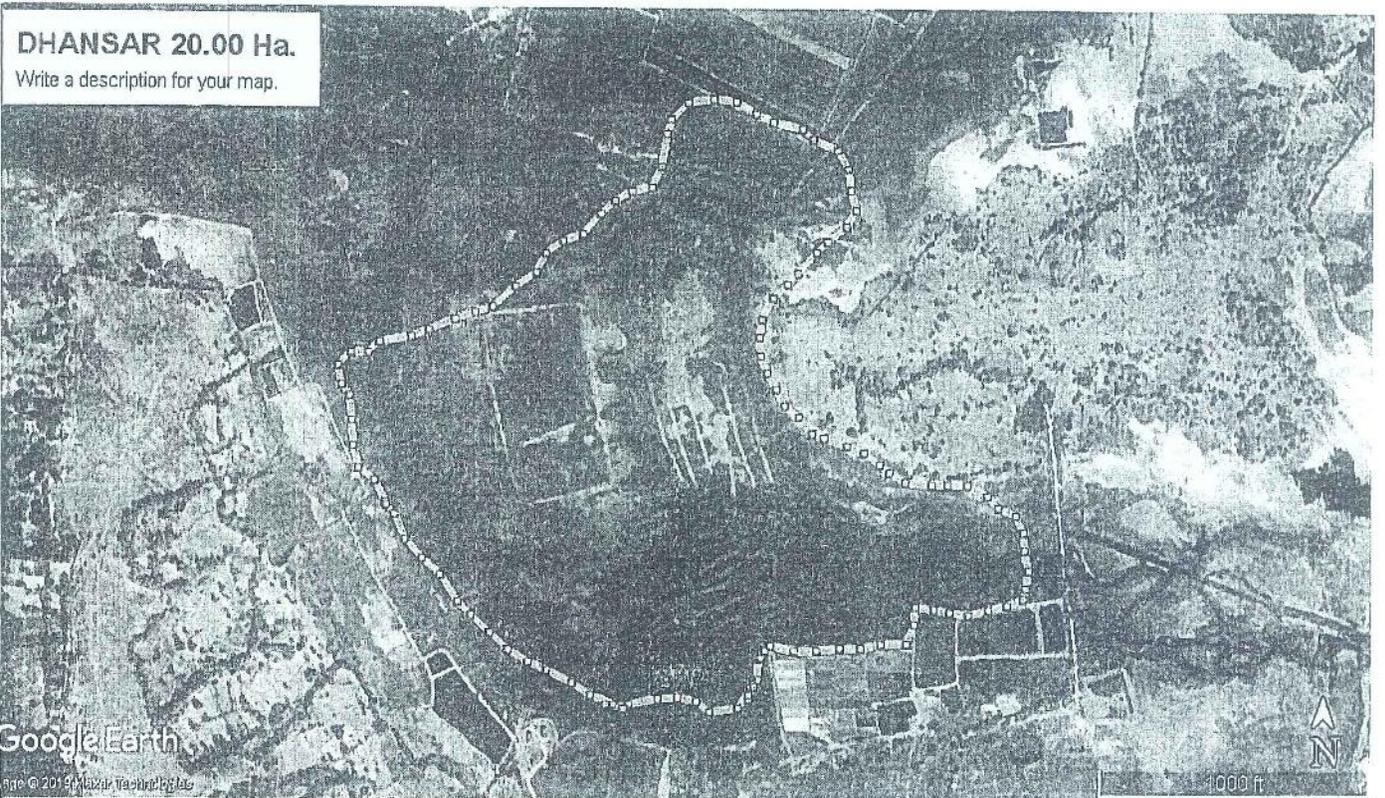


Handwritten signature in blue ink.



9/A 20.00

9-8 20.00 252

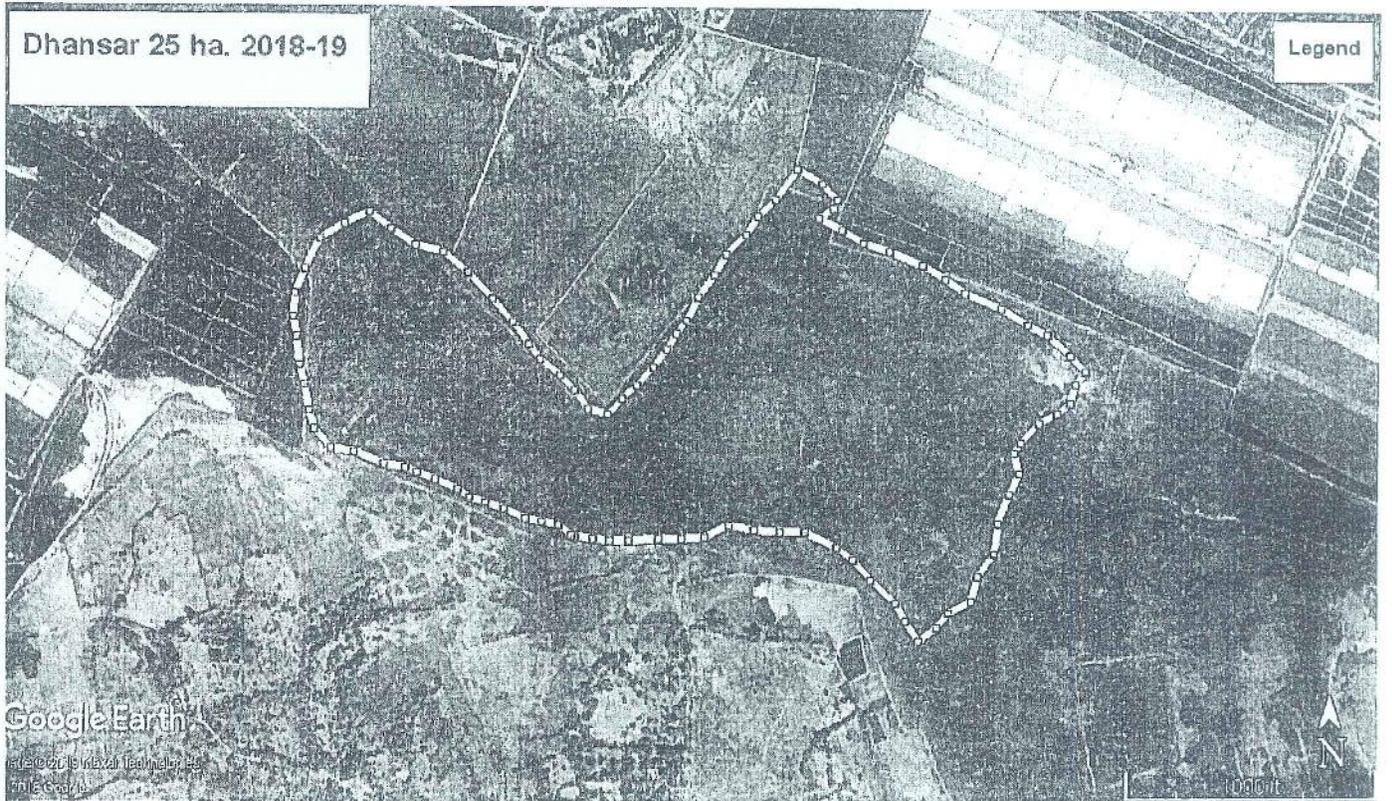


Handwritten signature in blue ink.

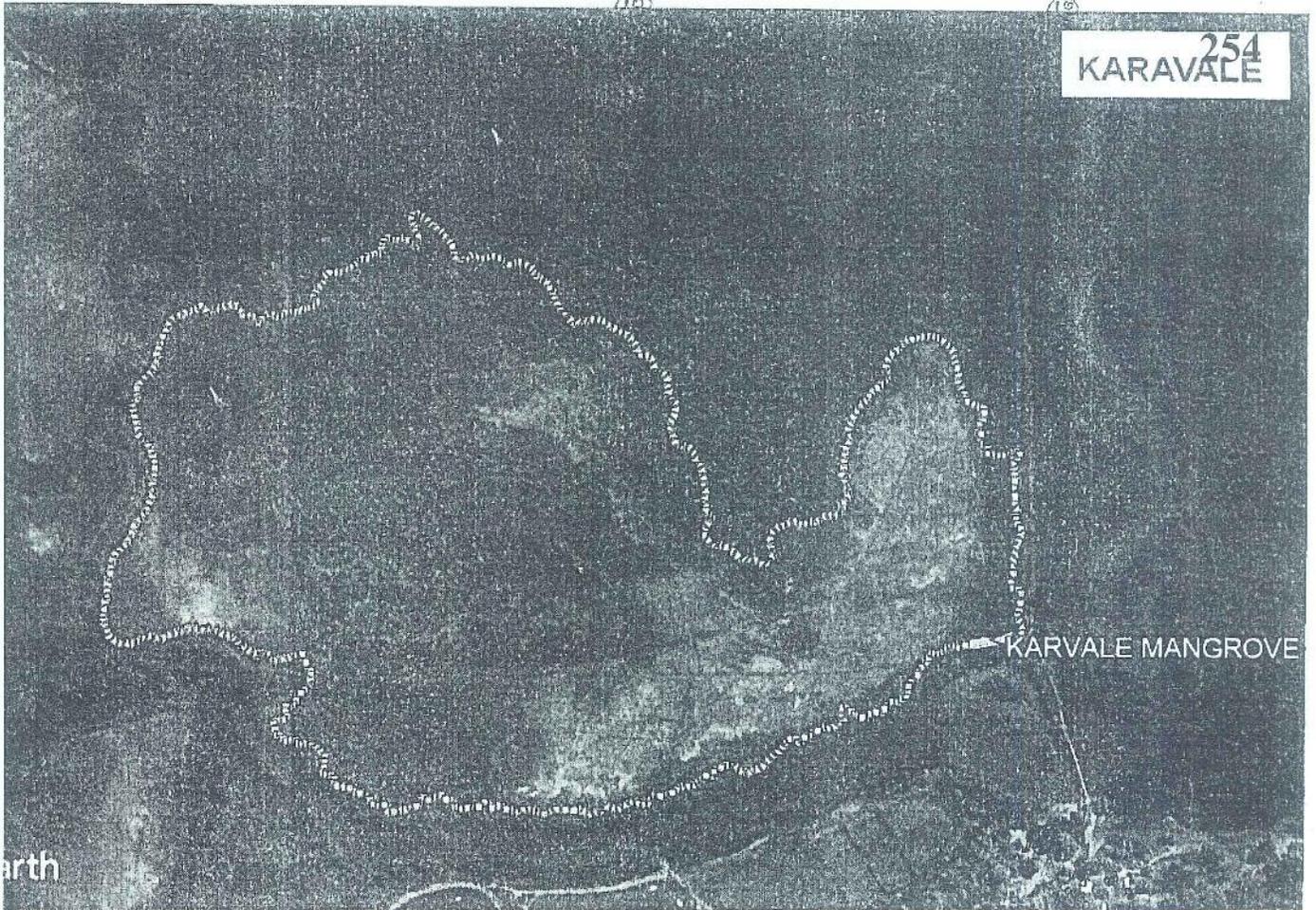
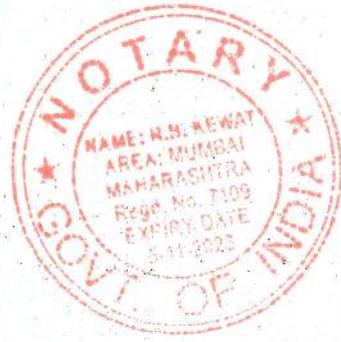


9-B - 2500 Ha

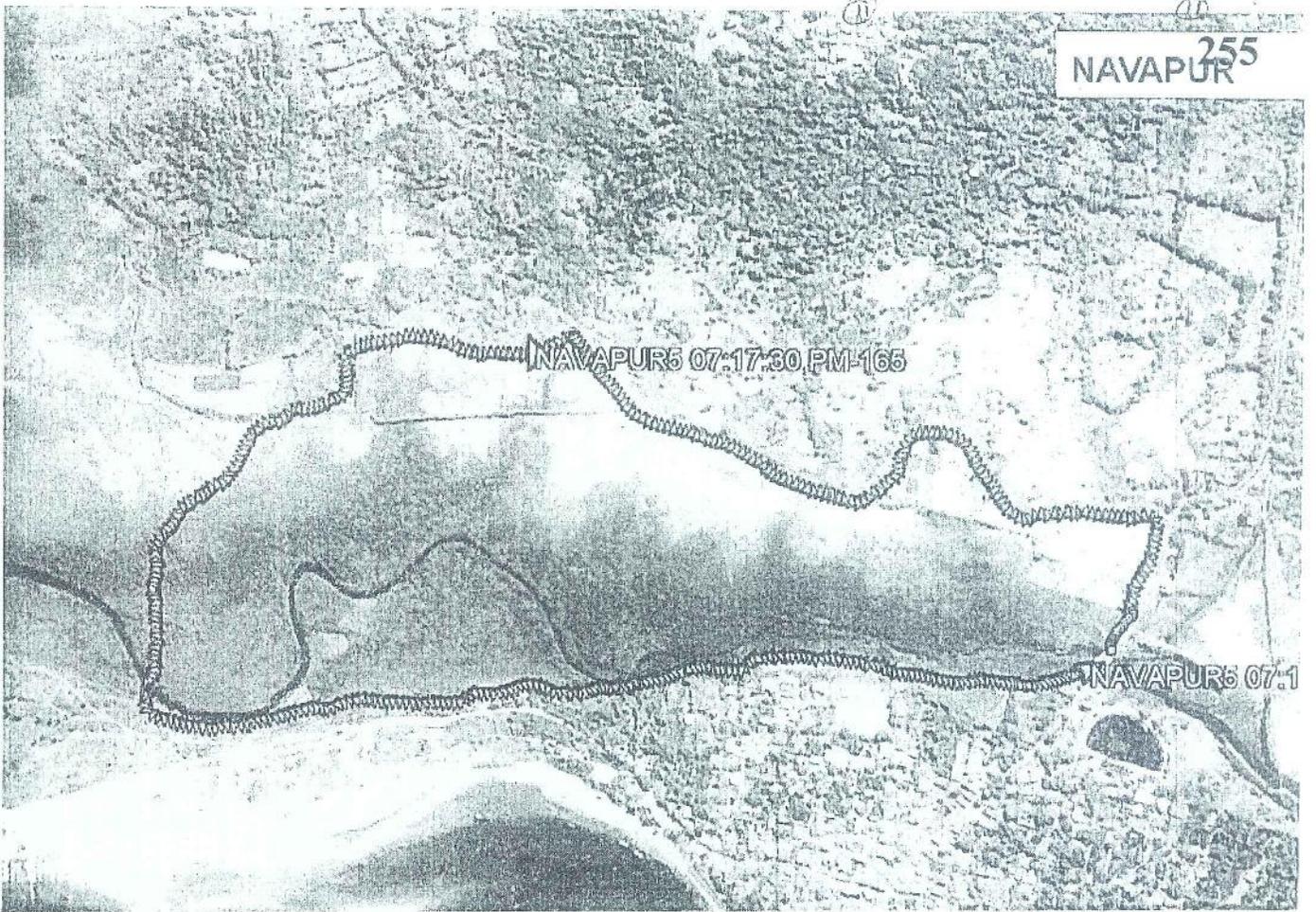
9 of 2500 & 253



Wif



Handwritten signature in blue ink.



Handwritten signature



12

12

256



W/S



Handwritten signature in blue ink.



EXHIBIT O



MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY
मुंबई महानगर प्रदेश विकास प्राधिकरण

623/115
127/15
258
7/9

No. ED/MTHL/EMP/STP/Pollution study consultancy/Status/16

Engineering Division
Date: 26.12.2016

To,
Dr. Anil Dikshit
Professor
Center for Environmental Science & Engineering,
Indian Institute of Technology Bombay,
Powai Mumbai - 100076
Email: dikshit@iitb.ac.in

Sub: Conducting Mahul creek pollution level study from IIT Mumbai for preparing proposal of setting out Effluent Treatment Plants as recommended in Mumbai Trans Harbour Link Project
- Request for reporting on progress of assignment

Ref: 1) MMRDA's LOA to IIT Mumbai issued vide T.O. letter dated 20.10.2016

Sir,

Your proposal regarding consultancy assignment vide letter dated 30.08.2016 along with Technical Proposal and cost estimate of Rs. 4.98 Crores (Plus ST as applicable) for subject work is accepted by MMRDA.

MMRDA has issued a Letter of Award (LOA) on 20.10.2016 with terms and conditions stipulated therein. MMRDA has also deposited 50% of total fees on 11.11.2016 amounting Rs. Rs. 2.49 Crore plus 15% service tax.

One of the conditions is of the phase-wise time schedule for submission of deliverables shall be communicated to this office pursuant to your proposal. Your phase-wise time schedule is still awaited.

You are requested to forward phase-wise time schedule and report on progress of assignment.

Yours faithfully,
(Signature)
(M. H. Paranjape)
Executive Engineer, MMRDA.

(Handwritten mark)



259



बैंक ऑफ महाराष्ट्र
Bank of Maharashtra

बंदरा (पूर्व) - 400 051
Bandra (East), Mumbai - 400 051.
IFSC - MAH0000164

BND

CBS

दिनांक
Date

1 1 1 1 2 0
D D M M

Pay: Registrar, IT Bombay, P & C A/c

या धारक को 0

रुपये Rupees 100 crore eighty six lakh thirty five
Thousand Only.

अक्ष करे। ₹ 2,86,35,000/-

ब्रांच
A/c No. 60259778998

ADU

[Signature]

[Signature]

Please sign above this line

⑈579288⑈ 400014043⑈

10

[Handwritten mark]



EXHIBIT P

260



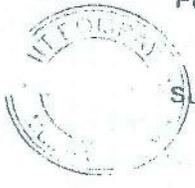
MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY मुंबई महानगर प्रदेश विकास प्राधिकरण

No ED/MTHL/EMP/Mahul Creek/Consultancy/Balance payment/17

Engineering Division
Date: 06.09.2017

7/9/17

To:
The Registrar,
IIT Bombay P&C a/c
Powai Mumbai - 100076



Sub: Mumbai Trans Harbour Link project
Conducting Mahul creek pollution level study from IIT Mumbai for preparing proposal of Effluent Treatment Plants as recommended by State Board of Wildlife (Maharashtra)

- Ref:
- 1) Your proposal to MMRDA regarding consultancy assignment vide letter dated 30.08.2016 along with Technical Proposal and cost estimate
 - 2) MMRDA's Letter of Award to IIT Mumbai issued vide letter dated 20.10.2016.
 - 3) Payment of Initial 50% Consultancy fees vide T.O. letter dated 11.11.2016
 - 4) Demand from IIT Mumbai from for releasing balance 50% payment as per TOR vide email dated 05.07.2017

Sir,
As per conditions of Consultancy assignment mutually agreed between IIT Mumbai and MMRDA, please find balance 50% of payment for assignment vide MMRDA's Cheque No. 427759 dated 28.08.2017 amounting Rs. 2,93,82,000/- (inclusive of 18% GST) drawn from Bank of Maharashtra payable at Mumbai. Please send acknowledgement of receipt to MMRDA for accounting purpose.

It is requested to complete the Consultancy assignment as per agreed terms and conditions immediately.

Yours faithfully,

Encl: Cheque No. 427759 (Original)

M. H. Paranjape
(M. H. Paranjape)

Executive Engineer, MMRDA.

Copy for information to:
Dr. Anil Dikshit, Professor
Center for Environmental Science & Engineering, Indian Institute of Technology Bombay, Powai
Mumbai - 100076 Email: dikshit@iitb.ac.in

Copy to:
CE (T)
AMC (K)

7/9/17

MS

261



बान्द्रा (पूर्व), मुंबई - 400 051
 BANDRA (EAST), MUMBAI - 400 051.
 IFSC MAHB0000164

JAD
 BND

Valid For Three Months From The Date Of Issue

2	9	0	9	2	0	1	7
D	D	M	M	Y	Y	Y	Y

A/c Payee Only
 Not Negotiable

Pay अदा करें **REGISTRAR, IIT BOMBAY, P&C A/C**

Or Order

Rupees रुपये **Two Crore Ninety Three Lakh Eighty Two Thousand Only**

या उनके आदेशपर

अदा करें।

₹ 2,93,82,000.00

खाता सं. A/c. No.	60259778998	CBS
----------------------	-------------	-----

For M M R D FUND

PAYABLE AT PAR AT ALL BRANCHES

Authorized Signatory

Please Sign above

Authorized Signatory

⑈427759⑈ 400014043⑈

10

Handwritten signature in blue ink.

EXHIBIT Q

262



Mangrove and Marine Biodiversity Conservation Foundation of Maharashtra

(An Autonomous Body under Revenue & Forests Department, Government of Maharashtra)
302, 3rd Floor, Wakefield House, Above Britannia & Co. Restaurant, Ballard Estate, Fort, Mumbai - 400001
Phone: 022 - 22694984 / 22694985, email id : ad.finance.mfn@gmail.com / mangrovefn@gmail.com

MFN/Finance/105/2020-21

Date: 11-09-2020

To,
Executive Engineer,
Mumbai Metropolitan Region Development Authority
Bandra Kurla Complex, Bandra (E)
Mumbai - 400051

Subject: Mumbai Trans Harbour Link (MTHL) Project - Details of Mangrove & Marine Biodiversity Conservation Plan, Nature Interpretation Centre and Corpus Fund referred in MTHL Project

Reference: Letter from your office - Letter No. ED/MTHL/CCF Mangroves/Master Conservation Plan/Status/20 PIU-MTHL dated 07-09-2020

Sir,

With reference to above letter following is the information on implementation of Master Plan by Mangrove Foundation:

Sr. No.	Particulars	Estimated Cost in Crore
1.	Creeklet drainage arrangement	INR 1.00
2.	Mangrove Research & Training Centre	INR 16.75
3.	Generation of Knowledge Base Study of the pressure on Mangrove Eco System in MMR	INR 1.00
4.	Mangrove Sanctuary	INR 4.60
5.	Mangrove & Marine Eco System Interpretation Centre	INR 10.0
6.	Mangrove Protection Framework	INR 22.96
7.	High Resolution Mapping of Mangrove Forests in MMR	INR 2.00
8.	Mangrove Conservation/Removal of Stressors	INR 3.00
9.	Corpus Fund to Mangrove Foundation	INR 25.00
	Total	INR 86.31 Crore

VPT (Signature)
Executive Director 11/9
Mangrove and Marine Biodiversity
Conservation Foundation of Maharashtra

WJ



MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY

मुंबई महानगर प्रदेश विकास प्राधिकरण

No. ED/MTHL/CCF Mangroves/Master Conservation Plan/ Payment/ 17 Engineering Division
Date: 19.04.2017.

To
Executive Director,
Mangroves and Marine Biodiversity
Conservation Foundation of Maharashtra
C/o The Chief Conservator of Forests (Mangroves),
A-Wing, 2nd Floor, SRA Building,
Anant Kanekar Marg, Bandra (E),
Mumbai -400051.

Sub: Mumbai Trans Harbour link (MTHL) project

- Payment to Mangroves and Marine Biodiversity Conservation Foundation of Maharashtra for implementation of Mangrove & Marine Biodiversity Conservation Plan, Nature interpretation Centre and Corpus Fund.

- Ref:**
- 1) MoEF's Stage-I approval to diversion of forest for MTHL project dated 22.01.2016.
 - 2) MoEF's CRZ clearance to MTHL project dated 25.01.2016.
 - 3) MMRDA's letters to CCF (Mangroves) dated 15.02.2016, 21/07/2016, 22.03.2017
 - 5) Letter from CCF (Mangrove Cell) dated 19.01.2017 along with Mangroves and Marine Biodiversity Conservation Plan for MTHL (enclosed separate 2 booklets)
 - 6) Your reply to MMRDA dated 12.04.2017

Sir,

You are aware that, MoEF has awarded CRZ clearance and In-Principle Forest Clearance to MTHL project subject to fulfilling the terms and conditions stated therein.

2. Accordingly, MMRDA had requested you to prepare proposal for Mangrove & Marine Biodiversity Conservation Plan, Nature interpretation Centre and Corpus Fund and raise demand to MMRDA for funds.

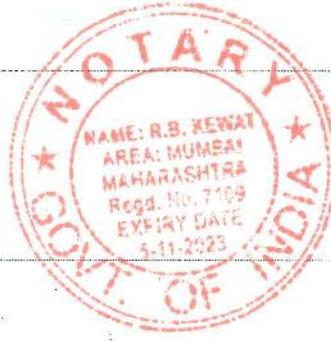
3. In response, you have submitted the Mangroves and Marine Biodiversity Conservation Plan, and raised the demand for funds as follows.

Sr No	Component	Cost	Reference in MTHL project.
i)	Mangrove Conservation Plan	Rs. 41.31 Cr	Stage-I Forest Clearance - Condition no. (xii)
ii)	Marine Biodiversity Plan	Rs. 10.05 Cr	Stage-I Forest Clearance Condition no. (xii)
iii)	Contribution to Corpus Fund of mangroves and Marine Biodiversity Conservation Foundation	Rs. 25.00 Cr	CRZ clearance by MoEF - Condition no. 8 in the EMP
iv)	Marine Interpretation Center at Airoli	Rs. 10.00 Cr	CRZ clearance by MoEF - Condition no. 11 in the EMP
	Total	Rs. 86.31 Cr	

Bandra - Kurla Complex, Bandra (East), Mumbai - 400 051.

EPABX : 2659 0001 - 04 / 2659 4000 • FAX : 2659 1264 • WEB SITE : <https://mmrda.maharashtra.gov.in>

WJ



264

4. In view of above, please find enclosed payment by cheque no. 218534 dated 18.04.2017 for an amount of Rs. 86,31,00,000/- drawn from Bank of Maharashtra. You are requested to acknowledge the receipt of the same.
5. Also, in view to fulfill auditory requirements, you are requested to submit;
- Quarterly progress report
 - Quarterly Utilization Certificate on use of funds.

Yours Faithfully,

(Signature)
(M. H. Paranjape)
Executive Engineer

Encl: Cheque no. 218534 dated 18.04.2017 (in Original)

Copy for information to:

CE (T)

(Signature)
लिपीक
मुख्य वनसंरक्षक (मॅगरोव्ज)
कांदळ्यन कक्ष, मुंबई.

Cheque received.

(Signature)



EXHIBIT R



MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY
मुंबई महानगर प्रदेश विकास प्राधिकरण

No. ED/MTHL/BNHS Assignment/Funds/Payment/17

Engineering Division

Date: 25/09/2017

To,

The Executive Director,

Mangroves and Marine Biodiversity Conservation Foundation Mumbai

C/o The Additional Principal Chief Conservator of Forests (Mangrove Cell),

A-Wing, 2nd Floor, SRA Building,

Anant Kanekar Marg, Bandra (E),

Mumbai -400051

Sub: Implementation of Flamingos & Birds related mitigation measures and birds' monitoring program for the Mumbai Trans Harbour Link (MTHL) project.

- Ref:**
1. MMRDA's Letter of Award to BNHS dated 15.05.2017.
 2. Modified instructions from CCF Thane Working Permission dated 28.06.2017.
 3. MMRDA's letters to Mangrove Foundation dated 06.07.2017 and 04.08.2017.
 4. Your reply dated 12.09.2017

Sir,

The Ministry of Environment and Forest (MoEF), on 22.01.2016, has awarded in-principle clearance for diversion of forest land to non-forest use for the Mumbai Trans Harbour Link (MTHL) project subject to fulfilling the terms and conditions stated in the clearance. On fulfilling the terms and conditions the Working Permission from Forest Department is issued on 22.05.2017. According to the amendment dated 28.06.2017 in the condition related to BNHS assignment in the Working Permission, MMRDA has been directed to deposit the amount of BNHS assignment to the "Mangrove & Marine Biodiversity Foundation Mumbai". The final accepted cost (negotiated) of BNHS assignment for 10 years period is Rs. 31,92,73,240/-.

2. You have clarified MMRDA vide your letter dated 12.09.2017 to deposit the total funds in lump-sum mode.
3. Accordingly, MMRDA is depositing Rs. 31,92,73,240/- (Full amount of assignment with BNHS) vide enclosed **Demand Draft No. 632710 dated 24.08.2017** drawn from Bank of Maharashtra. You are requested to acknowledge the receipt of the same.

Thanking you,

Yours Faithfully,

(M. H. Paranjape)
Executive Engineer

Encl: DD No. 632710 dated 24.08.2017
(in Original)

Bandra - Kurla Complex, Bandra (East), Mumbai - 400 051.

EPABX : 2659 0001 - 04 / 2659 4000 • FAX : 2659 1264 • WEB SITE : <https://mmrda.maharashtra.gov.in>

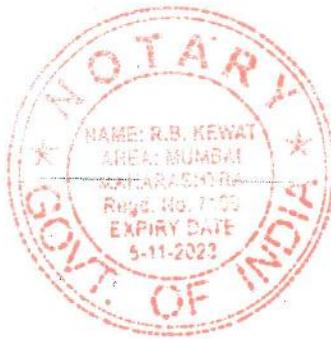


267

Copy submitted for information to:

- i) **The Secretary (Forests), GoM, 4th floor, Main bldg. Mantralaya, Mumbai 400032**
Fax: 22023624
- ii) **The Additional Principle Chief Conservator of Forest & Nodal Officer Maharashtra State, Nagpur**
- iii) **The Chief Conservator of the Forests, Near Micro Wave Tower, Bara Bungalow Area, Thane (East) – 400603. ccfthane@mahaforest.com**
- iv) **The Deputy Conservator of the Forests, Near Hirakaot Talav, Alibag, (Dist. Raigad) – 402201. dycfalibag@mahaforest.gov.in**

WKS



268

001001-MUMBAI-SERVICE BRANCH EAST

EXECUTIVE DIRECTOR MANGROVES SHARINE

BIODIVERSITY CONSERVATION FOUNDATION OF MAHARASHTRA

ON DEMAND PAY

RUPEES

Thirty One Crore Ninety Two Lakh

Seventy Three Thousand Two Hundred

Forty only.

FOR VALUE RECEIVED

**31,92,73,240.00

बैंक ऑफ महाराष्ट्र FOR BANK OF MAHARASHTRA

13LD1

बैंक ऑफ महाराष्ट्र BANK OF MAHARASHTRA

MJL-2015 01001-MUMBAI-SERVICE BRANCH

प्राधिकृत अधिकारी / AUTHORISED OFFICIAL/S

Please sign above

⑈ 632710 ⑈ 000014000⑈

1E

Handwritten mark



EXHIBIT S

269

Monitoring and Mitigating the Impacts of
Mumbai Trans-Harbour Link on Flamingos and
Other Avifauna and Formulating a Conservation
Blueprint for the Sewri–Nhava Seascape.

October 2019 to March 2020
Update

Submitted to

Mangrove and Marine Biodiversity Conservation Foundation of Maharashtra



Bombay Natural History Society
Hornbill House
Opp. Lion Gate
Dr. Salim Ali Chowk
S. B. S. Road, Fort
Mumbai 400001

Phone – 022 22821811

Fax – 022 2222837615

Website – www.bnhs.org

Email – director@bnhs.org



Recommended Citation:

Apte, D., R. Khot, S. Bajar, M. Prabhu, R. Pitale, S. Jain, K. Chandel, R. Muni, M. Shukla, N. Chaudhary, R. Duggal, B. Desai, S. Dalvi, & S. Bhawe (2019): Monitoring and mitigating the impacts of Mumbai Trans-Harbour Link on flamingos and other avifauna and formulating a conservation blueprint for the Sewri–Nhava seascape. Half yearly report (October 2019 to March 2020). Submitted to Mangrove and Marine Biodiversity Conservation Foundation of Maharashtra, pp. 1-56.

Acknowledgement

We are thankful to PCCF Maharashtra Forest Department, for providing bird ringing and flagging permissions, Shri. N Vasudevan (IFS) and Shri. Virendra Tiwari (IFS) APCCF and Director Mangrove and Marine Biodiversity Conservation Foundation of Maharashtra and his team, MD and Executive Engineer of MMRDA, Commissioner of Police, Mumbai and Navi Mumbai for their respective permissions and cooperation to execute the project. We would like to extend our thanks to following BNHS staff Mr. Vishwas Shinde, Mr. Rajendra Pawar, Mr. Vikas Pisal, Mr. Ashok Pisal, Mr. Akash Patil, Mr. Vithoba Hegde, Mr Shyam Jadhav, Administration and Account department BNHS for their constant support and assistance during the field work and day to day functioning of the project work

© 2020 Bombay Natural History Society All rights reserved. This report shall not be reproduced either in full or in part in any form without the prior written permission of the Bombay Natural History Society / Mangrove and Marine Biodiversity Conservation Foundation of Maharashtra/MMRDA

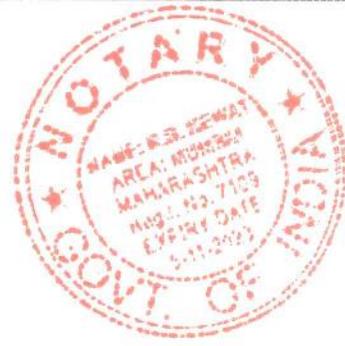
MS



Disclaimer

The observations represented in this report are based on study duration mentioned in the report. The observations may change or vary depending upon on further surveys.

WJ



Contents

Summary	4
1. Methodology	5
1.1 Study site	5
2. Bird sampling	5
2.1 Bird counts	5
2.2 Bird Behavior	6
2.3 Bird ringing	8
3. Observations	9
3.1 Wetland count survey (WCS)	9
3.3 Flamingo Census (FCS)	14
3.4 Bird Behavior	15
3.5 Bird ringing	22
4. Benthic Fauna	25
5. Methodology	26
6 Results	27
6.1 Thane Creek	27
6.2 Subtidal	33
References	43
Appendix 1. Photo Plates	47
Annexure 1. Checklist of birds recorded from Oct 2019-Mar 2020.	53

WJ



Summary

During October 2019 to March 2020, the abundance and distribution of flamingos and other avifauna were estimated by conducting various population monitoring surveys at different wintering sites. Additionally, the behavioral surveys carried out at different high-tide roosting and low-tide feeding sites shed some light on the behavioral response of shorebirds especially towards disturbances at the construction sites. Simultaneously, bird ringing sessions were also carried out at different roosting sites to understand avifaunal migratory patterns. We also collected and analyzed macrobenthos and plankton samples from the study area.



1. Methodology

1.1 Study site

This study was carried out in four inland wetland sites (high tide roosting sites) that includes Training Ship Chanakya (TSC), Bhandup Pumping Station (BPS), Non-Residential Indian (NRI) complex and Belpada mangrove and three mudflat sites (low tide feeding sites) - Thane Creek, mudflats of Sewri and Nhava-Sheva.

2. Bird sampling

2.1 Bird counts

The total count method was used for sampling birds (Bibby et al., 1998) and adopted different sampling strategies for wetlands, creek and flamingos, viz., wetland count surveys (WCS), transect count surveys (TCS) and flamingo count surveys (FCS).

WETLAND COUNT SURVEYS (WCS): Surveys were conducted simultaneously in all four wetlands during the high tide timings when shorebirds inhabit the inland wetlands for their roosting purpose. The total number of birds observed was counted an hour before and after the high tide. The count was taken for three consecutive days and an average estimation of the total population was calculated.

TRANSECT COUNT SURVEYS (TCS): In TCS, all the species of birds observed in the creek were recorded and their population was estimated. before the commencement of the census, almost the whole of the Thane Creek was divided into 40 transects that differed by a distance of 1 Km. These transects were allotted to a team of researchers, who surveyed it on hand rowed boats. Whereas, ground surveys were carried out at Sewri and Nhava-Sheva jetties. Observer counted and estimated the bird population using Nikon binoculars. Low tide timings were preferred for these counts when the birds feed on the exposed mudflats.

FLAMINGO COUNT SURVEYS (FCS): The census was carried out on three consecutive days in a month to know the abundance of Lesser Flamingo (*Phoeniconaias minor*) and Greater Flamingo (*Phoenicopterus roseus*) by conducting boat surveys at Thane Creek and ground surveys at Sewri and Nhava-

WJ



Sheva jetties during low tide. The eastern and western banks of the Creek were divided into 40 transects. Before the census, the Creek was divided into eight stations (each having respective transect IDs): 1. Airoli to Vitava (East), 2. Airoli to Vitava (West), 3. Ghansoli to Airoli (East), 4. Ghansoli to Airoli (West), 5. Ghansoli to Vashi (East), 6. Ghansoli to Vashi (West), 7. Vashi to NRI (East), 8. Vashi to Trombay (West).

The simultaneous counts were taken by direct observations using binoculars by multiple teams of researchers and assistants in hand rowed boats. Observer from each team independently counted and estimated the numbers of birds using blocks of 100, 500, 1000, etc. according to the size of the flock (Bibby, et al. 1998).

2.2 Bird Behavior

To study the behavioral ecology of shorebirds, particularly in response to disturbances, the study sites were divided into 3 categories - Roosting, Feeding, and Construction. Roosting sites include four inland wetlands (high tide dependent) - Training Ship Chanakya (TSC), Bhandup pumping station (BPS), Non-Residential Indian (NRI) complex and Belpada mangrove. Thane Creek is considered a feeding site as it provides a huge area of exposed mudflats that are rich in cyanobacteria and marine benthic fauna during low tide. Sewri and Nhava-Sheva are the construction sites where behavioral surveys were conducted to study bird response to construction activities happening due to Nhava- Sheva sea link construction.

The target species for behavioral observations were decided beforehand based on their abundance within the study sites. These species have been utilizing these sites as their wintering grounds for many years. The species are as follows;

1. Black-tailed Godwit (*Limosa limosa*)
2. Common Greenshank (*Tringa nebularia*)
3. Common Redshank (*Tringa totanus*)
4. Curlew Sandpiper (*Calidris ferruginea*)
5. Lesser Sandplover (*Charadrius mongolus*)
6. Little Stint (*Calidris minuta*)

WS



7. Eurasian Curlew (*Numenius arquata*)
8. Whimbrel (*Numenius phaeopus*)
9. Greater Flamingo (*Phoenicopterus roseus*)
10. Lesser Flamingo (*Phoeniconaias minor*)
11. Pied Avocet (*Recurvirostra avosetta*)

We have classified the behaviour into 11 major categories (Bensaci *et al.*, 2015; Eduardo, G., & G. A. Baldassarre, 1997; Felicity, A., & Baldassarre, G. A., 1995; Kumssa, T., & A. Bekele, 2014) viz. Feeding, Movement, Maintenance, Resting, Vigilance, Aggression, Defecation, Flying out, Alert, Courtship, and Standing.

As the behavioral study is aimed to understand the response of target species towards disturbances, the disturbance sources have also been grouped into human disturbances, avian predators, other animals, and vehicle categories. Human disturbances include bird watchers, fishermen, construction activities, etc. Avian predators include Black Kite (*Milvus migrans*), Osprey (*Pandion haliaetus*), etc. Vehicular disturbances include aircraft, trains, boats, traffic noise, etc. Other animals include dogs, cattle, etc. Noticeably, most of these disturbances are occurring at the roosting, feeding, and construction sites continuously. Hence, it needs to be monitored for further implementation for the conservation of migratory species.

Following covariates were also noted while behavioural video recording:

- Total duration of disturbance
- Distance between the disturbance source and focal bird
- Distance between the focal bird and observer
- Flock size and composition

We adopted Focal Animal Sampling (Altmann, 1973) for understanding the behavioral ecology of shorebirds. Focal individuals were selected arbitrarily and videotaped for 1 minute. As far as possible, different focal birds were selected for subsequent observations. In cases where a few individuals of a species were present,

Ush



there was a 5 minutes interval between two observations of the same individual. Each observation was treated as independent during transcribing.

The observations were carried out at least one hour before high tide at roosting sites while one hour before low tide at feeding and construction sites. Videos were also recorded if the birds were present even after the high or low tides within the study area.

Videos were transcribed using BORIS v.7.5.3. (Friard & Gamba 2016). An ethogram was created for the behavior of birds in BORIS to assess the time spent by individuals in each activity. We took behaviors or events of short duration, such as defecation and flying out, as point events in the ethogram. Other long-duration behaviors were considered as state events. A state event for no observation was also created in the ethogram which was used when the focal individual was out of the frame. Videos having more than 10 seconds of no observation were discarded during transcribing.

2.3 Bird ringing

Bird ringing was conducted between November 2019 and March 2020 at high tide roosting sites viz., TSC Wetland, NRI wetland, and saltpans around BPS. We used 3-4 wader nets (size 11.5 cm; dimensions 2m × 100m) for capturing birds for ringing. Three to four nets were deployed considering water depth, wind direction, and movement of the waders. Birds were extracted from the nets by experienced trappers and then ringed by experienced ringers to minimise stress and injury to birds. We followed the Indian Bird Banding Manual (Balachandran. S., 2002) for ringing and recording morphology and morphometry of the waders.

In this entire period, from October to March, we could not conduct some of the surveys due to the rain, rough sea condition, and COVID 19 pandemic (Table 1)



Table 1 Summary of surveys conducted in six consecutive months

Surveys	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020
Wetland count Survey	3 (Dates; 08, 09, 10)	3 (Dates; 07, 09, 10)	3 (Dates; 07, 08, 09)	3 (Dates; 07, 08, 09)	3 (Dates; 09, 10, 11)	NA
Transect count survey	1 (Dates; 05, 06)	1 (Dates; 02, 03, 04, 05, 06, 09, 10)	1 (Dates; 10, 11, 17, 18, 19, 20, 21)	1 (Dates; 14, 15, 16, 17, 18, 19, 20)	1 (Dates; 12, 13, 14, 15, 16, 17, 18)	1 (Dates; 12, 13, 14, 15, 16)
Flamingo census	1 (Date; 03)	NA	3 (Dates; 02, 03, 04)	3 (Dates; 02, 03, 04)	3 (Dates; 04, 05, 06)	3 (Dates; 03, 04, 05)
Behavioural survey	14 (Dates; 02, 04, 07, 10, 11, 14, 15, 16, 17, 18, 23, 24, 25, 31)	6 (Dates; 01, 07, 09, 10, 12, 26)	8 (Dates; 07, 08, 09, 10, 13, 28, 29, 30)	13 (Dates; 03, 04, 08, 09, 20, 28, 29, 30, 31)	11 (Dates; 02, 03, 17, 18, 19, 20, 25, 26, 27, 28)	6 (Dates; 03, 04, 07, 09)
Ringling sessions	NA	8 (Dates; 03, 06, 07, 08, 09, 10, 11, 12)	9 (Dates; 08, 09, 10, 11, 12, 13, 26, 27, 28)	10 (Dates; 10, 11, 12, 13, 20, 21, 22, 23, 24, 25)	15 (Dates; 3, 4, 5, 6, 7, 8, 10, 18, 19, 20, 21, 22, 23, 24, 25)	5 (Dates; 6, 7, 8, 11, 13)

3. Observations

3.1 Wetland count survey (WCS)

The total number of species recorded from the inland wetlands was 74; 46 migratory (including 27 wader species) and 28 non-migratory species. The observations revealed a gradual increase in avifaunal species richness and abundance throughout the six months. The maximum population was recorded 30188 individuals (of 50 species) in February 2020 and the minimum was recorded 2454 individuals (of 46 species) in November 2019 (Table 2).



Table 2 Species richness and maximum population recorded in all inland wetlands

	Oct, 19	Nov, 19	Dec, 19	Jan, 20	Feb, 20
Total species richness	40	46	49	50	50
Total migratory species richness	26	29	30	31	31
Total resident species richness	14	17	19	19	19
Total no. of individuals	26057	2454	4736	13013	30188
Total no. of migratory individuals	25674	2145	4236	12387	29393

The species richness of migratory birds has increased from October 2019 to February 2020 with the highest of 31 species in February. It was observed that the diversity of migrants has shown a distinct pattern in different inland wetlands. In BPS, the species richness increased and decreased for alternate months with an average of at least 28 species. There was a sharp decline in the population at BPS between October and November 2019. Afterward, it increased gradually till February 2020. A gradual increase in the species richness was observed at NRI from October 2019 to February 2020 with the highest species richness (31) recorded in February 2020. From November 2019 to January 2020 the species richness and the population visiting TSC increased and then the numbers dropped from February 2020. In Belpada, it increased from October-November, 2019, and remained more or less the same till January 2020. Later, a drop in species richness was noticed in February 2020 (Table 3 & 4).



Table 3 Species richness recorded in five consecutive months at different inland wetlands

	BPS	NRI	TSC	Belpada
Oct 2019	26	22	23	21
Nov 2019	25	25	30	25
Dec 2019	31	28	29	25
Jan 2020	29	27	32	26
Feb 2020	31	31	27	21
Average	28	27	28	24

Table 4 Average (maximum-minimum) estimated individuals of migratory birds (excluding flamingos)

Site	Oct, 19	Nov, 19	Dec, 19	Jan, 20	Feb, 20
BPS	19353(25041-15189)	56(64-40)	1883(2860-1293)	1500(1789-1115)	7495(15630-1696)
NRI	128(154-102)	553(681-328)	221(253-201)	3415(4141-2225)	8733(12505-5215)
TSC	157(185-123)	753(1179-511)	623(712-574)	3053(5615-873)	922(1093-712)
Belpada	110(294-16)	159(221-119)	350(411-274)	586(842-329)	152(165-133)

Since last year (October 2018-March, 2019), both diversity and abundance have declined in the wetlands. Several factors may have caused this. For instance, firstly, Panje was one of the larger wetlands, used to support a huge population of migrants. Now, as Panje is disturbed due to inconstant water flow. It can be assumed that the avifauna that was coming to Panje, might have started using the other suitable sites. Secondly, the fluctuations in water level due to rain and human control were making

WJ



wetlands unsuitable for roosting. Thirdly, BPS, where the highest number of species was recorded, became highly disturbed due to salt extraction during November-February.

During this period, a single individual of one of the rare birds was recorded from BPS; Long-billed Dowitcher (*Limnodromus scolopaceus*) between January and March 2020. This species was also reported by bird photographers in 2017 from mudflats of BPS channel in the Thane Creek.

3.2 Transect count survey (TCS)

In all, a total population of 18650 and 59754 individuals of avifauna (excluding flamingos) were estimated in November and December respectively. These populations comprised 16864 and 57527 individuals of migrants (including waterbirds and raptors) recorded in their respective months. A remarkable increase was observed in the estimated population of January and February i.e., 87984 and 94224 individuals respectively. Among these, 86335 and 93142 were migratory shorebirds and raptors in their respective months. Comparatively, a slight decline was seen in avifaunal abundance in March. Results indicate that a significant addition of numbers was found in the population of waders between November and January. Notably, Little Stint was the most abundant wader species throughout the survey with the highest count (39992) recorded in January. Whereas, Green Sandpiper, Wood Sandpiper, Ruddy Turnstone and Whimbrel were the least counted waders in different months. (Table 5).



Table 5 Species richness and abundance recorded in the Thane Creek

Site	Thane Creek					
	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20
Months						
Total species number	NA	44	50	51	50	45
Total number of migratory species recorded	NA	29	34	32	35	30
Total number of resident species recorded	NA	15	16	19	15	15
Total population recorded	NA	18650	59754	87984	94224	77240
Total population of migrants	NA	16864	57527	86335	93142	75466
Total population of residents	NA	1786	2227	1649	1082	1774

By contrast, results showed that mudflats of Sewri and Nhava-Sheva supported lower species richness and abundance of migratory as well as resident birds throughout the survey period (Table 6).

Table 6 Species richness and abundance recorded in Sewri and Nhava-Sheva mudflats

Site	Sewri mudflat						Nhava-Sheva mudflat					
	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20
Total species number	11	14	19	17	15	NA	12	10	12	13	19	NA
Migratory species	8	8	11	10	10	NA	7	5	7	7	8	NA
Resident species	3	6	8	7	5	NA	5	5	5	6	11	NA
Total population	341	1053	227	1410	8305	NA	222	161	322	2642	4500	NA
Migratory population	318	1011	156	1340	8249	NA	136	12	198	2518	4340	NA
Resident population	23	42	71	70	56	NA	86	149	4	124	160	NA



3.3 Flamingo Census (FCS)

In FCS, we estimated the abundance and distribution of Greater flamingos and Lesser flamingos in the Thane Creek, Sewri and Nhava-Sheva mudflats. Due to prolonged monsoon we could survey once in October. Later we sampled for three consecutive days of every month till March 2020. Initially, in Thane Creek, we counted fewer Greater flamingos, 835 individuals in October which increased to 29219 individuals in March 2020. Lesser Flamingo count on the other hand was nil in October which increased to 61,802 in March 2020. Observations showed that the subadult population of both species was comparatively less than adults during the entire survey (Table 7).

Table 7 Population of flamingo species recorded from the Thane Creek

	Age	Thane creek					
		Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20
Greater flamingo	Adult	26	NA	4287	7020	16710	23671
	Sub-Adult	809	NA	1128	1108	8353	5548
	Total	835	NA	5415	8128	25063	29219
Lesser flamingo	Adult	0	NA	9	10357	26770	53462
	Sub-Adult	0	NA	1	4145	7735	8340
	Total	0	NA	10	14502	34505	61802

Results revealed both populations of Greater and Lesser flamingos inhabited the mudflats of the East bank throughout this period of surveys, mainly congregated towards upstream, near Ghansoli channel (Tr IDs; T1-T2 & T37-T40) and downstream regions (Tr IDs; T35-T36 & T29-T34). Later, from January till March, it was observed that the abundance of flamingos was also distributed abundantly over the mudflats of the West bank towards upstream-downstream regions (Tr IDs; T14-T18 & T26).



284

It was observed that relatively fewer Greater and Lesser flamingos inhabited the mudflats of Sewri and Nhava-Sheva from January to March (Table 8).

Table 8 Population of flamingo species recorded from Sewri and Nhava-Sheva mudflats during FCS

Species	Age	Sewri mudflat						Nhava-Sheva mudflat					
		Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20
GF	Adult	NA	NA	NA	0	NA	287	NA	NA	NA	0	NA	1500
	Sub-Adult	NA	NA	NA	0	NA	0	NA	NA	NA	0	NA	0
	Total	NA	NA	NA	0	NA	287	NA	NA	NA	0	NA	1500
LF	Adult	NA	NA	NA	2335	NA	2838	NA	NA	NA	0	NA	25
	Sub-Adult	NA	NA	NA	2060	NA	1268	NA	NA	NA	0	NA	0
	Total	NA	NA	NA	4395	NA	4106	NA	NA	NA	0	NA	25

3.4 Bird Behavior

A total of 3017 observations were recorded from October 2019 to March 2020 and 1071 observations have been transcribed in BORIS (Table 9). A monthly and species wise number of observations for each site category is given in Table 10. Pied avocets were not seen at construction sites whereas Whimbrel was not seen at any of the sites during behavioral surveys.

Table 9 Number of observations in each site category

Site category	Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20
Roosting	316	148	239	126	219	172
Feeding	386	0	492	157	188	0
Construction	0	80	20	340	114	20



Table 10 Species wise number of observations in each site category

Species	Feeding	Roosting	Construction
Black-tailed Godwit	178	88	5
Common Greenshank	14	173	23
Common Redshank	151	203	142
Curlew Sandpiper	130	83	42
Eurasian Curlew	22	218	50
Greater Flamingo	140	119	26
Lesser Sandplover	145	16	70
Little Stint	183	115	25
Whimbrel	0	0	0
Lesser Flamingo	120	184	191
Pied Avocet	140	21	0

The behavior surveys were started from September 2019 and September to November was considered as the post-monsoon season, December to February as winter and March to May as summer season. Here we have plotted the activity budget of species that had a minimum of 30 observations during post-monsoon season. These species include Common Redshank, Little Stint, Eurasian Curlew, Black-tailed Godwit, Common Greenshank, Curlew Sandpiper, Greater Flamingo, and Lesser Sand Plover. Out of these species, only Common Redshank has a minimum of 30 observations at each site category i.e. feeding, roosting, and construction sites. Little Stint and Curlew Sandpiper have it on feeding and roosting sites. The rest of the species have their activity budgets plotted only at one of the site categories.

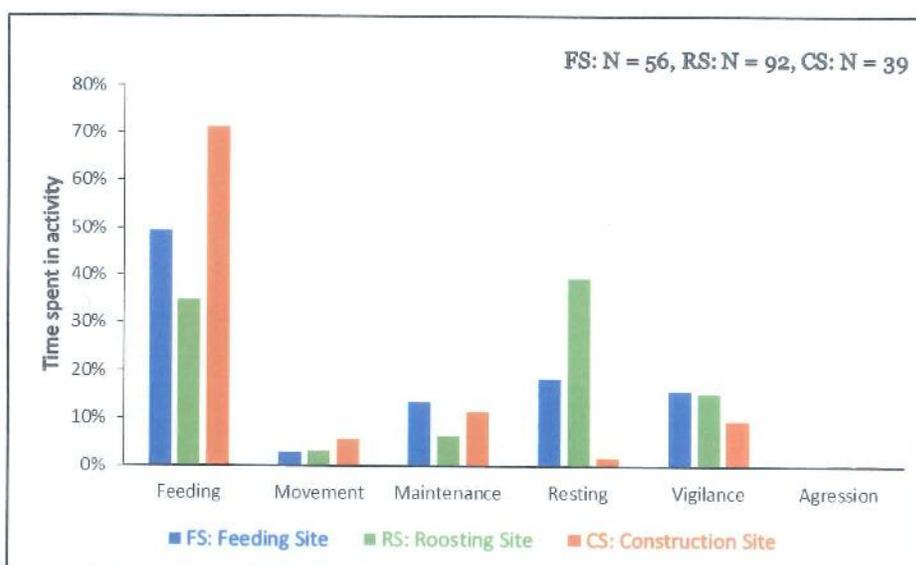
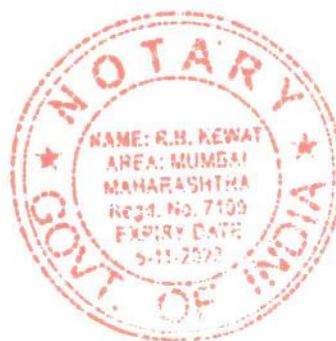


Figure 1 Activity budget of Common Redshank at feeding, roosting, and construction sites

Fig 1: shows the activity budget of Common Redshank at all of the sites and we can see that it spends most of its time feeding at construction (Sewri and Nhava-Sheva). The mudflats of Sewri and Nhava-Sheva provide one of the major foraging grounds for these birds. The proportion of time spent in feeding by Common Redshank is higher at construction sites as compared to feeding and roosting sites. Whereas, time spent in vigilance is lower at construction sites than that of feeding and roosting sites. This suggests that this species is not affected by the construction activities and may have habituated to such anthropogenic activities. Birds can become habituated to disturbances (Fitzpatrick & Bouchez, 1998) because birds can learn and identify the predictable patterns of human activities that do not pose any threat to them (Burger, 1989; Burger & Gochfeld, 1991). Similar results were observed for Common Redshank by Rosli & Nor Atiqah, 2017 where the birds ignored sound produced by vehicles and continued feeding until the vehicles came very close. It has also been observed during the behavior surveys that other waders also come as close as up to 5 meters to the under-construction bridge. However, we have seen a decline in the wader population at the construction sites. So even though the birds are getting

ukf



accustomed to the construction, the construction activities could still be impacting the overall population of waders. If this impact is temporary or permanent can be inferred only after 5 years of post-construction monitoring. The impact of disturbance on the populations of birds also depends upon the availability of an alternative habitat (Burton, 2003). The decision for moving to a new site depends on the availability and quality of the new site (Ydenberg and Dill, 1986). However, in some cases, birds might continue to feed in areas where the food is sufficient even in the presence of human disturbances (Rosli & Nor Atiqah, 2017), as seen in the case of Common Redshank at construction sites. This is done to optimize the energy expenditure as flying to a new foraging site will require more energy (Lafferty, 2001).

Waders such as Little Stint, Black-tailed Godwit, Curlew Sandpiper, Lesser Sand Plover and Common Greenshank were almost equally engaged in resting and vigilance at the roosting sites indicating a high degree of predation and disturbance at these sites (Fig 2, 3, 4, 5, 6 & 7). Spending much time in vigilance at roosting sites can negatively impact the fitness of these birds as it reduces the time available for fitness-enhancing activities such as resting, maintenance, and foraging (Fritz, 2002). This can also increase their energy expenditure which can affect their ability to build fat reserves to fulfill their annual cycle of moult, migration, and breeding (Spencer, 2010). In the case of Greater Flamingo at roosting sites, it spent most of its time on maintenance followed by feeding and vigilance indicating that it is not affected by the disturbances, unlike the smaller waders. The flamingos may have habituated to the human disturbances and avian predators such as Black Kites and Marsh Harriers pose no threat to these large birds (Fig 8). All these species also devote much of their time in feeding at the feeding sites followed by maintenance and vigilance as seen in the graphs.

A handwritten signature in blue ink, appearing to be 'Vij'.

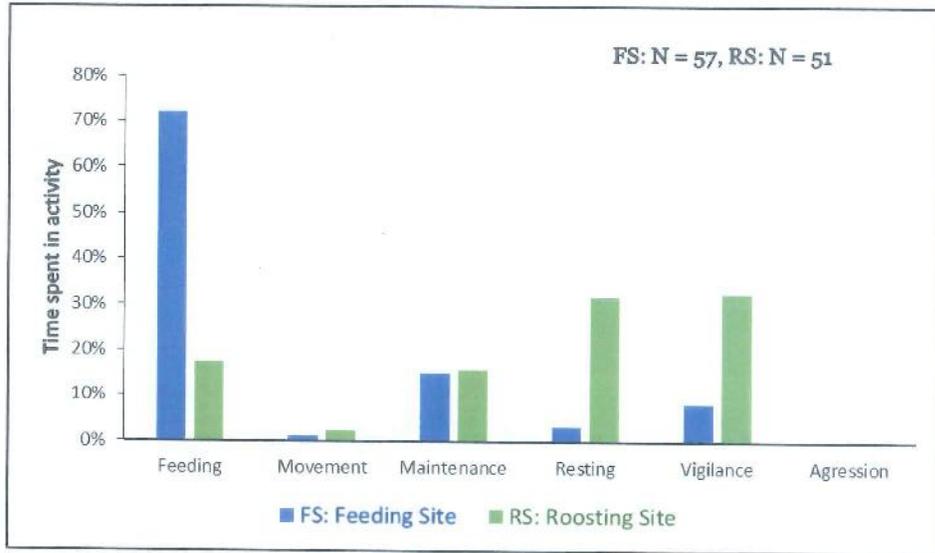


Figure 2 Activity budget of Little Stint at feeding and roosting site

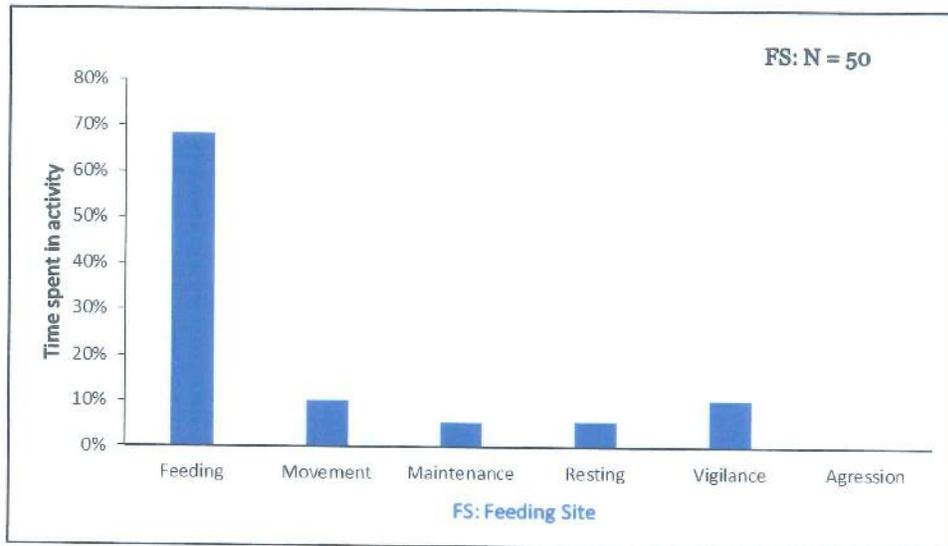


Figure 3 Activity budget of Black-tailed Godwit at feeding site

Handwritten signature

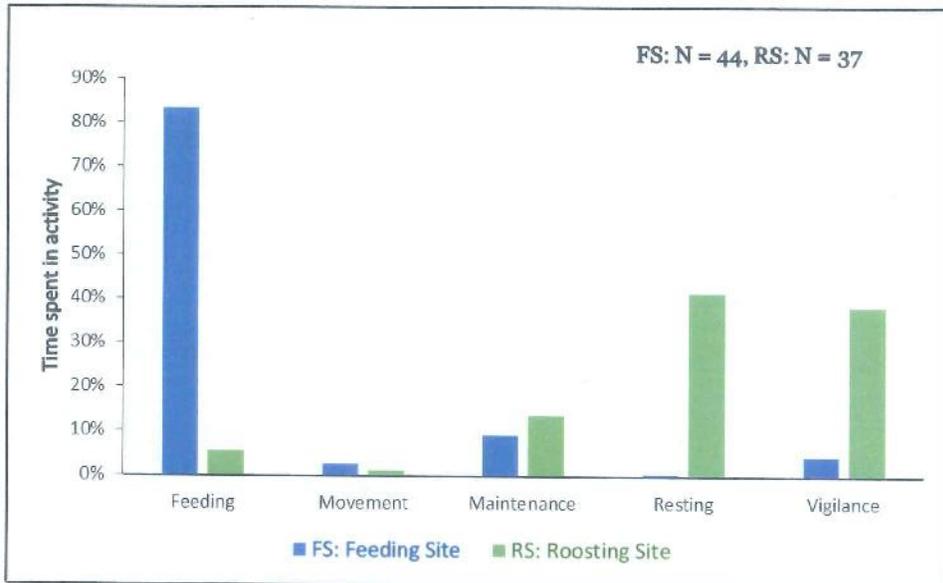


Figure 4 Activity budget of Curlew Sandpiper at feeding and roosting sites

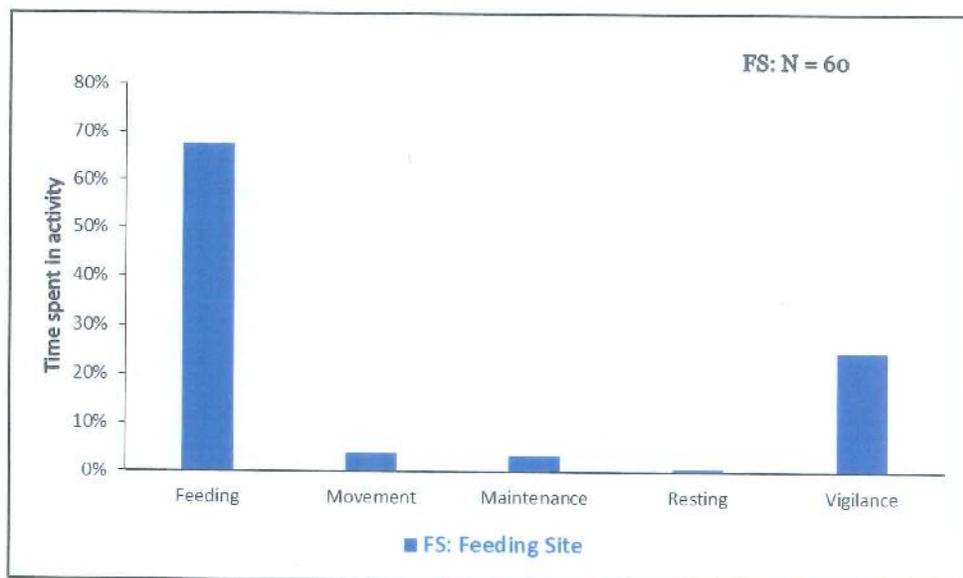


Figure 5 Activity budget of Lesser Sand Plover at feeding site

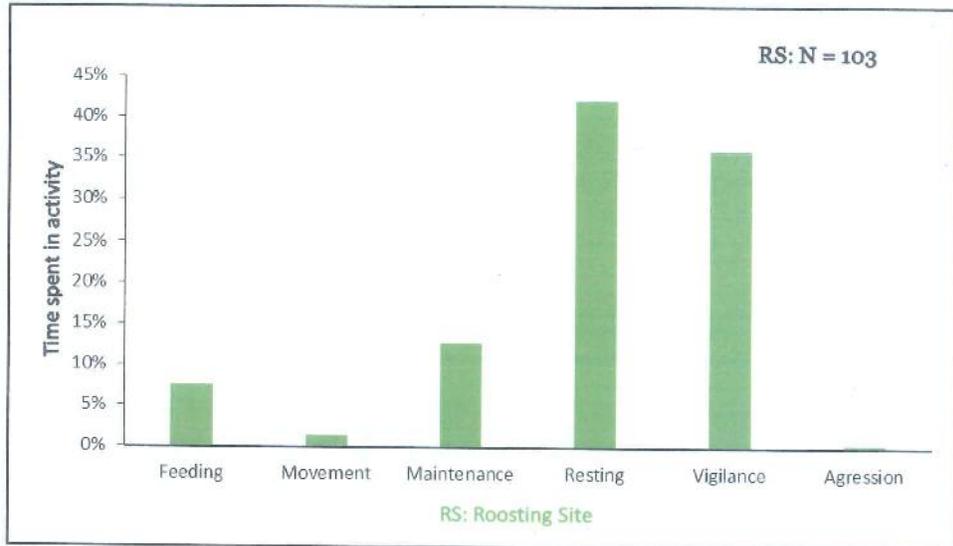
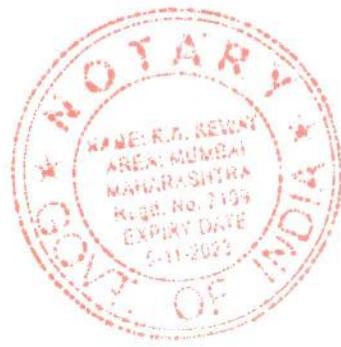


Figure 6 Activity budget of Common Greenshank at roosting site

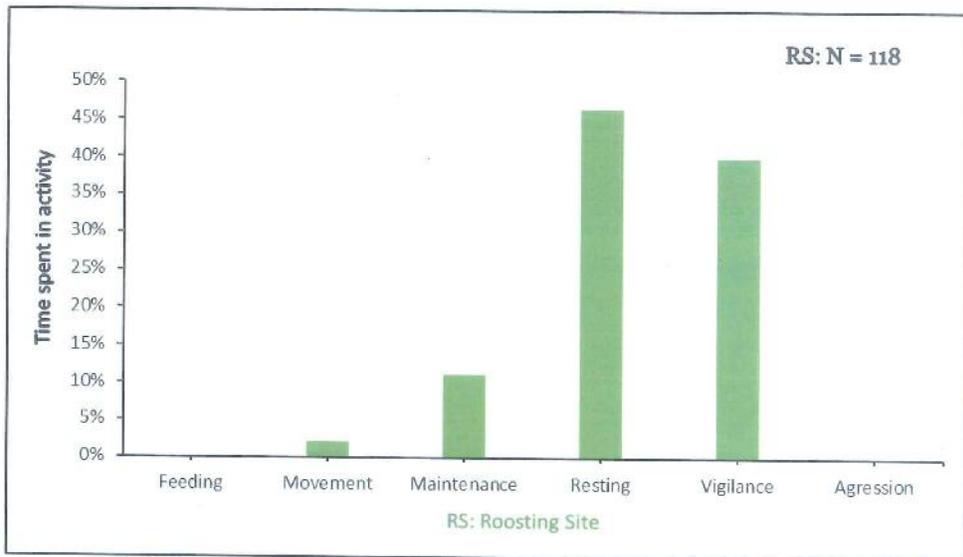


Figure 7 Activity budget of Eurasian curlew at roosting site

YKS

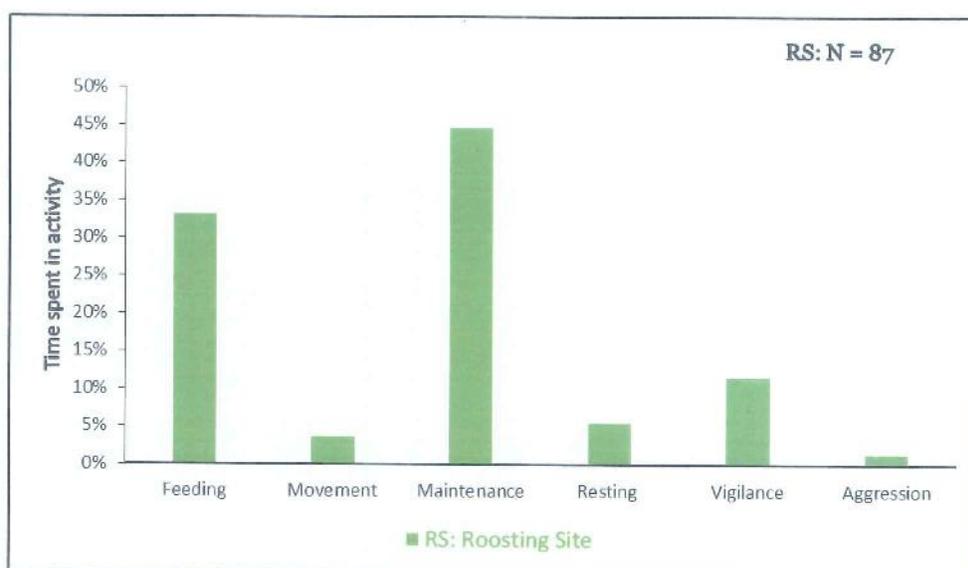
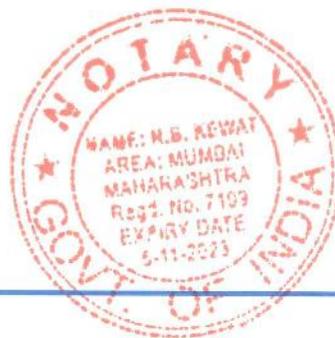


Figure 8 Activity budget of Greater Flamingo at the roosting site

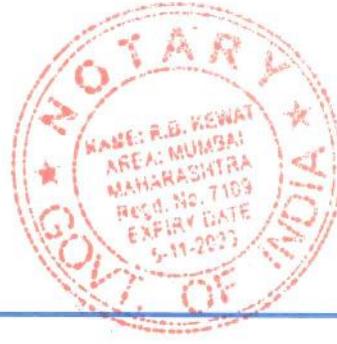
3.5 Bird ringing

We conducted 49 trapping sessions from September 2019 to March 2020. All these trapping sessions were done mainly at two sites BPS and TSC. We were successful in trapping 5356 birds during these sessions of which 5318 were small waders and 38 Flamingos. We also got 385 recaptures during these trapping sessions. Details are as below.

Table 11 Ringing and colour flagging details

Date of ringing session	No. of Individual s ringed	Recapture s	Recaptured Species
3-11-2019	51	8	7 Common Redshank, 1 Curlew Sandpiper
6-11-2019	94	21	17 Common Redshank, 1 Green Shank, 2 Lesser Sand Plover, 1 Curlew Sandpiper
7-11-2019	101	13	8 Common Redshank, 1 Little Stint, 4 Curlew Sandpiper
8-11-2019	23	3	3 Common Redshank
9-11-2019	170	1	1 Common Redshank

WKS



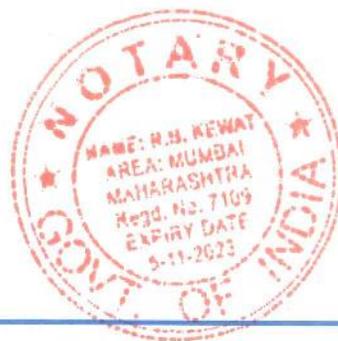
292

10-11-2019	147	1	1 Terek Sandpiper
11-11-2019	111	0	
12-11-2019	136	11	2 Curlew Sandpiper, 1 Little Stint, 8 Common Redshank
8-12-2019	287	7	4 Terek Sandpiper, 2 Lesser Sand Plover, 1 Curlew Sandpiper
9-12-2019	269	5	3 Terek Sandpiper, 1 Little Stint, 1 Lesser Sand Plover
10-12-2019	197	9	7 Common Redshank, 1 Curlew Sandpiper, 1 Terek Sandpiper
11-12-2019	121	7	3 Curlew Sandpiper, 3 Common Redshank 1 Lesser Sand Plover
12-12-2019	152	5	3 Lesser Sand Plover, 1 Common Sandpiper, 1 Little Stint
13-12-2019	156	11	2 Terek Sandpiper, 1 Common Redshank, 2 Lesser Sand Plover, 6 Little Stint
26-12-2019	94	0	
27-12-2019	45	0	
28-12-2019	180	2	1 Common Redshank, 1 Lesser Sand plover
10-1-2020	151	5	4 Common Sandpiper, 1 Terek Sandpiper
11-1-2020	14	0	
12-1-2020	36	6	5 Common Redshank, 1 Lesser Sand Plover
13-1-2020	170	6	3 Common Redshank, 2 Terek Sandpiper, 1 Curlew Sandpiper
20-1-2020	149	14	1 Common Redshank, 1 Common Sandpiper, 4 Lesser Sand Plover, 2 Little Stint, 6 Terek Sandpiper
21-1-2020	144	7	4 Common Sandpiper, 2 Lesser Sand Plover, 1 Little Stint
22-1-2020	139	9	5 Common Redshank, 3 Curlew Sandpiper, 1 Terek Sandpiper
23-1-2020	91	5	2 Terek Sandpiper, 1 Common Redshank, 2 Curlew Sandpiper
24-1-2020	88	0	
25-1-2020	136	11	3 Common Sandpiper, 3 Curlew Sandpiper, 2 Lesser Sand Plover, 3 Little Stint
3-2-2020	139	06	2 Little Stint, 1 Kentish Plover, 1 Lesser Sand Plover, 1 Curlew Sandpiper, 1 Terek Sandpiper



293

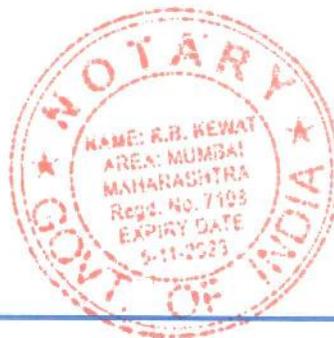
4-02-2020	117	2	1 Lesser Sand Plover, 1 Curlew Sandpiper
5-02-2020	76	11	7 Curlew Sandpiper, 4 Common Redshank
6-02-2020	76	28	19 Common Redshank, 3 Lesser Sand Plover, 1 Little Stint, 5 Curlew Sandpiper
7-02-2020	13	0	
8-02-2020	67	0	
10-02-2020	103	8	3 Terek Sandpiper, 1 Little Stint, 1 Common Redshank, 1 Lesser Sand Plover, 1 Common Sandpiper, 1 Curlew Sandpiper
18-02-2020	25		
19-02-2020	7		
20-02-2020	80	6	4 Common Sandpiper, 2 Lesser Sand Plover
21-02-2020	91	7	7 Common Redshank
22-02-2020	103	11	11 Common Redshank
23-02-2020	122	16	12 Common Redshank, 2 Little Stint, 1 Common Green Shank, 1 Terek Sandpiper
24-02-2020	81	12	4 Common Redshank, 7 Terek Sandpiper, 1 Lesser Sand Plover
25-02-2020	200	28	26 Common Redshank, 1 Marsh Sandpiper, 1 Grey Plover
06-03-2020	159	28	1 Terek Sandpiper, 27 Common Redshank
07-03-2020	69	7	6 Curlew Sandpiper, 1 Little Stint
8-03-2020	129	25	2 Curlew Sandpiper, 20 Common Redshank, 2 Lesser Sand Plover, 1 Terek Sandpiper,
11-03-2020	161	23	15 Common Redshank, 1 Curlew Sandpiper, 6 Terek Sandpiper, 1 Lesser Sand plover
13-03-2020	102	7	3 Common Redshank, 2 Curlew Sandpiper, 1 Lesser Sand Plover, 1 Terek Sandpiper



4. Benthic Fauna

The diversity and dynamics of a population and their interaction with the environment play a vital role in understanding community ecology. The shoreline also known as the intertidal zone is subjected to rhythmic rise and fall of water level which eventually causes gradient display of organisms having elastic ability to survive through changing temperature and salinity. In this system, primary and secondary consumers are benthic fauna, which in turn are consumed by top predators such as epibenthic crustaceans, fishes, and shorebirds (Raffaelli and Hawkins, 1999). Many studies have revealed a positive correlative between shorebird abundance and their invertebrate prey availability (Boettcher et al., 1995) at muddy intertidal mudflats. This aide the study of diversity and distribution of macrobenthic fauna to very essential in the present study. Additionally, the benthos is regularly monitored as a pointer of conceivable changes within the system. Being closely associated with the sediment and relatively long-lived, benthic fauna indicates the effects of environmental changes at a particular place over a long period.

Wetlands in coastal areas are crucial natural resources and are gaining importance in recent years. The coastal wetlands comprise of critical transition zones between continental landmasses, freshwater habitats, and marine habitats and are ecologically sensitive systems (Ghosh, 2017, Turner et al. 2000). These transition zones facilitate ecosystem services like shoreline protection, organic decomposition, carbon sequestration, flood control, nutrient cycling, water quality improvement, habitat for migratory and resident animals, and regulation of fluxes of nutrients, water, particles, and organisms between land, rivers, and the ocean (Costanza et al. 1997; Levin et al. 2001).



5. Methodology

Macrobenthos samples were collected from intertidal mudflats of the Thane Creek, Sewri, Nhava, Wetlands from October 2019 to March 2020. Due to prolonged rains, Thane Creek was not sampled during October. Along with this, macrobenthos samples were also collected from the sub-tidal area of the Thane Creek from December 2019 to March 2020. The sampling period has been divided into four phases namely Phase I (October), winter (November, December, and January), Phase II (February), and summer (March) to represent seasons. Thane Creek was divided into forty transects at an interval of 1 km along both banks of the Creek for the estimation of macrobenthic density, biomass, and diversity of Polychaete families. Two transects from Sewri and Nhava-Sheva were sampled monthly along with the creek sampling during the study period. In January and February 2020, three transects were sampled from Sewri whereas in Nhava-Sheva, one additional transect was laid during February 2020. Intertidal mudflats were divided into 3 zones i.e. Mangrove line (Zone A), mid-water line (Zone B), and low-water line (Zone C), to study the changes in the macrobenthic distribution at different tide levels. To explore the distribution and composition of macrobenthic groups within the upper 15 cm of the substratum, the core has been sectioned into five strata (2cm, 4cm, 8cm, 11cm, and 15cm). These sections were also created based on the beak size of the shorebirds inhabiting the mudflats for feeding. This later component also aids in correlating the vertical stratification of macrobenthic groups and food preference of the bird species.

Van Veen grab (0.02 m²) was used to collect macrobenthos samples from the middle channel of the Thane Creek as subtidal samples. The samples were collected from the channel from 10 locations each 2km apart and which also coincides with the transects laid over the mudflats.



The present study was carried in five wetlands- BPS, TSC, NRI complex, and Belpada. In the case of wetlands, quadrat (20*20cm) was used to collect sediment samples from four different directions of the wetland.

A total of five sites (P1 to P5 and Z1 to Z5) were sampled in the Thane Creek every month from October 2019 to March 2020 for the collection of phytoplankton and zooplankton with the help of plankton nets. Due to bad weather conditions, only three sites were sampled in November 2019. Analysis for January, February, and March is under process and will be included in future reports.

6 Results

6.1 Thane Creek

An overall seasonal trend in the macrobenthic density and biomass has been observed during the study period. Macrobenthic density has shown a considerable decrease from winter (15343/m³) to Phase II (4108/m³). A similar trend was observed in the case of macrobenthic biomass with average values 14.96g/m³ during winter which declines to 4.18 g/ m³ during Phase II. Overall a decline in the average density of Polychaetes and Gastropods has been observed from winter (2966/m³; 15343/m³) to Phase II (1800/m³; 4108/m³). A similar trend was observed in terms of macrobenthic biomass for Polychaetes (winter-0.97 g/m³; Phase II-0.53 g/m³) and Gastropods (winter-1.77 g/m³; Phase II-0.29g/m³) during the study period. In winter, Gastropods (1287/m³) dominated the macrobenthic composition followed by Polychaetes (975/m³), Phoronida (29/m³) and Bivalve (11/m³). Whereas during Phase II (Fig. 9), Polychaete (401/m³) dominated the macrobenthic composition followed by Gastropod (239/m³), Phoronida (3/m³) and Bivalve (2/m³). In the case of macrobenthic biomass (Fig. 10), Gastropods (1.77g/m³) displayed maximum biomass followed by Polychaetes (0.9g/m³), Chordates (0.1g/m³) during winter. In Phase II, Polychaetes (0.53g/m³) exhibited the highest biomass followed by Arthropods (0.04g/m³) and Flatworms (0.4g/ m³). East bank has shown highest density and biomass (avg. 15343/m³; 14.96g/ m³) in Tr 39 during winter whereas in Phase II West bank displayed the highest density and biomass (4108/m³ ; 4.18 g/

A handwritten signature in blue ink, consisting of stylized, cursive letters.



m3) in Tr 20. Overall, during the study period, 10 Phylum and 20 groups of invertebrates were observed in the Thane Creek. Winter exhibited higher macrobenthic diversity with the presence of 18 faunal groups whereas, Phase II exhibited 16 faunal groups. Arthropoda was the most diversified phylum comprising of 9 groups namely Brachyura, Barnacle, Shrimp, Anomuran, Amphipod, Taniads, Cumacean, Pycnogonid, Insect larvae.

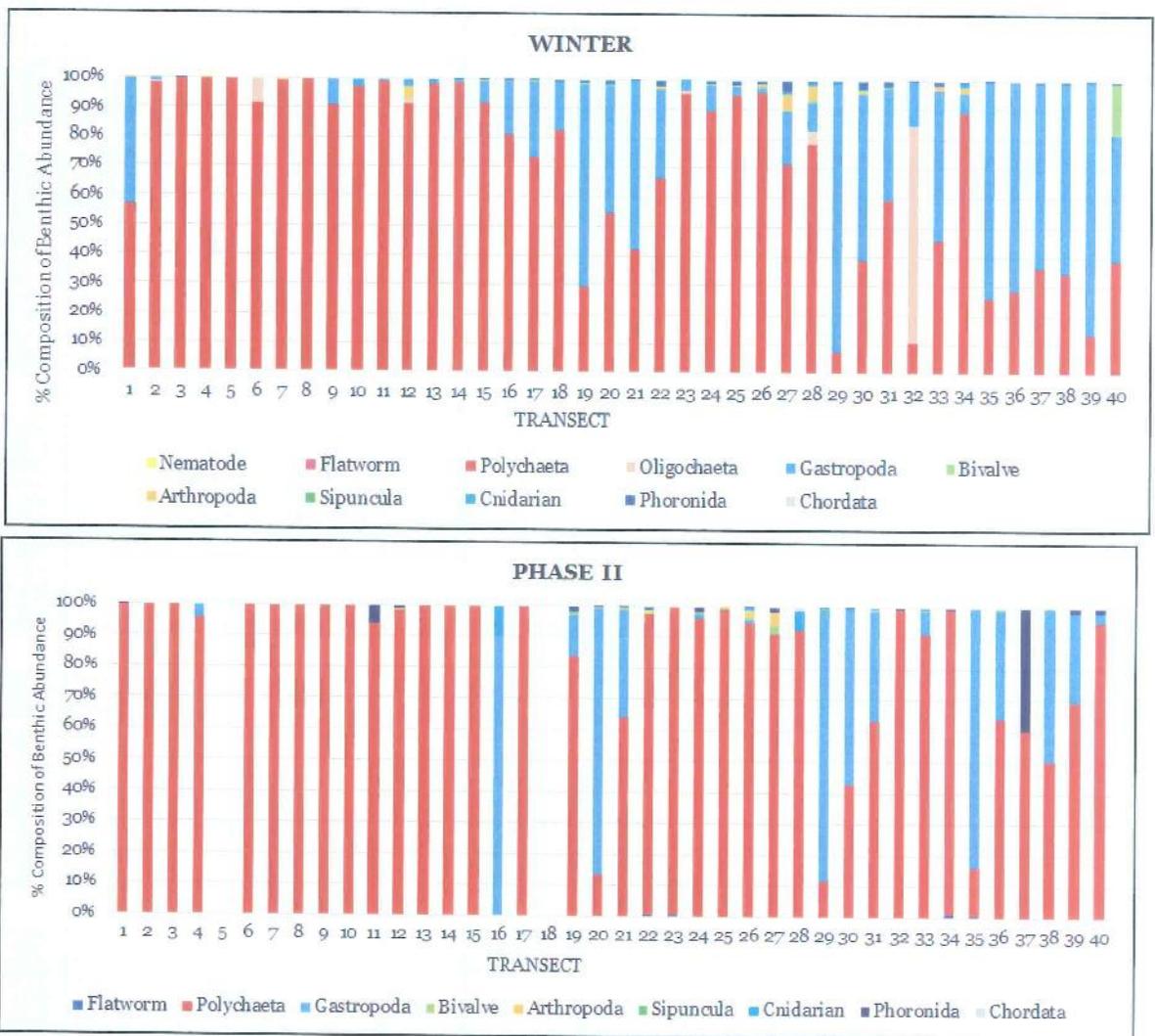


Figure 9 Seasonal variation in the percentage composition of macrobenthic density in different transects of the Thane Creek

Handwritten signature

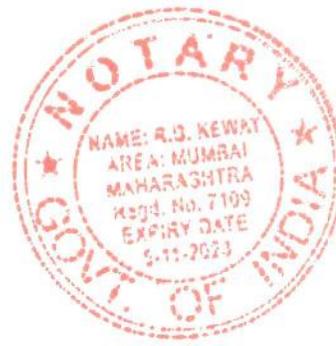


Figure 10 Seasonal variation in the percentage composition of macrobenthic biomass in different transects of the Thane Creek

Yes

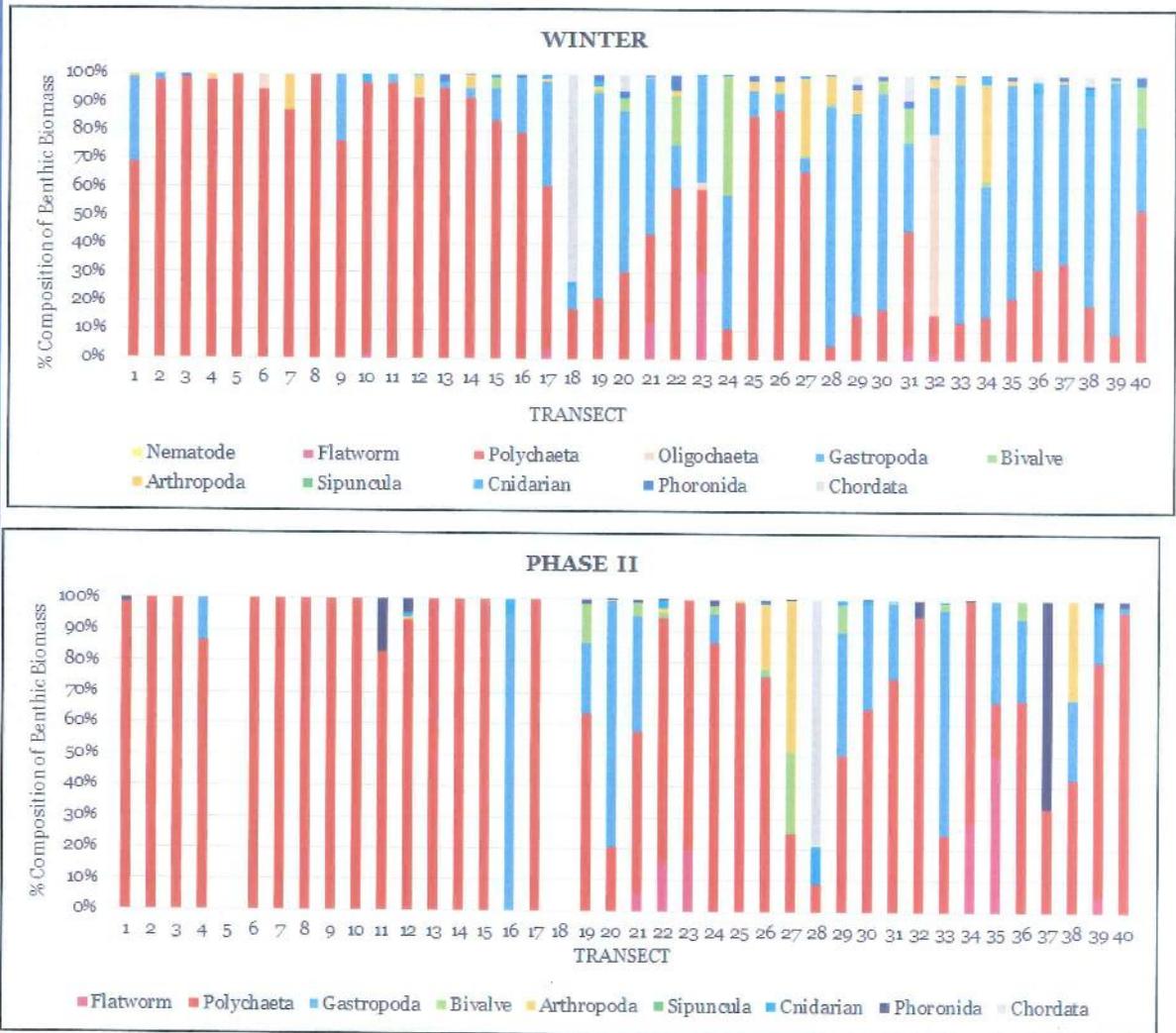
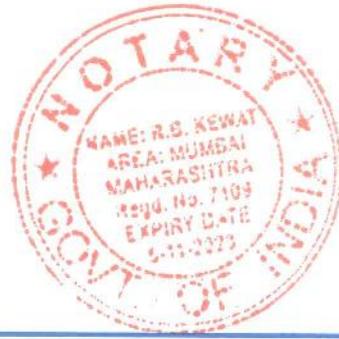


Figure 11 Seasonal variation in the percentage composition of Polychaete families in different transects of the Thane Creek

During the present study total, 15 Polychaete families (Fig. 11) were recorded from intertidal mudflats of the Thane Creek. The maximum number of Polychaete families was observed during December (11 families) followed by January (10 families) and February (10 families) and November (9 families). Based on their density Spionidae found to be the dominating family followed by Pilargidae, Nephytidae, Nereidae, and Capitellidae. The Percentage composition of Spionidae has declined from 86% in winter to 73 % during Phase II whereas an increasing trend was observed in the case

Handwritten signature/initials



of Pilargidae (winter- 5% to Phase II- 13%) and Nephytidae (winter- 3% to Phase II- 9%).

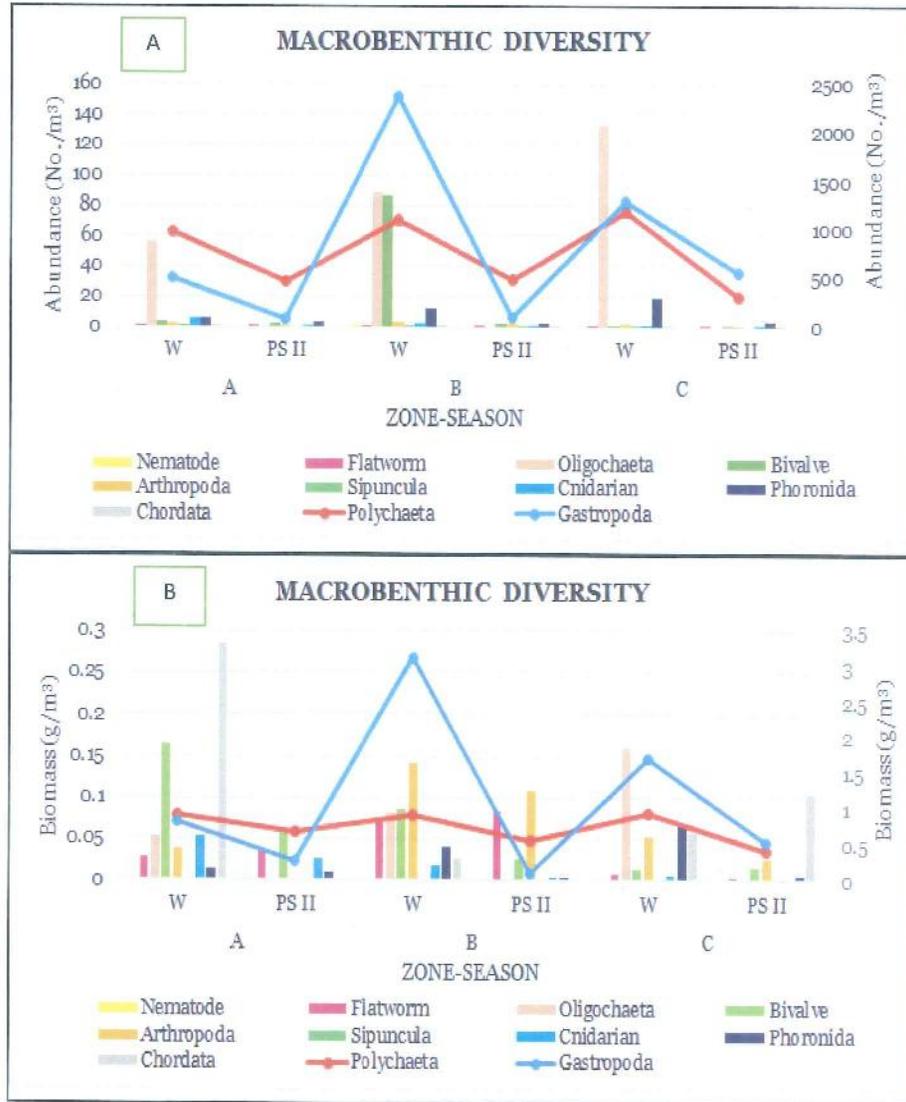


Figure 12 Zonal variation in macrobenthic density (A) and biomass (B) in different seasons along the Thane Creek

Handwritten signature



Macrobenthic diversity shows variation along with zones and different stratum. Presently no specific observations were obtained in terms of zonal distribution and biomass of the macrobenthic groups. Zone A (Fig. 12) exhibited dominance of Polychaetes both in terms of abundance (winter-980/m³; Phase II- 505/m³) and biomass (winter-0.9g/m³; Phase II-0.8/m³) followed by Gastropods during both seasons. Whereas Zone C contradicts the observations obtained at the Zone A as instead of Polychaetes, Gastropod dominates the macrobenthic composition in terms of density and biomass.

Zone B exhibits dominance of Gastropods in terms of both abundance and biomass during winter whereas Polychaete dominates in Phase II. Overall Zone B (10 No.) exhibits more faunal diversity followed by Zone A (8 No.) and Zone C (7 No.).

Maximum macrobenthic diversity was observed in stratum 4 and all other strata showed consistent diversity (Fig. 13). Macrobenthic density and biomass declined vertically downwards from the stratum 2cm to stratum 15cm. Polychaete dominates the benthic abundance followed by Gastropods in all stratum during both seasons except for stratum 2cm in the winter season, which exhibits an opposite trend. Polychaetes dominate in terms of macrobenthic biomass in all stratum except for stratum 2cm for both seasons.

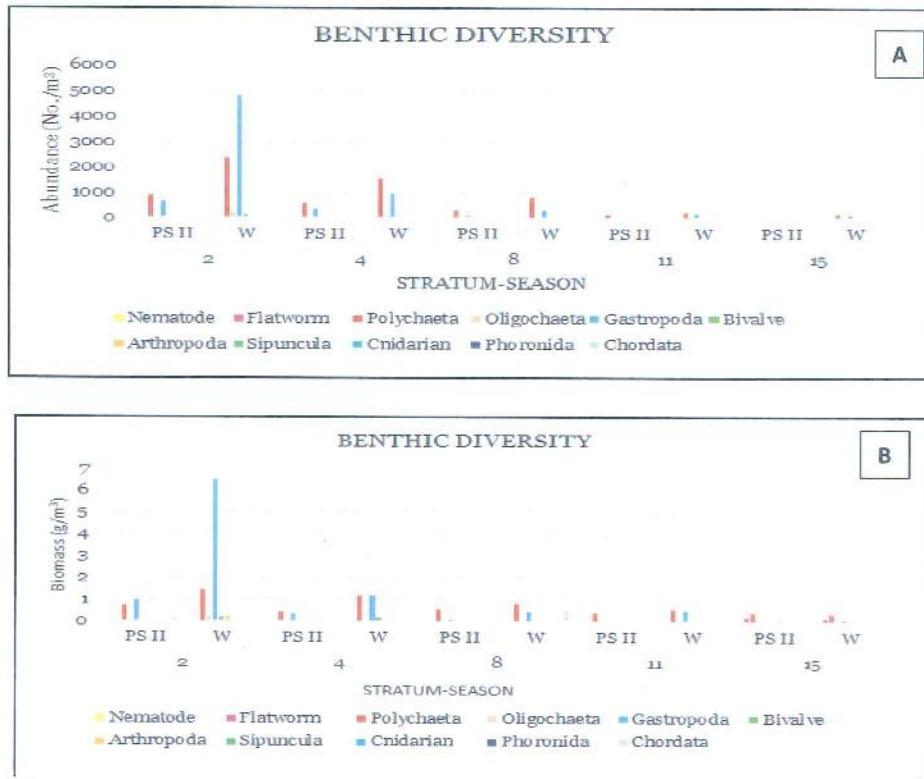


Figure 13 Vertical variation in macrobenthic density (A) and biomass (B) in different seasons along the Thane Creek

6.2 Subtidal

Polychaetes, Gastropods, and Phoronids found dominating the macrobenthic composition within the subtidal zone. Polychaetes dominate in terms of density at all the sampling points and in both the seasons followed by Gastropods and Phoronids. The density of macrobenthos (Fig. 14 A) was found to be highest in the winter season (avg. 233/unit volume) which declined during Phase II (avg. 135 per unit volume). The summer season (represented by the month of March) depicted a slight rise again in the macrobenthic density (avg. 204 per unit volume). The overall abundance of Polychaetes was highest in winter (avg. 233/unit volume) followed by summer (avg. 126/unit volume) and least during Phase II (avg. 126/unit volume). Whereas an opposite trend has been observed in case of Gastropods (winter- avg. 81/unit volume; summer- avg. 50/unit volume; Phase II- avg. 135/unit volume) and

Wes

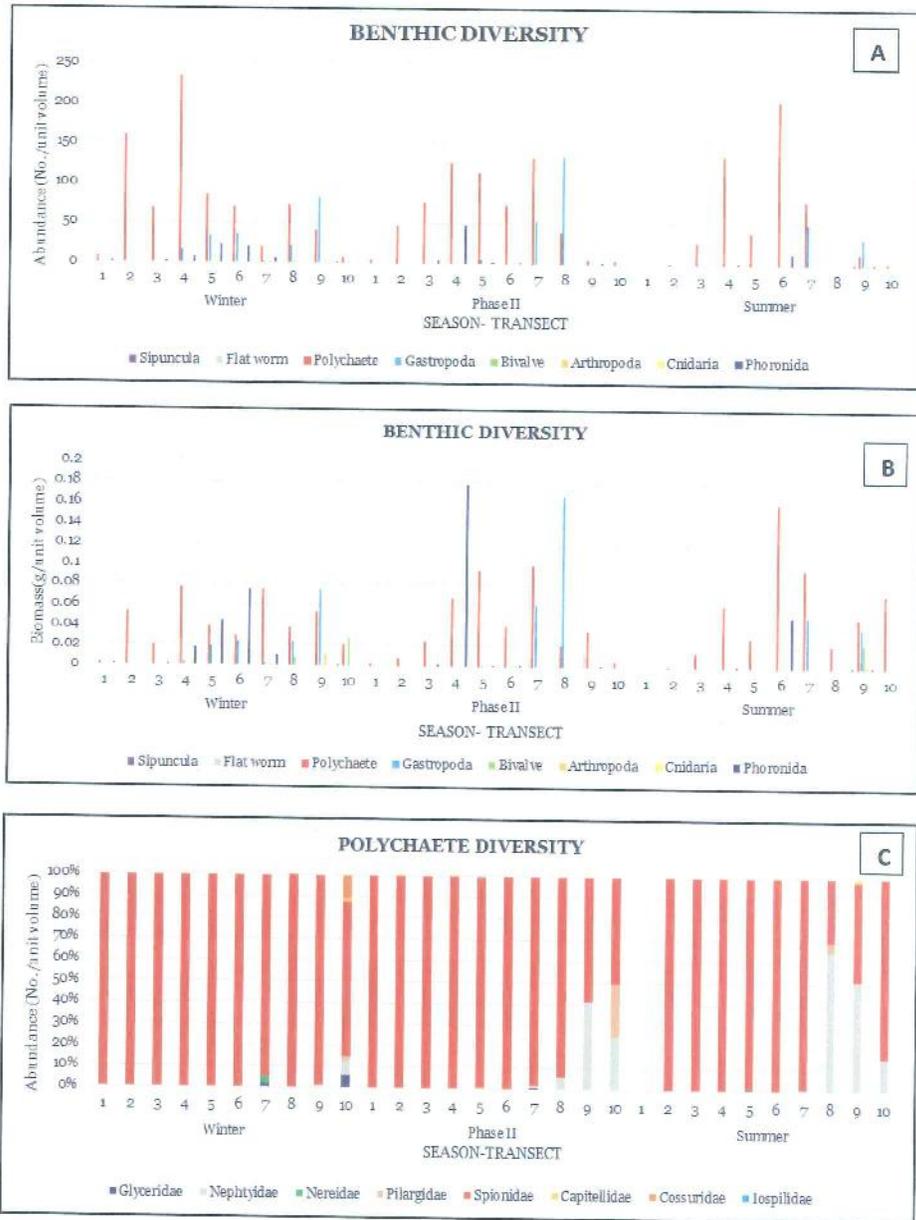
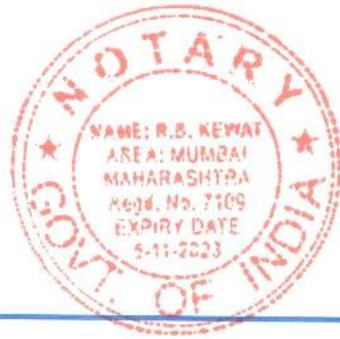


Figure 14 Seasonal variation in Macrobenthic abundance (A), biomass (B) and Polychaete families (C) along the subtidal area of the Thane Creek

Handwritten signature



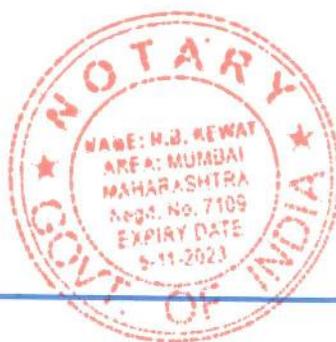
Phoronids (winter- avg. 22/unit volume; summer- avg. 14/unit volume; Phase II- avg. 49/unit volume). Phase II exhibited maximum biomass (Fig. 14 B) as compared to the other two seasons. Polychaetes dominate in terms of biomass during winter (0.07g/unit volume) and summer (0.16g/unit volume) followed by Phoronids and Gastropods. Whereas in Phase II, Phoronids (0.15g/unit volume) exhibits the highest biomass followed by Gastropods and Phoronids.

During this study period total of 7 invertebrate phyla and 9 groups were recorded from the sub-tidal area. Winter displayed maximum faunal diversity (9 groups) followed by Phase II (8 groups) and summer (8 groups).

Pertaining to Polychaete diversity (Fig. 14 C) about, 8 families were observed, of which 6 families showed their presence consistently in all three seasons. The family Spionidae was predominant throughout the seasons followed by the family Nephtyidae when compare to the other families which were in less numbers.

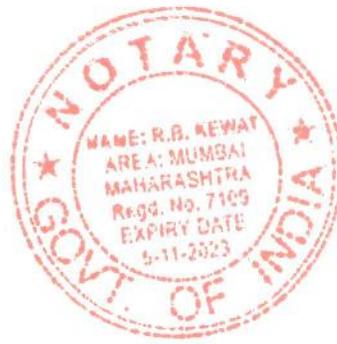
6.3 Sewri and Nhava-Sheva mudflats

At these two mudflats, among all seasons, winter exhibits maximum macrobenthic abundance (Fig. 15 A) (Sewri-1236/m³; Nhava-Sheva-278/m³) and diversity (Sewri- 7 No.; Nhava-Sheva- 8No.) followed by Phase II and Phase I. Phase II has depicted maximum biomass (Fig. 15 B) (Sewri-1.91g/m³; Nhava-Sheva-3.16g/m³) in both sampling places followed by winter and phase I. Overall 8 invertebrate phylum and 12 groups and 8 invertebrate phylum and 10 groups were observed during the study period from Nhava-Sheva and Sewri respectively. Polychaetes dominate in terms of abundance in both Sewri (1236/m³) and Nhava-Sheva (278/m³) during all sampling seasons followed by Gastropods and Arthropods. Gastropods depicted maximum biomass during Phase I (0.1 g/m³) and winter (1.914 g/m³) whereas Bivalve showed (1.9 g/m³). In the case of Nhava-Sheva, Bivalve exhibits maximum biomass during Phase I (0.01 g/m³) and Chordata count maximum during winter (1.57 g/m³) and Phase II (3.17g/m³). Overall, Sewri exhibits more abundance of benthic fauna whereas Nhava-Sheva shows more diversity.



Zone C exhibits maximum benthic density (Sewri-1495/m³; Nhava-Sheva- 293/m³) followed by Zone B irrespective of seasons. In terms of biomass, Zone C shows the highest value (13.1g/m³) in Sewri followed by Zone B (5.7g/m³) whereas Zone B (9.5g/m³) dominates in case of Nhava-Sheva followed by Zone C. Zone A exhibits less density (Sewri-902/m³; Nhava-Sheva- 330/m³) and biomass (Sewri-0.8/m³; Nhava-Sheva- 0.6/m³) during both seasons at both places. In terms of diversity, Zone A (8 No.) depicts maximum diversity in Nhava-Sheva whereas in Sewri Zone C (7 No.) exhibits more diversity as compared to other Zones. In Nhava-Sheva, Zone C was not sampled during Phase I due to less exposure of mudflat. Overall, winter exhibits maximum abundance in all zones at both sites except for Zone A of Sewri mudflats.

During the study, it was observed that Polychaetes dominates in all stratum followed by Gastropods. Overall, the maximum density of macrobenthos was observed within the upper 2 cm stratum-which further declines and found the lowest value of density at the 15cm stratum. In Sewri, maximum biomass was observed in stratum 2 (21.824g/m³) followed by stratum 15 (5.5g/m³), stratum 11 (1.4g/m³) whereas in Nhava-Sheva stratum 8 showed maximum value (15.84g/ m³) followed by stratum 2 (10.13g/ m³), stratum 15 (1.1g/ m³). Biomass does not show any such trend. Stratum 8 exhibits maximum diversity (9 No.) whereas all other stratum shows consistent faunal diversity.



306

In

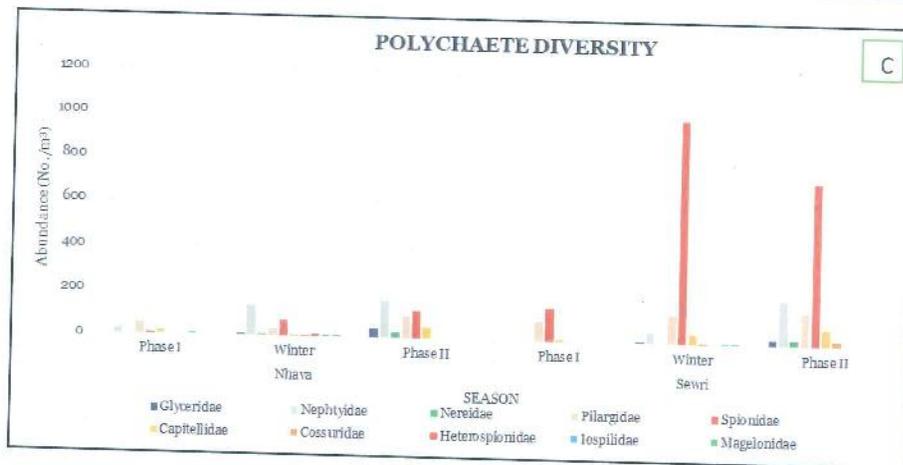
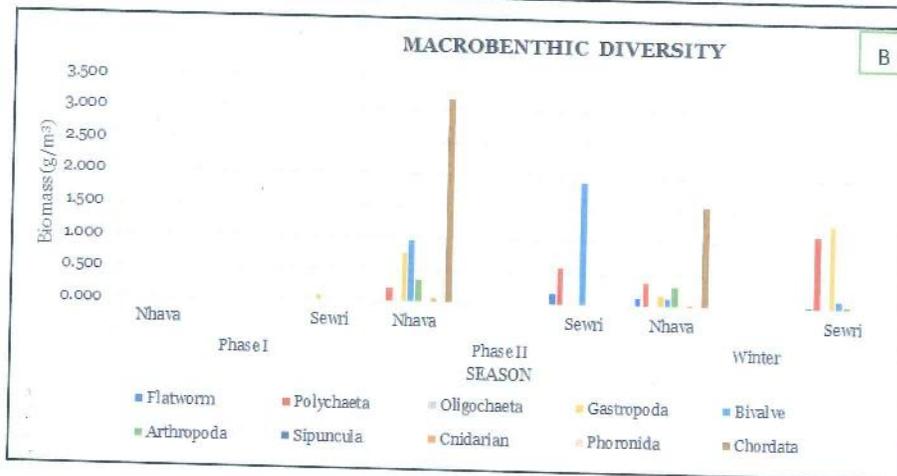
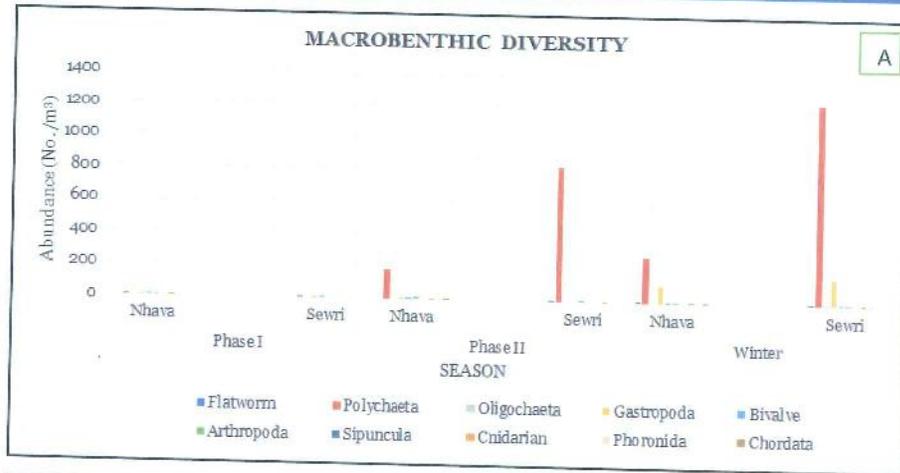


Figure 15 Seasonal Variation of macrobenthic abundance (A), biomass (B) and Polychaete diversity (C) along Sewri and Nhava

Handwritten signature/initials



terms of the composition of Polychaete (Fig. 15 C), Nhava-Sheva exhibits more diversity as compared to Sewri. Overall, 10 families were recorded during three seasons and four families were prevalent Spionidae, Pilargidae, Nephytidae, and Capitellidae. Although Phase I showed the least diversity in terms of Polychaete composition however winter season exhibits maximum Polychaete diversity in both sampling areas followed by Phase II.

At Sewri, Spionidae was the most dominating Polychete family during all seasons followed by Pilargidae and Capitellidae during Phase I and winter. Whereas during Phase II second dominating family was Glyceridae and Pilargidae.

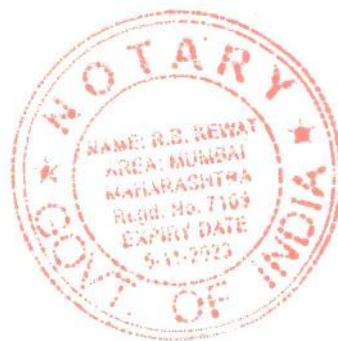
At Nhava-Sheva, during Phase I, Pilargidae was the dominating family followed by Nephytidae and Capitellidae. Nephytidae dominated Polychete composition followed by Spionidae, Pilargidae, and Capitellidae during winter and Phase II.

6.4 Wetlands

Belpada: This wetland exhibits maximum macrobenthic density ($1753/m^3$) and faunal diversity (4 No.) during winter followed by Phase II and Phase I. Whereas maximum biomass ($2.9g/m^3$) was observed during Phase I followed by winter and Phase II.

BPS: In the case of BPS, Phase II recounts maximum density ($1931/m^3$) followed by Phase I ($1683/m^3$) and winter ($334/m^3$). Benthic density was higher during Phase I ($3.7g/m^3$) and declines with seasons from winter ($2g/m^3$) to Phase II ($0.5g/m^3$). Winter exhibit more diversity of benthic fauna in BPS during winter while the other two seasons have equal diversity.

NRI: Phase I showed a maximum density ($451/m^3$) with a continuous decline from winter ($286/m^3$) to Phase II ($50/m^3$). Benthic biomass and diversity displayed



similar trends in NRI, being maximum during winter (3.6g/m³; 5 No.) followed by Phase I (1.6g/m³; 3 No.) and Phase II (0.5g/m³; 1 No.).

TSC: Phase I showed the least benthic density (440/m³) in TSC and a seasonal increase in density was observed from Winter (647/ m³) to Phase II (731/m³). Whereas maximum benthic biomass was observed in Phase I (14g/ m³) followed by Phase II (10.8g/m³) and winter (3.3g/ m³). Winter (5No.) supported maximum diversity in TSC followed by Phase I (4 No.) and Phase II (2 No.).

Overall, 5 Phylum and 9 benthic groups (Fig. 16) were observed in all wetlands. Arthropoda is the most diversified phylum comprising the presence of 4 groups- Amphipods, Shrimp, Chironomus larvae, and Tanaids. Arthropods contribute to maximum benthic density in NRI and BPS during Phase I and in TSC during Phase II whereas Gastropods exhibits maximum contribution during winter. Overall, Polychaetes were present in all sites and during all seasons. In total, 5 Polychaete families (Fig. 16 C) were observed in wetlands during all seasons. Belpada being the most diversified wetland supports 5 families in winter and 3 families during the other two seasons. There was no diversity and seasonal variation observed in NRI as only Nereidae was found during all seasons. In BPS, Phase I exhibited the presence of Nereidae, whereas both Spionidae and Nereidae were observed during winter and Phase II. Similarly, TSC also showed the presence of only Nereidae during Phase I and Phase II whereas Spionidae and Nereidae being present in winter. Nereidae was found at all sites during all seasons and dominates other families at all sites during Phase I. During winter and Phase II, Capitellidae dominated Belpada and Spionidae in BPS.

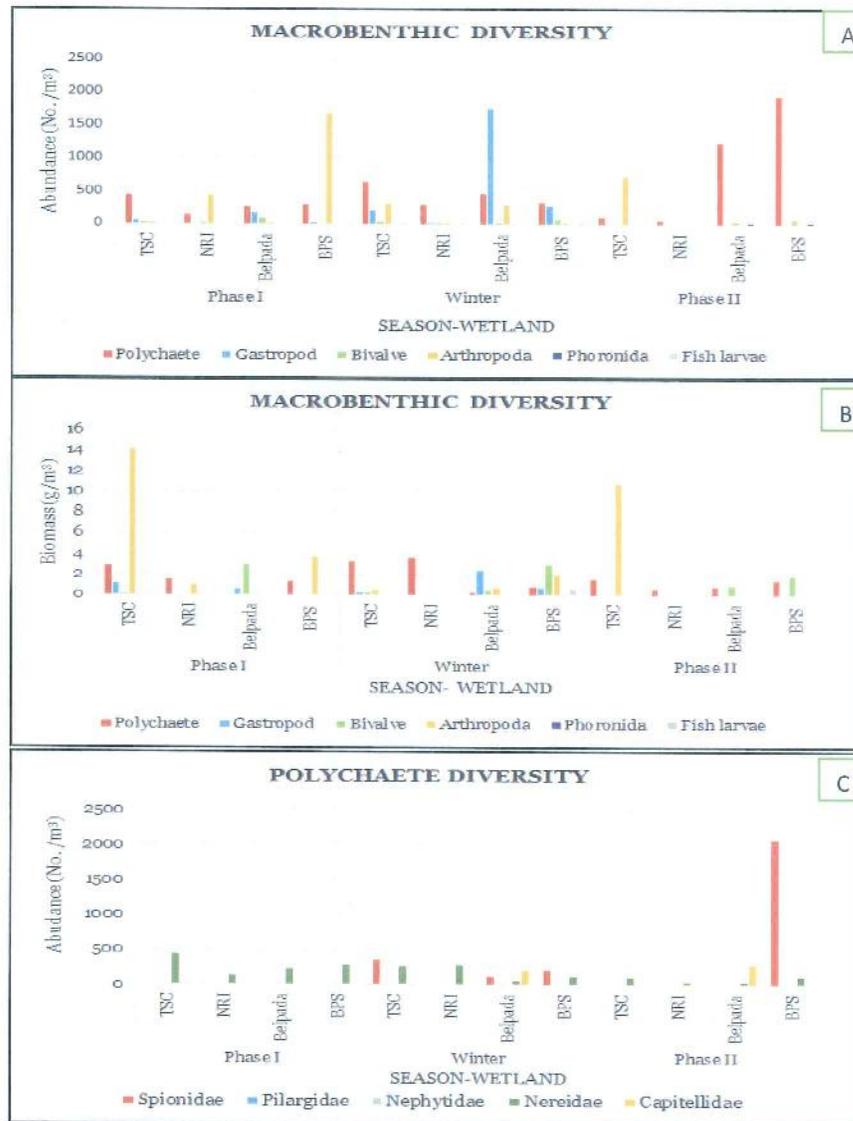
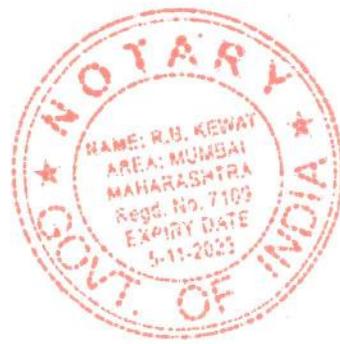
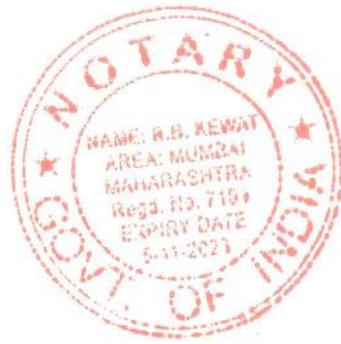


Figure 16 Seasonal Variation of macrobenthic abundance (A), biomass (B) and Polychaete (C) diversity in different wetlands

6.5 Planktons

A total of 23 species of phytoplanktons were found during both seasons (Fig. 17). In Phase I, *Skeletonema costatum* (39%) dominates followed by *Coscinodiscus granii*

W.S.



(17%) and *Navicula* sp., all other species contribute less than 10% to phytoplankton composition. During winter, *Skeletonema costatum* (21%) dominates the composition followed by *Odontella* sp. (20%) and *Thalassiosira* sp. (11%) and rest all species account less than 10% to plankton composition. *Dinophysis miles*, *Ornithocercus* sp., *Thalassionema* sp. were found only during Phase I whereas *Cyclotella* sp., *Cylindrotheca closterium* and *Thalassiothrix* sp. were observed in only during winter season. Overall, 20 phytoplankton species were found in Phase I and 19 during winter. Except for *Leptocylendricus* sp., *Odontella* sp., *Surirella* sp., and *Thalassiosira subtilis*, all other phytoplankton species exhibited a seasonal decline in percentage composition from Phase I to winter.

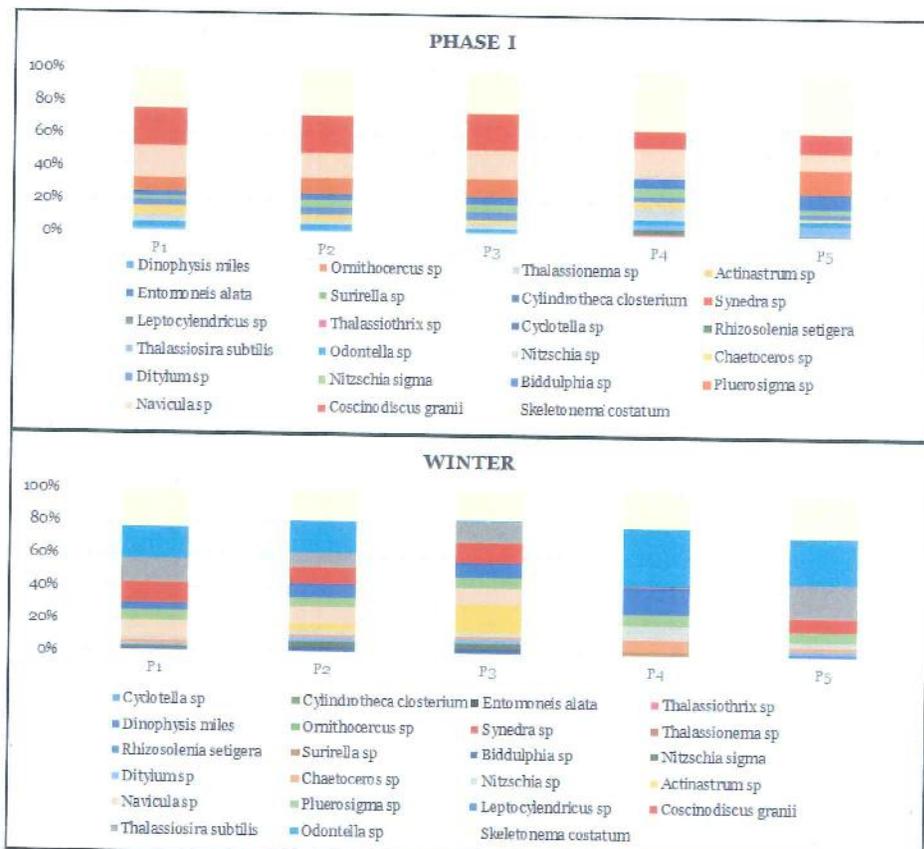


Figure 17 Seasonal variation in percentage composition of Phytoplankton along the Thane Creek

448



A total of 18 Zooplankton (Fig. 18) groups were found during both seasons. Medusa (Phase I-61% and winter-28%) was the most dominating group during both seasons followed by Copepod (Phase I-20%, winter-26%) Decapod larvae (14%) was third dominating group during Phase I whereas in winter *Acetes* sp. (14%) was the third dominating group followed by Decapod larvae (12%). All other groups during both seasons contribute less than 10% to the composition. With seasonal change rise in zooplankton diversity was observed from Phase I (12 No.) to winter (18 No.)

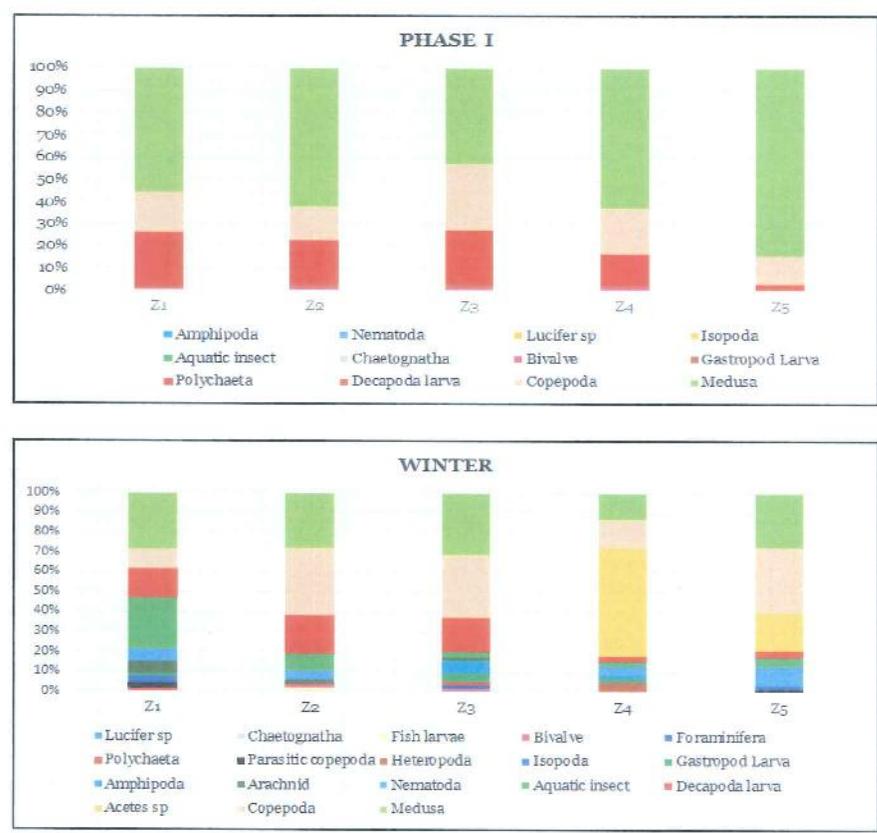


Figure 18 Seasonal variation in percentage composition of Zooplankton along the Thane Creek

Yes