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INTERNATIONAL

General Consultant for Mumbai Trans Harbour Link Project

Ref No: MTHL/GC/MMRDA/LT/QPR- 4037 /2023

2nd February 2023

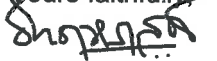
To,
Engineer-In-Chief
Engineering Division
Mumbai Metropolitan Regional Development Authority (MMRDA)
2nd Floor, New MMRDA Building,
Plot No R-06 & R-12, 'E' Block
Bandra Kurla Complex, Bandra (E),
Mumbai, Maharashtra, India 400051.

Sub: General Consultancy services for Mumbai Trans Harbour Link (MTHL) project – **Submission of the Draft Quarterly Progress Report (QPR) No. 27 for October-November-December 2023 for review.**

Dear Sir,

With reference to the above subject, please find enclosed a hard copy of the draft for Quarterly Progress Report (QPR) No.27 along with the updated attachments for the period of October to December 2023 for your review.

Thanking you,

Yours faithfully


K.R.Shivananda
The Engineer
General Consultant (MTHL)

Encl: A draft copy of the Quarterly Progress Report No. 27 (October-December 2023)

CC: Superintending Engineer – MMRDA - Mr. Purushottam Nimje
Executive Engineer – MMRDA – Mr. Arjun Korgaonkar
Superintending Engineer – MMRDA - Mr. Yatin Sakhalkar
Executive Engineer – MMRDA – Mr. Abhijit Bhisikar
Executive Engineer – MMRDA – Mr. M. P. Singh



By Email



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MMRDA

Mumbai Metropolitan Region Development Authority

Mumbai Trans Harbour Link Project

Quarterly Progress Report - No. 27

(From 1st October to 31st December 2023)



<p>Mumbai Trans Harbour Link Project Quarterly Progress Report No. 27 1st October 2023 to 30th December 2023 Loan Agreement No. ID-P255 (Tranche-I), ID-P283 (Tranche-II) & ID-307 (Tranche-III)</p>

ORGANIZATION INFORMATION

Borrower	Mumbai Metropolitan Region Development Authority	
	Person in Charge	Metropolitan Commissioner, MMRDA
	Contact Address	M.M.R.D.A. New Office Building, Bandra-Kurla Complex, Plot no. R-5, R-6 & R-12, E Block, Bandra (East), Mumbai - 400051 Phone: +91-22-26594000 Fax No:+91-22-2659 1264
Executing Agency	Mumbai Trans Harbour Link Project Implementation Unit	
	Headed by:	Engineer-In-Chief Mumbai Trans Harbour Link Project Implementation Unit
	Contact Address	M.M.R.D.A. New Office Building, Bandra-Kurla Complex, Plot no. R-5, R-6 & R-12, E Block Bandra (East), Mumbai - 400 051 Phone: +91-22-2659 4034 Fax No: +91-22-2659 4179

Details of JICA Loan

Source of Finance	JICA ODA Loan Portion:	238,572 million Japanese YEN (JPY)
	Tranche-I:	144,795 million Japanese YEN (JPY) (Loan Agreement signed on 31 st Mar 2017)
	Tranche-II:	66,909 million Japanese YEN (JPY) (Loan Agreement signed on 27 th Mar 2020)
	Tranche-III:	30,755 million Japanese YEN (JPY) (Loan Agreement signed on 27 th Feb 2023)
Terms and Conditions of JICA ODA Loan (Tranche-1)	Repayment Period:	30 years, including 10 years of the grace period.



Mumbai Trans Harbour Link Project - Quarterly Progress Report No. 27 (Oct-Dec 2023)

DOCUMENT VERIFICATION AND REVISION RECORD

PROJECT NAME		Mumbai Trans Harbour Link Project			
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DOC TITLE		Quarterly Progress Report No. 27			
REV No.	DATE OF ISSUE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY
R0	05/07/2017	Quarterly Progress Report No. 1 (Apr-Jun 17)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	05/10/2017	Quarterly Progress Report No. 2 (Jul-Sep 17)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	05/01/2018	Quarterly Progress Report No. 3 (Oct-Dec 17)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	05/04/2018	Quarterly Progress Report No. 4 (Jan-Mar 18)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	24/07/2018	Quarterly Progress Report No. 5 (Apr-Jun 18)	Prashant B	Dr T K Sundaram	Dr Robin Sham
R0	10/10/2018	Quarterly Progress Report No. 6 (Jul-Sep 18)	Prashant B	Dr T K Sundaram	Dr Robin Sham
R1	08/02/2019	Quarterly Progress Report No. 7 (Oct-Dec 18)	Prashant B	J Senthil/ Dr T K Sundaram	Dr Robin Sham
R0	05/04/2019	Quarterly Progress Report No. 8 (Jan-Mar 19)	Prashant B	J Senthil	V. D. Sharma/ Dr Robin Sham
R0	18/09/2019	Quarterly Progress Report No. 9 (Apr-Jun 19)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	13/11/2019	Quarterly Progress Report No. 10 (Jul-Sep 19)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	11/02/2020	Quarterly Progress Report No.11 (Oct-Dec 19)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	25/11/2020	Quarterly Progress Report No.12 (Jan-Mar 20)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	15/12/2020	Quarterly Progress Report No.13 (Apr-Jun 20)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	06/01/2021	Quarterly Progress Report No.14 (Jul-Sept 20)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	12/02/2021	Quarterly Progress Report No.15 (Oct-Dec 20)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	06/05/2021	Quarterly Progress Report No.16 (Jan-Mar 21)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	30/07/2021	Quarterly Progress Report No.17 (Apr-Jun 21)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	11/11/2021	Quarterly Progress Report No.18 (Jul - Sep 21)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	17/01/2022	Quarterly Progress Report No.19 (Oct-Dec 21)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	22/04/2022	Quarterly Progress Report No.20 (Jan - Mar 22)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	12/07/2022	Quarterly Progress Report No.21 (Apr-Jun 22)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	18/10/2022	Quarterly Progress Report No.22 (Jul-Sep 22)	Prashant B	Mrs. Mayil. K	Dr Robin Sham
R0	10/01/2023	Quarterly Progress Report No.23 (Oct-Dec 22)	Mrs. Mayil.	Mr. Som Ghosh	Dr Robin Sham
R0	16/04/2023	Quarterly Progress Report No.24 (Jan-Mar 23)	Mrs. Mayil.	Mr. Som Ghosh	Dr Robin Sham
R0	01/08/2023	Quarterly Progress Report No.25 (Apr-Jun 23)	Mr. Ayush Kottary	Mr. Som Ghosh	Mr. Shivananda. K
R0	31/01/2024	Quarterly Progress Report No.26 (Jul-Sep 23)	Mr. Ayush Kottary	Mr. Som Ghosh	Mr. Shivananda. K
R0	31/01/2024	Quarterly Progress Report No.27 (Oct-Dec 23)	Mr. Ayush Kottary	Mr. Som Ghosh	Mr. Shivananda. K

QPR-27 1st Oct 2023 to 31st Dec 2023



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1.0 PROJECT DESCRIPTION

1.1 Project Objective

Original:

To improve connectivity in Mumbai Metropolitan region by constructing the Mumbai Trans Harbour Link connecting Mumbai with Navi Mumbai, thereby contributing to mitigation of traffic congestion and promoting regional economic development.

Actual (P/R, PCR)

There is no change in the Project Objective.

1.2 Necessity of the Project

The Project is consistent with the development policy, sector plan, national/regional development plans and demand of target group of the recipient country.

Benefits from MTHL Project

- Saving in travel time for commuters from Mumbai to Navi Mumbai.
- Improved comfort and accessibility between the island and the mainland.
- Reduced operating costs of vehicles due to lesser congestion.
- Smooth traffic flow from Navi Mumbai airport to Mumbai Island.
- Accelerated economic development of Navi Mumbai and nearby regions.
- Greater economic integration of Mumbai Island with Navi Mumbai and extended regions of Pune, Goa, Panvel and Alibaug.
- Improvement in environment and reduced pollution levels.
- Improved safety due to reduction in accidents.
- Improvement in trade competitiveness through faster and improved logistics.
- Accelerated growth of Navi Mumbai.
- Decongestion of Mumbai Island and dispersal of population to Navi Mumbai region & beyond.

Necessity of the Project

1. Although the urbanization in India has been rapidly progressing, infrastructure development in the urban areas has not caught up its progress. Particularly, the traffic congestion in the urban areas due to a lack of road network hinders the economic development. Thus, Government of India (GOI) places transport and connectivity as one of the "Growth Enablers" and plans to enhance road network in the "Three Year Action Agenda 2017-2018 to 2019-20 (NITI Aayog)".
2. Mumbai Metropolitan Region, which includes Mumbai and Navi Mumbai, has about 18.4 million people in population as of 2011 (Census 2011) and the population density reaches 20,694 people per square km in the center of Mumbai, which is one of the most overpopulated and high-density cities in the world.
3. Mumbai, the narrow stretch of land that has traditionally been the epicentre of India's commerce, has seen a steady increase in population in the last three decades despite obvious spatial constraints. Thus, the development of Navi Mumbai has been identified as an urgent requirement for broad development in Mumbai Metropolitan Region.
4. There is no change in the Necessity of the Project preamble. jurisdiction, has been facilitating

various development plans particularly in Navi Mumbai area, which stands at the opposite site of Mumbai across the Mumbai Bay and still has spacious area for development, such as a new international airport, Special Economic Zone (SEZ) and expansion of Jawaharlal Nehru Port in order to promote the sustainable economic development in Mumbai Metropolitan Region.

5. Furthermore, a lack of connectivity in Mumbai has stunted its growth. The GoM has given importance to construct the faster connection with Mumbai to Navi Mumbai International Airport, Jawaharlal Nehru Port, Mumbai-Pune expressway and main hinterland.
6. Accordingly, the Mumbai Trans Harbour Link (MTHL) has been identified as the important infrastructure to improve the connectivity between Mumbai and Navi Mumbai and continue economic development in Mumbai Metropolitan Region.

The MTHL is proposed to be developed as an expressway link comprising of a dual three-lane main carriageway bridge connecting Sewri in Mumbai to Chirle in Navi Mumbai. When completed, MTHL will reduce the distance between Mumbai and Navi Mumbai and will help save approximately an hour in travel time. Also, development of Navi Mumbai along with the imminent construction of the Navi Mumbai airport will lead to increased traffic between Mumbai and Navi Mumbai. Consequently, the project is envisaged to; improving accessibility between Mumbai and Navi Mumbai, accelerating growth of Navi Mumbai, smooth traffic flow from Navi Mumbai airport to Mumbai, accelerating economic development of Navi Mumbai and surrounding regions, greater economic integration of Mumbai with Navi Mumbai and extended regions of Pune, Goa, Panvel and Alibaug, and decongestion of Mumbai and dispersal of population to Navi Mumbai region and beyond.

7. The Comprehensive Transportation Study (CTS) for Mumbai Metropolitan Region which was guided by Mumbai Metropolitan Region Development Authority (MMRDA) and supported by World Bank, was completed in July 2008, which was over 25 years after the issuance of the last comprehensive transport study. The report provided a vision for Mumbai's future transportation as seamless and integrated system, in which commuters can make their journeys safely and conveniently by various modes of transport, particularly by public transport, and recommended the development of Multi Modal Corridor to take care of the varied travel demands of the region for the period up to 2031. The CTS proposed to develop the highway network in the region. The MTHL has been regarded as the priority road for Mumbai, considering its function and importance connecting between Mumbai and Navi Mumbai.
8. Necessity of the Project: - To promote economic development in Mumbai Metropolitan Region it is essential to improve the connectivity between Mumbai and Navi Mumbai, by constructing MTHL

Actual (P/R, PCR)

There is no change in the Necessity of the Project preamble.



1.3 Rationale of the Project Design

- Timing, Scale, Technology of the Project:

Demand Analysis

- At the opening year 2022, the daily traffic on the main bridge is expected to be 39,300 PCU. The traffic is projected to increase up to 103,900 by 2032 and up to 145,500 by the year 2042. The daily breakdown by vehicle class on the main bridge link is presented in the Table 1.3.1 below:

Table 1.3.1 Demand Projections Over the Period

Vehicle Type	Between Sewri Interchange and Shivaji Nagar Interchange			Between Shivaji Nagar Interchange and Chirle Interchange		
	2022	2032	2042	2022	2032	2042
Car	24,100	66,400	94,100	4,900	21,300	43,300
Taxi	2700	14,100	20,200	100	400	2,300
Bus	2,700	3,700	3,700	2,700	3,700	3,700
LCV	2,200	4,100	5,600	700	1,300	1,800
HCV	3,000	6,500	8,100	1,000	2,000	2,200
MAV	4,600	9,100	13,800	400	900	1,700
Total	39,300	103,900	145,500	9,800	29,600	55,000

LCV: Light Commercial Vehicle; HCV: Heavy Commercial Vehicle; MAV: Multi Axle Vehicle

- At the opening year in 2022, the traffic flow on MTHL represents a diversion of 10% on the traffic across Thane creek which will increase up to 16% in 2032. If only Thane Creek Bridge is considered, then the diverted traffic from the bridge will be 21% in 2022 which will rise up to 35% in 2032.
- 6-lane of main carriageway was decided by GoM. It was reviewed based on the forecasted result of future traffic volume by Manual of Specification and Standards for Expressways (IRC: SP:99-2013). The result of the review shows that 6-lane will be required in 2032 (10 years later after traffic open). Although, 8-lane will be required in 2042, it is assumed that the level of service of MTHL would be maintained as additionally metro might be constructed in parallel with MTHL.

Design Parameters / Overall Design

- The MTHL which is 21.8 km long road bridge partly on the land and partly over the creek across the Mumbai Bay between Sewri in Mumbai and Chirle in Navi Mumbai, is to be constructed with the approach sections and interchanges. ITS (Intelligence Transport System) and the other necessary facilities will be provided for full access-controlled bridges.
- As per the provisions of IRC (Indian Road Congress) SP:99-2013, the Width of each lane of the Main Carriageway is 3.5 meters.
- When the design speed is 100 km/h according to the traffic demand forecast the large vehicle, ratio will be as low as 9.4% (2022).
- The shoulder width of bridge towards outside of each carriageway is 2.5 meters and towards median side of each carriageway is 0.75 meters.
- The major portion of MTHL structure is on sea and partly towards ends is on land with different type and with different span, viz., PC box girder with 50 m spans which is

typically applied on marine viaduct since, it is economical, easy to construct and maintain.

9. On the land portion, the PC box girder having span of generally 30m is used.
10. As far as the location in which long span (150-180 m) is required to cross significant obstacles, such as navigation channels, pipelines and creeks, the steel box girder bridge with steel deck is proposed with large block erection method to shorten the construction period.
11. The project is coded with three lanes of traffic in each direction. The reference toll is presented in the Table 1.3.2 below for each vehicle class in Year 2022 (based on 2015 monetary value reflecting price escalation).

Table 1.3.2: Base Toll Rates (Rs) for different class of vehicles between Interchanges

Vehicle Type	Sewri to Shivaji Nagar	Shivaji Nagar to Chirle	Total
Car	180	60	240
Bus	420	130	550
LCV	240	70	310
HCV	420	130	550
MAV	600	180	780

Intelligent Transport Systems (ITS) and Toll Management System (TMS)

12. The Toll Management System will be implemented in MTHL to collect tolls from all road users of MTHL. Two types of toll collection method will be adopted: Electronic Toll Collection (ETC) and Manual (paying by cash).
13. The lanes corresponding to these toll collection methods are dedicated ETC lanes and Manual lanes, and Manual system shall be installed to ETC lanes for backup to be able to cope at the time of the trouble of ETC equipment failure.

Traffic management System

14. Traffic Management System is a support system to Manage the traffic on MTHL safely and efficiently. The System consists of the information collection system including Closed-Circuit Television (CCTV), Emergency Call Box (ECB), Automatic Traffic Counter-Cum-Classifer (ATCC) and Meteorological Data System (MDS), and Information Dissemination System including Variable message Sign (VMS).
15. CCTV Cameras shall be installed at around three places per 1 km, on Both side of main route and the monitoring of the traffic condition of the whole stretch of MTHL will be almost enabled in the Traffic Control Centre and VMS displays the appropriate information for road users on the collated information.
16. The Information collected by these devices shall be transmitted to the Command Control Centre through the medium of an Optical Fiber Cable laid in MTHL.

Actual (P/R, PCR)

There is no change in the Rationale of the Project Design.

2.0 PROJECT IMPLEMENTATION

2.1 Project Scope

Refer Table 2.1.1 and 2.1.2 for details on Scope of the Project.

Table 2.1.1 Comparison of Original and Actual location

Location	Original: (P/M) Mumbai Metropolitan Region Development Authority, Mumbai, State of Maharashtra	Actual: (P/R and PCR)
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Table 2.1.2 Comparison of Original and Actual Scope

Items	Original	Actual
Construction work: 6-lane Marine Bridge Road (21.8 km)		
Package-1 Ch 0+000-10+380 (10.380 km)	<ul style="list-style-type: none"> • 1 Interchange (Sewri) • Viaduct superstructure (Marine Portion: PC Box Girder & Steel Box Girder with Steel Slab Land Portion: PC Box Girder & PC-I Girder) • Viaduct Substructure (RC Concrete Structure) • Viaduct Foundation (Bored piles) • Road Furniture and roadside facilities (Traffic Signs and Pavement Marking, Traffic Safety Devices, Crash Barrier, Drainage Structures, Noise Barriers, View Barriers) 	(P/R and PCR)
Package-2 Ch 10+380-18+187 (7.80 km)	<ul style="list-style-type: none"> • 1 Interchange (Shivaji Nagar) • Viaduct superstructure (Marine Portion: PC Box Girder & Steel Box Girder with Steel Slab Land Portion: PC Box Girder & PC-I Girder) • Viaduct Substructure (RC Concrete Structure) • Viaduct Foundation (Bored piles) • Road Furniture and roadside facilities (Traffic Signs and Pavement Marking, Traffic Safety Devices, Crash Barrier, Drainage Structures, Noise Barriers, View Barriers) 	(P/R and PCR) Actual: No View Barriers
Package-3 Ch 18+187-21+800 (3.61 km)	<ul style="list-style-type: none"> • 2 Interchanges (State Highway-54, National Highway-4B) • Viaduct superstructure (Marine Portion: PC Box Girder & Steel Box Girder with Steel Slab Land Portion: PC Box Girder & PC-I Girder & Steel Truss Girder for Rail-over-Bridges (ROB)) • Viaduct Substructure (RC Concrete Structure) • Viaduct Foundation (Bored piles) • Cutting Section (6-lane with Slope Protection) 	(P/R and PCR) Actual: No Noise Barriers & View Barriers



Items	Original	Actual
	<ul style="list-style-type: none"> Road Furniture and roadside facilities (Traffic Signs and Pavement Marking, Traffic Safety Devices, Crash Barrier, Drainage Structures, Noise Barriers, View Barriers) 	
Package-4 ITS (Intelligent Transport System)	<ul style="list-style-type: none"> Administrative Buildings Toll Booths (1 for main alignment and each on and off rumps for 3 interchanges) Traffic Management System (Traffic Control Centre, Closed Circuit Television (CCTV), Meteorological Observation System (MET), Emergency Call Box (ECB), Automatic traffic Counter-cum-Classifer (ATCC), Variable Message Sign (VMS)) Highway Lighting (Whole sections Low-positioned lighting for some sections) Electrical Powering System including HV/ LV Ring Network across the Bridge. 	(P/R and PCR)
Consulting Services	<ul style="list-style-type: none"> Tender Assistance Construction Supervision Facilitation of Implementation of Environmental Management Plan (EMP), Environmental Monitoring plan (EMoP). 	(P/R and PCR)

2.2 Implementation Schedule

2.2.1 The Original Implementation Schedule

Table 2-2-1 Comparison of Original and Actual Schedule

Items	Original	Status (P/R and PCR) as on 31 st December 2023
1) Completion of Land Acquisition and Resettlement	Mar 2019	Dec 2022
2) Consulting Services		
a) Selection of Consultant	May – Dec 2016	May – Dec 2016
b) Consultancy Works	Dec 2016 – Sep 2022	Oct 2022 – Mar 2024 (Extended)
3) Selection of Contractor		
Package-1, Package-2 & Package-3 (Civil)		
a) Pre-Qualification Process	May – Dec 2016	May – Dec 2016
b) Main Bidding	Jan– Dec 2017	Jan – Dec 2017
c) JICA's Concurrence of Contract	Feb-2018	Feb-2018
Package-4 (ITS)		
a) Pre-Qualification Process	Single Stage Bidding as concurred by JICA	
b) Main Bidding	June 2019 – Sep 2020	Jan 2021 – Dec 2021
4) Civil Construction		
Package-1 and Package-2	Mar 2018 – Sep 2022	Mar 2018–Sep 2023 (Extended)
Package-3	Mar 2018 – Sep 2021	Mar 2018 – Aug 2023 (Extended)
Package-4	June 2022 – Sep 2023	June 2022 – Sep 2023
5) Defect Liability Period		
Package-1 and Package-2	Oct 2022 – Sep 2024	Oct 2023 – Sep 2025
Package-3	Oct 2021 – Sep 2023	Sep 2023 – Aug 2025
Package-4	Oct 2023 – Sep 2025	Oct 2023 – Sep 2025
For ITS	Sep 2025- Sep 2028	Sep 2025- Sep 2028

Attachment 6, 7 & 8: Package wise construction schedules (progress) updated at the end of 1st Quarter (Apr – May - Jun 2023).

2.2.2 Reasons for changes of the schedule and their effects to the Project

(P/R and PCR)

No change in the Implementation Schedule except the selection of O&M Organization timeline.

Cost Breakdown	Foreign Currency Portion			Local Currency Portion			Total		
	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)	Total (Rs. mil)	JICA Portion (Rs. mil)	Others (Rs. mil)	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)
Package-1	37,249	37,249	0	43,708	43,708	0	112,426	112,426	0
Package-2	29,247	29,247	0	33,283	33,283	0	86,494	86,494	0
Package-3	804	804	0	8,360	8,360	0	15,184	15,184	0
Package-4 (ITS)	0	0	0	3,770	3,770	0	6,484	6,484	0
Package-5 (Geotechnical Investigation)	0	0	0	147	0	147	253	0	253
Dispute Boards (Package-1, 2, 3 & 4)	0	0	0	58	58	0	99	99	0
Price Escalation	390	390	0	403	403	0	1,082	1,082	0
Physical Contingency	5,077	5,077	0	6,730	6,719	11	16,652	16,633	19
Consulting Services	1,611	1,611	0	1,423	1,423	0	4,058	4,058	0
Land Acquisition*	0	0	0	10,495	0	10,495	18,052	0	18,052
Administration Cost	0	0	0	4,548	0	4,548	7,823	0	7,823
GST	0	0	0	16,935	0	16,935	29,128	0	29,128
Import Tax	0	0	0	12,691	0	12,691	21,830	0	21,830
Interest during construction	3,349	0	3,349	0	0	0	3,349	0	3,349
Front End Fee	485	0	485	0	0	0	485	0	485
Total	78,211	74,377	3,833	142,550	97,723	44,828	323,396	242,459	80,938

2.3 Project Cost

2.3.1. a Comparison of Originally Planned and Actually Incurred Cost by ITEM

Table 2.3.1.a.(i) Originally Planned Cost by ITEM

Cost Breakdown	Foreign Currency Portion			Local Currency Portion			Total		
	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)	Total Rs. mil)	JICA Portion Rs. mil)	Others Rs. mil)	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)
Package-1	37,249	37,249	0	43,708	43,708	0	112,426	112,426	0
Package-2	29,247	29,247	0	33,283	33,283	0	86,494	86,494	0
Package-3	804	804	0	8,360	8,360	0	15,184	15,184	0
Package-4 (ITS)	0	0	0	3,770	3,770	0	6,484	6,484	0
Package-5 (Geotechnical Investigation)	0	0	0	147	0	147	253	0	253
Dispute Boards (Package-1, 2, 3 & 4)	0	0	0	58	58	0	99	99	0
Price Escalation	390	390	0	403	403	0	1,082	1,082	0
Physical Contingency	5,077	5,077	0	6,730	6,719	11	16,652	16,633	19
Consulting Services	1,611	1,611	0	1,423	1,423	0	4,058	4,058	0
Land Acquisition*	0	0	0	10,495	0	10,495	18,052	0	18,052
Administration Cost	0	0	0	4,548	0	4,548	7,823	0	7,823
GST	0	0	0	16,935	0	16,935	29,128	0	29,128
Import Tax	0	0	0	12,691	0	12,691	21,830	0	21,830
Interest during construction	3,349	0	3,349	0	0	0	3,349	0	3,349
Front End Fee	485	0	485	0	0	0	485	0	485
Total	78,211	74,377	3,833	142,550	97,723	44,828	323,396	242,459	80,938

Note - 1. Exchange Rate: US\$1=Rs. 78.1, US\$1=JPY 134.0, Rs.1 = JPY 1.72

2. Price Escalation (a) Foreign Currency Portion: 2.06% p.a.

(b) Local Currency Portion: 4.50% p.a.

3. Physical Contingency: 7.5%

4. Base Year for Cost Estimation: July 2022

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Table 2.3.1.a.(ii) Actually Incurred Cost by ITEM

Cost Breakdown	Foreign Currency Portion			Local Currency Portion			Total		
	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)	Total (Rs. mil)	JICA Portion (Rs. mil)	Others (Rs. mil)	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)
Package-1	37,110	37,110	-	46,559	46,559		110,213	110,213	
Package-2	27,666	27,666	-	34,601	34,601		82,457	82,457	
Package-3	805	805	-	8,383	8,383		13,750	13,750	
Package-4 (ITS)	-	-	-	715	715		1,202	1,202	
Package-5 (Geotechnical Investigation)	-	-	-	196		196	337		337
Dispute Boards (Package-1, 2, 3 & 4)	-	-	-	-			-		-
Price Escalation	-	-	-	-					-
Physical Contingency	-	-	-	-			-		-
Consulting Services	253	253		362	362		2,051	2,051	-
Land Acquisition*	-			9,890		9,890	17,011		17,011
Administration Cost	-			4,870		4,870	8,376		8,376
GST	-			19,364		19,364	33,306		33,306
Import Tax	-			-			-		-
Interest during construction	971		971	-			971		971
Front End Fee	423		423	-			423		423
Total	67,228	65,384	1,394	124,940	90,620	34,320	270,097	209,673	60,425

Note - 1. Exchange Rate: Rs.1 = JPY 1.72 for MMRDA Portion only.

2. Price Escalation (a) Foreign Currency Portion: 2.06% p.a.

(b) Local Currency Portion: 4.50% p.a.

3. Physical Contingency: 7.5%

4. Base Year for Cost Estimation: July 2022.

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2.3.1. b. Comparison of Originally Planned and Actually Incurred Cost by YEAR

Table 2.3.1.b.(i) Originally Planned Cost by YEAR (All Figures are in JPY mil)

Cost Breakdown	Total	JICA Portion				Others (MMRDA Portion)
		Tranche I	Tranche II	Tranche III	Sub Total	
FY 2015	82	0	0	0	0	82
FY 2016	247	0	0	0	0	247
FY 2017	22,806	10,041	0	0	10,041	12,765
FY 2018	39,813	23,631	0	0	23,631	16,182
FY 2019	41,797	33,549	0	0	33,549	8,248
FY 2020	35,348	26,354	0	0	26,354	8,994
FY 2021	63,583	48,460	0	0	48,460	15,123
FY 2022	50,198	2,759	39,911	0	42,670	7,528
FY 2023	46,007	0	26,998	11,247	38,245	7,762
FY 2024	15,494	0	0	12,907	12,907	2,587
FY 2025	8,022	0	0	6,601	6,601	1,421
Total	323,396	144,794	66,909	30,755	242,458	80,938

Table 2.3.1.b.(ii) Actually Incurred Cost by YEAR (All Figures are in JPY mil)

Cost Breakdown	Total	JICA Portion				Others (MMRDA Portion)
		Tranche I	Tranche II	Tranche III	Sub Total	
FY 2017	13,738	9,232	-	-	9,232	4,506
FY 2018	26,813	21,695	-	-	21,695	5,118
FY 2019	40,410	31,014	-	-	31,014	9,396
FY 2020	31,822	23,885	-	-	23,885	7,937
FY 2021	53,977	43,204	-	-	43,204	10,773
FY 2022	80,126	13,734	52,905	-	66,639	13,487
FY 2023	23,212	-	14,004	-	14,004	9,208
FY 2024						
Total	270,098	142,764	66,909	-	209,673	60,425

- e) 1. Exchange Rate used: Rs.1 = JPY 1.72 for MMRDA Portion only
 2. Fiscal Year starting from 1st April and ending on 31st Mar.

2.3.2 Reason(s) for the wide gap between the original and actual, if there have been any, the remedies you have taken, and their results.

(P/R and PCR)

There is no major gap between the original and actual cost.

2.4 Organization for Implementation

2.4.1 Executing Agency

Original:

Executing Agency

Mumbai Metropolitan Region Development Authority (MMRDA) was established on 26th Jan 1975 in accordance with the Mumbai Metropolitan Development Act, 1974 to make Mumbai Metropolitan Region (MMR) a destination for economic activity by promoting infrastructure and regional planning. MMRDA takes all the necessary measures, required from time to time, in an effective manner and be fully responsible for the Project implementation. After completion of the Project, MMRDA continues to be responsible for the efficient operation and maintenance of the Project.

The GoM appointed MMRDA as the implementing/ executing agency of MTHL vide Government Resolution dated 4th Feb 2009 and further the ownership of MTHL would be with MMRDA vide Government Resolution dated 8th June 2011

Organization's Role

To construct, execute, carryout, improve, work, develop, administer, manage, control or maintain in MMR all types of roads, highways, express routes, paths, streets, bridges, sideways, tunnels and other infrastructure, works and conveniences, approach road, etc. Under the Project, MMRDA is responsible for all the tendering process including employment of consultants, as well as for the construction process.

Project Implementation Unit (PIU)

The PIU is in charge of the Projects. The PIU is headed by Chief Engineer, comprising of 6 Divisions/Cells (Finance Division, Social Development Cell, Engineering Division, Land Cell, Administrative Division and Environmental Cell), Supervision/ ITS Consultant and supporting staff.

Procurement

MMRDA shall have to adopt the JICA's Standard Bidding Documents of the latest version, as stipulated in Section 4.01 (2) of "Guidelines for Procurement under Japanese ODA Loans.

Procurement of goods and services, except for consulting services, converted by the Japanese ODA Loan should be implemented in accordance with "Guidelines for Procurement under Japanese ODA Loans", dated in Apr 2012. Employment of consultants should be implemented in accordance with "Guidelines of Employment of Consultant under Japanese ODA Loans", dated in Apr 2012. "Principles of Procurement under the Project" is attached for a brief explanation of the above Guidelines.

Actual, if changed: (P/R and PCR)

There is no change made in the original Organization Set-up & Implementation methods. Refer Annexure III Organization Chart.

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2.4.2 Contractor(s)/ Supplier(s), and Consultant(s) and their Performance:

2.4.2.1 Procurement & Consultant

Table 2.4.2 Procurement of Contractor(s)/ Supplier(s) and Consultant(s)

Contract Package	Selection Method		
	Original: (P/M)	Actual: (P/R and PCR)	
Construction Works			
1	Package-1: From CH 0+000 - To CH 10+380 (10.38 km)	International Competitive Bidding Process (With PQ, Single stage with two envelopes)	No Change
2	Package-2: From CH 10+380 - To CH 18+187 (7.80 km)	International Competitive Bidding Process (With PQ, Single stage with two envelopes)	No Change
3	Package-3: From CH 18+187 - To CH 21+800 (3.61 km)	International Competitive Bidding Process (With PQ, Single stage with two envelopes)	No Change
4	Package-4: To install ITS (Toll Management System and Highway Traffic Management System)	International Competitive Bidding Process (With PQ, Single stage with two envelopes)	International Competitive Direct Bidding Process without Pre-Qualification
5	Package-5: To conduct the geotechnical investigation	Local Competitive Bidding Process	No Change
Consulting Services			
1	Consulting Service for Supervision	Short List Method (QCBS)	No Change

2.5 Consultant's Progress:

Oct 2023:

GC scrutinized & certified the following invoices claimed by the Contractors:

- Package-1: IPC-72-100% Certified and IPC-73 -80% Ad-hoc Certified by GC.
- Package-2: IPC-66 100% Certified and IPC-67 -80% Ad-hoc Certified by GC.
- Package-3: IPC-60 100% Certified and IPC-61 -80% Ad-hoc Certified by GC.
- Package-4: IPC-06 100% Certified and IPC-7 -80% Ad-hoc Certified by GC.

Nov 2023:

GC scrutinized & certified the following invoices claimed by the Contractors:

- Package-1: IPC-73 100% certified and IPC-74 80% Ad-hoc certified by GC.
- Package-2: IPC-67 100% certified & IPC-68 -80% Ad-hoc certified by GC.
- Package-3: IPC-61 100% certified & IPC-62 -80% Ad-hoc certified by GC.
- Package-4: IPC-07 100% Certified and IPC-08 -80% Ad-hoc Certified by GC.

Dec 2023:

GC scrutinized & certified the following invoices claimed by the Contractors:

- Package-1: IPC-74-100% Certified and IPC-75 -80% Ad-hoc Certified by GC.
- Package-2: IPC-68 100% certified - & IPC-69 - 80% Ad-hoc Certified by GC.
- Package-3: IPC-62 100% certified & IPC-63 -80% Ad-hoc certified by GC.
- Package-4: IPC-08 100% Certified and IPC-09 -80% Ad-hoc Certified by GC.

GC has prepared and submitted a total reimbursement claim of 7173.96 million JPY to MMRDA / JICA in Jun 2023. (Please refer Annexure-2)

100% of the Technical Design Modules across all the 3 Packages have been given "NONO" by the GC & Package design submission is in progress.

100% of the Construction (GFC – Good for Construction) Design Modules across all the 3 Packages have been given "NONO" by the GC.

Package-1 – 100%, Package-2 – 100%, Package-3 -100%.

2.6 Contractor's Progress:

2.6.1 Package-1 Physical Progress till 31st December 2023

S. No	Activity	Total Scope	Unit	Cumulative Achieved Works	% of Work done Against the Total Scope	Remarks
1	Permanent Bridge Works - Land/ Interchange Zone					
1.1	Piles	523	No.	523	100.00%	
1.2	Pile Caps	158	No.	158	100.00%	
1.3	Piers	228	No.	228	100.00%	
1.4	Pier Caps	215	No.	215	100.00%	
2	Permanent Bridge Works - Intertidal Zone					
2.1	Piles	312	No.	312	100.00%	
2.2	Pile Caps	75	No.	75	100.00%	
2.3	Piers	146	No.	146	100.00%	
2.4	Pier Caps	146	No.	146	100.00%	
3	Permanent Bridge Works - Marine Zone					
3.1	Piles	403	No.	403	100.00%	
3.2	Pile Caps	80	No.	80	100.00%	
3.3	Piers	162	No.	162	100.00%	
3.4	Pier Caps	162	No.	162	100.00%	
4	Permanent Bridge Works - Total					
4.1	Piles	1238	No.	1238	100.00%	
4.2	Pile Caps	313	No.	313	100.00%	
4.3	Piers	536	No.	536	100.00%	
4.4	Pier Caps	536	No.	536	100.00%	
5	Precast Segments					
5.1	Segment Casting	6714	No.	6714	100.00%	
5.2	Segment (Span) Erection+ Cast-in-Situ Slab	478	No.	477	100.00%	
6	OSD Structural Steel					
6.1	Fabrication	53703	MT	53703	100.00%	
6.2	Assembly (Large Blocks)	53703	MT	53703	100.00%	
6.3	OSD Span Erection	38	No.	38	100.00%	
7	Crash Barrier					
7.1	Crash Barrier - Median	20320	Rmt	14282	100.00%	
7.2	Crash Barrier - Outer	31099	Rmt	24615	100.00%	

2.6.2 Package-2 Physical Progress till 31st December 2023

S. No	Activity	Total Scope	Unit	Cumulative Achieved Works	% of Work done Against the Total Scope	Remarks
1	Permanent Bridge Works - Land/ Interchange Zone					
1.1	Open Foundation	113	No.	113	100.00%	
1.2	Piers	119	No.	119	100.00%	
1.3	Pier Caps	105	No.	105	100.00%	
1.4	Portal Beams- Land	6	No.	6	100.00%	
1.5	Pier Head Segments -Land	42	No.	42	100.00%	
2	Permanent Bridge Works - Intertidal & CRZ Zone					
2.1	Piles	280	No.	280	100.00%	
2.2	Pile Caps	72	No.	72	100.00%	
2.3	Piers	72	No.	72	100.00%	
2.4	Pier Caps	18	No.	18	100.00%	
2.5	Pier Head Segments	54	No.	54	100.00%	
3	Permanent Bridge Works - Marine Zone					
3.1	Piles	504	No.	504	100.00%	
3.2	Pile Caps	120	No.	120	100.00%	
3.3	Piers	120	No.	120	100.00%	
3.4	Pier Caps	48	No.	48	100.00%	
3.5	Pier Head Segments	74	No.	74	100.00%	
4	Permanent Bridge Works - Total					
4.1	Open Foundation	113	No.	113	100.00%	
4.2	Piles	784	No.	784	100.00%	
4.3	Pile Caps	192	No.	192	100.00%	
4.4	Piers	311	No.	311	100.00%	
4.5	Pier Caps/ Portal Beams	177	No.	177	100.00%	
4.6	Pier Head Segments	170	No.	170	100.00%	
5	Precast Segments					
5.1	Segment Casting	3132	No.	3132	100.00%	
5.2	Segment (Span) Erection + Cast-in-Situ Slabs	272	No.	272	100.00%	
6	OSD Structural Steel					
6.1	Fabrication	34726	MT	34,726	100.00%	
6.2	Assembly (for Large Block)	34726	MT	34726	100.00%	
6.3	OSD Span Erection	32	No.	32	100.00%	
7	Crash Barrier					
7.1	Crash Barrier	36559	Rmt	27977	100.00%	

2.6.3 Package-3 Physical Progress till 31st December

S. No	Activity	Total Scope	Unit	Cumulative Achieved Works	% of Work done Against the Total Scope	Remarks
1	Permanent Bridge Works					
1.1	Open Foundations	221	No.	221	100.00%	
1.2	Piles	24	No.	24	100.00%	
1.3	Pile Caps	4	No.	4	100.00%	
1.4	Piers	242	No.	242	100.00%	
1.5	Pier Caps	189	No.	189	100.00%	
1.6	Segment Casting	834	No.	834	100.00%	
1.7	Segment (Span) Erection	59	No.	59	100.00%	
1.8	Cast in-situ Slab	108	No.	108	100.00%	
1.9	Rail Overbridge (ROB) Span	20	No.	20	100.00%	
1.10	Crash Barrier	14500	Rmt	11100	100.00%	

2.6.4 Package-4 (ITS) Progress till 31th December 2023

1. Design & Drawings submission is in progress.
2. Geotechnical Investigation for Sub admin building & Service Road is completed.
3. Physical Progress till 30th June 2023

Sr. No	Activity	Unit	Total Scope	Cumulative Work done Achieved	% of Work done Against the Total Scope	Remarks
1. Food Plaza 1						
	RCC Plinth Beams	Rm	494	494	100.00%	
	RCC Column 1 st lift - GF	Nos	38	3	100.00%	
	RCC Column 2 nd lift - GF	Nos	38	0	100.00%	
2. Food Plaza - 2						
	Staging for Roof Slab – GF	Cum	3006	1800	100.00%	
	Decking for Roof Slab - GF	Sqm	1002	700	100.00%	
3. Gavhan Tunnel						
	PCC for Raft	Rm	131	131	100.00%	

	RCC for Raft	Rm	131	131	100.00%	
	RCC Slab	Rm	131	131	100.00%	
	Staircase Slab	Sqm	17.5	0	100.00%	
4. Gavhan Main Admin Building						
	Roof Slab – Concreting - GF	Cum	207	207	100.00%	
	Column 1 st lift - FF	Nos	49	49	100.00%	
	Column 2 nd lift - FF	Nos	49	49	100.00%	
	Shear Wall for lift – 1 st lift – FF	Nos	1	0.5	100.00%	
	Shear Wall for lift – 2 nd lift – FF	Nos	1	0.5	100.00%	
5. Shivaji Nagar Sub – Admin Building						
	RCC Column Starter/ 1 st Lift GF	Nos	23	13	100.00%	
	UG trenches/Conduits	Ls	1	1	100.00%	
	Grade Slab for flooring (PCC & RCC)	Sqm	350	350	100.00%	
6. Sewri Sub – Admin Building						
	Backfilling upto Plinth Level	Cum	300	300	100.00%	
	Grade slab for flooring (PCC & RCC)	Sqm	420	200	100.00%	
	Column 1 st lift – GF	Nos	22	22	100.00%	
	Column 2 nd lift – GF	Nos	22	18	100.00%	
	Decking for Roof slab - GF	Cum	450	100	100.00%	

Please refer Attachment 9 - Site Progress Photos showing the development of the project.

2.7 Health & Safety and Environment (HSE)

The HSE Plans have been submitted by the respective construction agencies for the Packages which are being monitored by the GC on a regular basis.

2.7.1 Package-1 Safety Report

S No.	Description	Unit	Oct-Nov-Dec-2023	Cumulative
1	Average Daily Manpower (all Workmen & Staff)	Numbers	1998	4255
2	Man-Days Worked	Days	87534	8514062
3	Man-Hours Worked	Hours	700272	71620493
4	Accident-Free Man Hours	Hours	700272	8319115
5	Fatal Accidents (Reportable)	Incidents (Nos.)	0	7
6	Fatality Cases.	Fatalities (FAT)	0	8
7	Lost Time Injury Incidents (Reportable)	Incidents (Nos.)	0	8
8	Lost Time Injury Cases (Persons Injured)	# Injured Persons	0	10
9	Restricted Work Medical Case	RWMC (#Incidents)	0	0
10	Medical Treatment Cases	MTC (#Incidents)	0	2
11	First Aid Cases.	FAC (#Cases)	1	348
12	Near Miss Incidents.	NMI (#Incidents)	0	151
13	Dangerous Occurrences.	DO (#Numbers)	0	8
14	Reportable Sick Cases (Succumbed due Covid)	Sick (#Persons)	0	2
15	Man-Hours Lost	Hours	240	396192
16	Man-Days Lost	Days	30	49533
17	Reportable Incident Frequency Rate / Million Man Hours	# (FAT+ Injuries)/MMH	0	0
18	Reportable Incident Severity Rate / Million Man Hours	Days Lost/MMHr	43	741
19	Total Injury Incident Frequency Rate / 1M Man Hours	TIFR	0	0
20	Toolbox Talks	Sessions	2002	191391
21	Safety Walk down Inspections (Joint & CFT)	Numbers	5	335
22	Routine Safety Inspections (Safety Team with Reports)	Numbers	32	4664
23	Total Observations Raised (Safety)	Numbers	432	101952
24	Health & Hygiene Inspections	Numbers	4	140
25	Total Observations Raised (Health & Hygiene)	Numbers	6	971
26	Training Sessions done for Offices & Sites	Sessions	21	3941
27	Personnel Attended Training Sessions (Classroom & Site)	Persons	519	55171
28	Contractor Safety Committee Meetings	Numbers	1	51
29	Critical Excavations	Numbers	0	86
30	Pre-employment Medical check-ups	Persons	564	52617
31	Safety Inductions completed	Persons	558	54490
32	Mock drills Conducted	Numbers	1	48
33	Contractor's Internal Audits Conducted	Numbers	1	63

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2.7.2 Package – 2 Safety Report

S No.	Description	Unit	Oct-Nov-Dec 2023	Cumulative
1	Average Daily Manpower (all Workmen & Staff)	Numbers	1608	3,388
2	Man-Days Worked	Days	38592	35,46,773
3	Man-Hours Worked	Hours	424512	3,89,99,684
4	Accident-Free Man Hours	Hours	424512	98,95,162
5	Fatal Accidents (Reportable)	Incidents (Nos.)	0	0
6	Fatality Cases.	Fatalities (FAT)	0	0
7	Lost Time Injury Incidents (Reportable)	Incidents (Nos.)	0	14
8	Lost Time Injury Cases (Persons Injured)	# Injured Persons	0	14
ss9	Restricted Work Medical Case	RWMC (#Incidents)	0	8
10	Medical Treatment Cases	MTC (#Incidents)	0	16
11	First Aid Cases.	FAC (#Cases)	3	212
12	Near Miss Incidents.	NMI (#Incidents)	5	495
13	Dangerous Occurrences.	DO (#Numbers)	0	20
14	Reportable Sick Cases (Succumbed due Covid)	Sick (#Persons)	0	0
15	Man-Hours Lost	Hours	0	6,848
16	Man-Days Lost	Days	0	833
17	Reportable Incident Frequency Rate / Million Man Hours	# (FAT+ Injuries)/MMH	0	0
18	Reportable Incident Severity Rate / Million Man Hours	Days Lost/MMHr	0	22
19	Total Injury Incident Frequency Rate / 1M Man Hours	TIFR	0	1
20	Toolbox Talks	Sessions	360	19,798
21	Safety Walk down Inspections (Joint & CFT)	Numbers	4	234
22	Routine Safety Inspections (Safety Team with Reports)	Numbers	96	3,186
23	Total Observations Raised (Safety)	Numbers	349	31,080
24	Health & Hygiene Inspections	Numbers	15	72
25	Total Observations Raised (Health & Hygiene)	Numbers	0	0
26	Training Sessions done for Offices & Sites	Sessions	14	1,934
27	Personnel Attended Training Sessions (Classroom & Site)	Persons	234	36,793
28	Contractor Safety Committee Meetings	Numbers	1	66
29	Critical Excavations	Numbers	0	0
30	Pre-employment Medical check-ups	Persons	272	20,385
31	Safety Inductions completed	Persons	272	20,572
32	Mock drills Conducted	Numbers	1	58
33	Contractor's Internal Audits Conducted	Numbers	0	0

2.7.3 Package – 3 Safety Report

S No.	Description	Unit	Oct-Nov-Dec 2023	Cumulative
1	Average Daily Manpower (all Workmen & Staff)	Numbers	159	544
2	Man-Days Worked	Days	6,555	10,03,110
3	Man-Hours Worked	Hours	52,437	80,24,883
4	Accident-Free Man Hours	Hours	52,437	22,11,132
5	Fatal Accidents (Reportable)	Incidents (Nos.)	0	0
6	Fatality Cases.	Fatalities (FAT)	0	0
7	Lost Time Injury Incidents (Reportable)	Incidents (Nos.)	0	3
8	Lost Time Injury Cases (Persons Injured)	# Injured Persons	0	3
9	Restricted Work Medical Case	RWMC (#Incidents)	0	0
10	Medical Treatment Cases	MTC (#Incidents)	0	0
11	First Aid Cases.	FAC (#Cases)	0	134
12	Near Miss Incidents.	NMI (#Incidents)	0	53
13	Dangerous Occurrences.	DO (#Numbers)	0	1
14	Reportable Sick Cases (Succumbed due Covid)	Sick (#Persons)	0	0
15	Man-Hours Lost	Hours	0	2,336
16	Man-Days Lost	Days	0	292
17	Reportable Incident Frequency Rate / Million Man Hours	# (FAT+ Injuries)/MMH	0.00	0
18	Reportable Incident Severity Rate / Million Man Hours	Days Lost/MMHr	0	37
19	Total Injury Incident Frequency Rate / 1M Man Hours	TIFR	0.00	0
20	Toolbox Talks	Sessions	81	9,811
21	Safety Walk down Inspections (Joint & CFT)	Numbers	4	241
22	Routine Safety Inspections (Safety Team with Reports)	Numbers	8	321
23	Total Observations Raised (Safety)	Numbers	70	13,228
24	Health & Hygiene Inspections	Numbers	1	116
25	Total Observations Raised (Health & Hygiene)	Numbers	2	429
26	Training Sessions done for Offices & Sites	Sessions	17	734
27	Personnel Attended Training Sessions (Classroom & Site)	Persons	178	13,565
28	Contractor Safety Committee Meetings	Numbers	1	62
29	Critical Excavations	Numbers	0	11
30	Pre-employment Medical check-ups	Persons	39	10,422
31	Safety Inductions completed	Persons	39	10,422
32	Mock drills Conducted	Numbers	1	59
33	Contractor's Internal Audits Conducted	Numbers	0	19

2.7.4 Package-4 Safety Report

S No.	Description	Unit	Oct-Nov-Dec 2023	Cumulative
1	Average Daily Manpower (all Workmen & Staff)	Numbers	904	3
2	Man-Days Worked	Days	27120	6
3	Man-Hours Worked	Hours	2,16,960	0
4	Accident-Free Man Hours	Hours	2,16,960	0
5	Fatal Accidents (Reportable)	Incidents (Nos.)	0	0
6	Fatality Cases.	Fatalities (FAT)	0	0
7	Lost Time Injury Incidents (Reportable)	Incidents (Nos.)	0	0
8	Lost Time Injury Cases (Persons Injured)	# Injured Persons	0	0
9	Restricted Work Medical Case	RWMC (#Incidents)	0	1
10	Medical Treatment Cases	MTC (#Incidents)	0	2,233
11	First Aid Cases.	FAC (#Cases)	0	42
12	Near Miss Incidents.	NMI (#Incidents)	0	76
13	Dangerous Occurrences.	DO (#Numbers)	0	0
14	Reportable Sick Cases (Succumbed due Covid)	Sick (#Persons)	0	0
15	Man-Hours Lost	Hours	0	0
16	Man-Days Lost	Days	0	0
17	Reportable Incident Frequency Rate / Million Man Hours	# (FAT+ Injuries)/MMH	0.00	0
18	Reportable Incident Severity Rate / Million Man Hours	Days Lost/ MMHr	0	0
19	Total Injury Incident Frequency Rate / 1M Man Hours	TIFR	0.00	1
20	Toolbox Talks	Sessions	407	2,233
21	Safety Walk down Inspections (Joint & CFT)	Numbers	5	42
22	Routine Safety Inspections (Safety Team with Reports)	Numbers	9	76
23	Total Observations Raised (Safety)	Numbers	191	1,192
24	Health & Hygiene Inspections	Numbers	1	8
25	Total Observations Raised (Health & Hygiene)	Numbers	6	48
26	Training Sessions done for Offices & Sites	Sessions	27	245
27	Personnel Attended Training Sessions (Classroom & Site)	Persons	942	5,868
28	Contractor Safety Committee Meetings	Numbers	1	10
29	Critical Excavations	Numbers	0	3
30	Pre-employment Medical check-ups	Persons	253	1,703
31	Safety Inductions completed	Persons	253	1,703
32	Mock drills Conducted	Numbers	0	5
33	Contractor's Internal Audits Conducted	Numbers	0	2

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3.0 BENEFITS DERIVED FROM THE PROJECT (EFFECTIVENESS)**3.1 Operational and Physical Condition**

(This section will be developed when the operational plan is available)

Facilities	Description of condition	Problems, its Background and Remedial Action Plan
(P/R and PCR)	(P/R and PCR)	(P/R and PCR)

3.2 Precautions (Measures to be adopted/ Points which require special attention)

Original Issues and Counter measure(s)	Actual Issues and Counter measure(s)
<p>3.2.1 General Issues</p> <p>1. Toll Arrangement/ Toll Rate Fixed toll rate as per the type of vehicle will be levied for the road users after the completion of the Project. An appropriate tolling policy/ rates will be finalized in consultation with the state government prior to the completion of Civil works.</p> <p>2. Operation and Maintenance MMRDA proposes to appoint separate agencies for Operation & Maintenance of the bridge and for Toll Management System. Both the agencies for O & M and Toll Management System may be appointed through open tendering process. Overall monitoring of the two agencies would be done by MMRDA in-house through a separate cell which could be constituted for the purpose. MMRDA has confirmed to allocate an adequate budget engaging the Contractors.</p>	<p>(P/R and PCR)</p> <p>Appropriate Tolling Policy/ Rates finalization is in progress.</p> <p>A single Operation and Maintenance Contractor finalization is in progress.</p>
<p>3.2.2 Environmental and Social Consideration</p> <p>a. CRZ Clearance</p> <p>i. Supplemental EIA has been approved by MMRDA and disclosed on the website of JICA. A supplemental EIA report has been disclosed also on the website of MMRDA.</p> <p>ii. Furthermore, renewed CRZ Clearance has been obtained in January 2016.</p> <p>iii. In accordance with the conditions for CRZ Clearance, appropriate measures shall be taken, and necessary budget shall be secured by MMRDA.</p>	<p>(P/R and PCR)</p> <ul style="list-style-type: none"> • MMRDA has disclosed Supplemental EIA & SIA on MMRDA website. • The renewed CRZ clearance was granted on 25/1/2016 from MoEF&CC and the approval conditions have been imposed on the Contractors as the Employer's requirements. MMRDA has actively monitored the compliances of the approval conditions and maintained them throughout the construction phase. • MMRDA appointed Mangroves & Marine Biodiversity Foundation for bird monitoring and implementation of Flamingos and bird monitoring program for the MTHL project during the construction as well as the long-term monitoring after the construction.

	<ul style="list-style-type: none"> • Rs 91.42 Crore has been transferred to Mangroves & Marine Biodiversity Foundation, Mumbai for the development & conservation of mangrove area and its afforestation. Such funds will be managed by the Mangrove Foundation of Maharashtra State. • As per the renewed CRZ clearance condition, IIT Mumbai has been appointed for the DPR study to develop a Mahul creek Effluent Treatment Plant (ETP). Rs 4.98 Crore was secured for IIT services. The Draft DPR has been reviewed and approved. • Proposal of extension for CRZ clearance submitted vide reference no MCZMA 2022/08/CR-246/3719 dated 4th Aug-2022. (Please refer Annexure-3)
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b. Required Permits

The Permits to be obtained by MMRDA/ Contractors and the present status is given in the following Table.

Table 3.2.2 Present Status of some Important Permits

Clearance Required	Approving Authority	Responsible Organization	Obtained by when	Remark /Status
Mangrove Cutting	Hon. Bombay High Court	MMRDA/ Contractor	Approval received from Hon. Bombay High Court on 28 th Nov 2016	Mangrove cutting operation was completed with full compliance and as of now, no further follow up work is required.
Tree Cutting /Transplantation	Respective Tree Authorities	Contractor for respective Packages	-	<p>Pkg-1: Tree Cutting/ Transplantation permission from the Garden Dept., MCGM obtained on 24th Dec 2020.</p> <p>Pkg-2: Tree Cutting/ Transplantation permission obtained & completed.</p> <p>Pkg-3: Forest Department issued a concurrence on 19/05/2019. CIDCO's permission for Tree Cutting/ Transplantation obtained on 25th Nov 2019.</p>
Consent to Establish	Maharashtra Pollution Control Board	Contractor for respective Packages	Pkg-1-18.07.2018 Pkg-2-16.08.2018 Pkg-3-29.05.2019	

3.3 Environmental and Social Impacts

Major environmental and social impacts have occurred during project implementation (e.g. involuntary resettlement, poverty reduction, impacts on the natural environment).

Issue(s)	Action or countermeasure(s) taken and remaining problem(s)
<p>1. Establishment of Effective Environmental and Social Cell in PIU</p> <p>MMRDA confirmed that Social Development Cell (2 Officers), Land Cell (3 Officers), and Environmental Cell (2 Officers) had been set up.</p>	<p>Cell is established by MMRDA (Annexure III, Organization chart)</p>
<p>2. Rehabilitation and Land Acquisition Issues</p> <p>a. Affected Area and Population</p> <p>Due to the Project, 1282 non-titleholders will be involuntary resettled, and 108.4379 ha of land will be handed over by CIDCO.</p>	<p>Sewri: Involuntary resettlement in Sewri section has been further validated by Social Development Cell of MMRDA. Out of 297 Project Affected Households (PAHs) have given consents as follows:</p> <ul style="list-style-type: none"> • 164 PAHs Kanjurmarg for residential • 25 PAHs Kanjurmarg for commercial • 7 PAHs (Satsangi Plot) Kanjurmarg for Commercial • 1 PAHs (commercial to residential) for Bhakti Park • 100 PAHs HDIL Kurla for residential <p>Navi Mumbai: CIDCO has been finalizing the land acquisition closely monitored by Land Cell of MMRDA.</p> <p>CIDCO has possessed 106.3542 ha of land and handed over to MMRDA, except private land of 2.0837 ha.</p> <p>0.3937 ha land is under acquisition out of balance 2.0837 ha land. CIDCO is planning to acquire the balance ROW land of with the help of Collector, Raigad.</p>

B. Entitlement Policy

MMRDA prepared the entitlement matrix for resettlement of non-title holders in Sewri, which meets the Resettlement and Rehabilitation Policy for Mumbai Urban Transportation Project (1997, amended in 2000) and JICA guidelines for Environmental and social considerations (2010) ("Guidelines") (Attachment 2-5).

There have been no changes during the enforcement. As per the Attachment 2-5 of JICA MoD, MMRDA has committed to enforce the agreed/ approved policy.

Issue(s)	Action or countermeasure(s) taken and remaining problem(s)
<p>c. Compensation to Project affected Fishermen</p> <p>Detailed baseline survey will be undertaken by MMRDA in order to identify fishermen who are affected by the Project. Based on the result of the baseline survey, MMRDA will compensate them in accordance with compensation policy prior to the construction. Monitoring will be conducted by MMRDA with assistance of the Consultant to gasp the exact impact during construction and operation phase.</p>	<p>Updated Attachments 2-8 and 2-10 are enclosed in the report.</p>
<p>d. Implementation Schedule</p> <p>The Implementation schedule for land acquisition, resettlement and rehabilitation is attached as per Attachment 2-10.</p>	<p>Updated Attachment 2-10 is enclosed in the report.</p>
<p>e. Grievance Redressal Mechanism</p> <p>Grievance Redressal Committee ("GRC") set under MMRDA will deal with grievances raised by PAPs in Sewri and fishermen to be affected by the Project. Any grievances raised by PAPs whose land is acquired by CIDCO shall be resolved by CIDCO.</p>	<p>Sewri: FLGRC (Field Level Grievance Redressal Committee) and SLGRC (Senior Level Grievance Redressal Committee) were set as per the RAP and in operation. Compensation Committee has been constituted to address the issues of Compensation to Lease Holders at Sewri.</p> <p>Fishermen: GRC for resolving grievances of the fisherfolk was set up as per the compensation policy and is in operation.</p>



<p>f. Internal Monitoring</p> <p>Internal Monitoring of the Resettlement Action Plan (RAP) implementation will be conducted by MMRDA in accordance with the RAP with necessary assistance of the consultant. RAP Internal Monitoring Form (Attachment 2-8) will be submitted to JICA on a quarterly basis as a part of PSR during the RAP implementation.</p>	<p>Internal Monitoring updates are mentioned in Attachment 2-8.</p>
<p>g. Qualitative Independent Evaluation</p> <p>An Independent Evaluation Agency will be hired by MMRDA for evaluation of RAP implementation. An external</p>	

Issue(s)	Action or countermeasure(s) taken and remaining problem(s)
<p>evaluation report will be submitted to MMRDA at mid-term and end-term. MMRDA would submit the evaluation report to JICA in a timely manner.</p>	<p>Updated Attachment 2-10 is enclosed in the report.</p>
<p>h. RAP Implementation Budget</p> <p>The amount of estimated resettlement and compensation budget is Rs.906.26 Cr MMRDA informed to the JICA Mission that RAP implementation cost would be borne by MMRDA and ensured sufficient and timely allocation of funds for smooth implementation.</p>	<p>As updated in MOD dated 03/09/2019 for MTHL- II, the base cost Budget towards RAP Implementation is updated as Rs 1129.3 Cr.</p>
<p>i. Environmental Management Plan ("EMP")</p> <p>The mitigation measures against air pollution, waste, noise, and water pollution etc. shall be taken during construction and operation phase. Mitigation measures such as installation of noise barrier, appropriate waste management, etc. have been prepared by MMRDA. The mitigation measures are listed in the EMP matrix. (Attachment 2-1). During the detailed design stage, MMRDA, with assistance of the Consultant, will update the EMP, as necessary.</p>	<p>EMP will be updated, if required, in due course of construction activities/progress.</p>
<p>j. Environmental Monitoring Plan ("EMoP")</p> <p>MMRDA takes overall responsibility for implementation of EMoP. During construction, environmental monitoring will be carried out by contractors under supervision by Construction Supervision consultant. The result shall be reported to the JICA India Office on a quarterly basis as a part of Progress Status Report (PSR) by filling in the Reporting Form of Environmental Monitoring Result. (Attachment 2-4). After completion of the construction, EMoP shall be implemented by MMRDA, and the results shall be submitted to the JICA India Office semi-</p>	<p>Environmental Monitoring Plan with the package wise budgeted cost is reported in Attachment 2-3. Environmental Monitoring Results during the construction phase are reported in Attachment 2-4.</p>

Issue(s)	Action or countermeasure(s) taken and remaining problem(s)
annually until two years after complementation of construction. The required amount of estimated environmental monitoring budget is borne by MMRDA.	
k. Long Term Bird Monitoring MMRDA committed to conduct the long-term monitoring of birds and its habitat in Sewri mudflats with the assistance of hired bird expert. During the long-term monitoring, MMRDA will share information and receive advice from external experts including the one from NGOs and civil society.	<ul style="list-style-type: none"> MMRDA has entrusted the work of bird monitoring and implementation of Flamingos and birds related mitigation measures & bird monitoring program to Mangrove and Marine Biodiversity Foundation. Rs. 31.92 Crore deposited to Mangrove foundation, Mumbai for periodical disbursement to BNHS.

3.4 Qualitative and Quantitative Data of Monitoring Indicators

Operation and Effect Indicator EIRR and/ or FIRR

Supporting data for Computing EIRR and/ or FIRR

Indicators	Original (Year 2015)	Target (Year 2024) 2 Years After Commercial Operation
Average Annual Daily Traffic (PCU/ day)	-	47,400
Daily Average Travel Time (min) * 1	61 min	15.8 min
Number of Users (Persons/ year) * 2	-	46,077,504
Cargo Volume (tons/ year) * 3	-	13,511,759

*1 Section on Sewri – Chirle

*2 Assumptions: average passengers of car and taxi (2.6 persons), bus (37.2 persons) based on JICA study. Number of passengers of LCV, HCV and MAV is assumed as 1 person each.

*3 Assumptions: the maximum capacity of respective vehicle (LCV: 1 ton, HCV and MAV: 15 tons) is used for estimation.

EIRR	Original: 15.4%	Actual: (PCR) _____ %
	Cost: Project cost (excluding Price Escalation, Tax and Duties and Administration cost) O&M cost, Land Acquisition Benefit: Travel Time cost and Vehicle Operation cost Project Life: 32 Years	Cost: Benefit: Project Life: Attachment(s): Supporting data for computing EIRR

FIRR	Original: 1.5% Cost: Project Cost, O&M cost, Land Acquisition cost Benefit: Toll Revenue Project Life: 32 Years	Actual: (PCR) _____%
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3.5 Monitoring Plan for the indicators

Monitoring Methods, Section(s)/ department(s) in charge of monitoring, frequency, the term and so forth are given below:

Original: (P/M and PCR)

	<p><u>Monitoring Organization</u></p> <p>PIU shall be In-Charge of Monitoring activities for the Project.</p> <p><u>Submission of QPR and PCR</u></p> <p>The timely submission of the following documents is required by MMRDA.</p> <p>a. Quarterly Progress Report (QPR): The progress report for the Project should be submitted by MMRDA to JICA on quarterly basis, not later than 30 days after the concerned quarter, in the form of Project Status Report (PSR) attached hereto as per Annex I; Updated status land Acquisition, milestone achieved with respect to Action Plan with Timetable, the monitoring form for environmental and social consideration should also be appended to the PSR. In addition, MMRDA shall also forward the Monthly & Quarterly Progress Reports (including S- Curve Chart) prepared by the Consultant to JICA India Office on regular basis till project completion.</p> <p>b. Project Completion Report (PCR): A project completion report should be submitted by MMRDA to JICA promptly, but in any event not later than six months after completion of the Project, in the form of Project Status Report (PSR) attached hereto as per Annex I.</p>
	<p>Actual: (P/R and PCR)</p> <p>Monitoring Organization</p> <p>PIU for MTHL has been established for monitoring the Project.</p> <p>Submission of QPR and PCR</p> <p>This QPR No. 22 is submitted for the period of 1st July to 30th Sep 2022.</p>

3.6 Achievement of the Project Objective

	(PCR)
	4.0 OPERATION AND MAINTENANCE (O&M) (SUSTAINABILITY)

4.1 O&M and Management

- Organization Chart of O&M
- Operational and maintenance system (structure and the number, qualification and skill of staff or other conditions necessary to maintain the outputs and benefits of the project soundly, such as manuals, facilities and equipment for maintenance, and spare part stocks etc

Original: (PM)

Operation & Maintenance, Toll Management and ITS

MMRDA proposes to engage two separate agencies for O&M and Toll Management System. Though MMRDA will not directly carry out O&M, the overall monitoring over the O&M agency will be the responsibility of MMRDA. O&M Budget will be allocated by MMRDA. O&M and increase in toll rate will be done in accordance with the NHAI's manuals such as "NHAI Works manuals".

Actual: (PCR)

4.2 O&M Cost and Budget

- The actual annual O&M cost for the duration of the project, as well as the annual O&M budget.

(PCR) This will be reported when the outcome of the above work-study is available.

5.0 EVALUATION

5.1 JICA and Borrower / Executing Agency performance

JICA:

(PCR)

Borrower/ Executing Agency:

(PCR)

5.2 Overall Evaluation

Please describe your evaluation on the overall outcome of the project.

(PCR)

5.3 Lessons Learnt and Recommendations

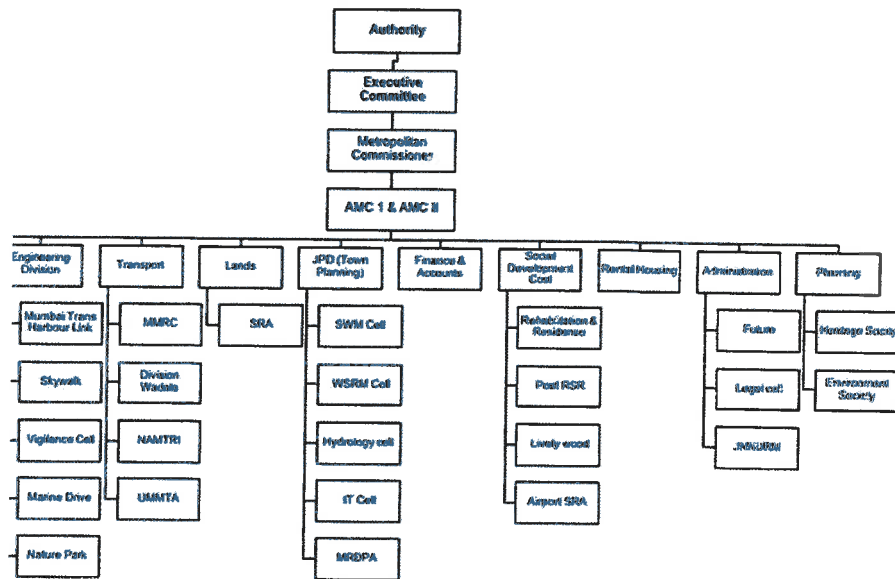
Please raise any lessons learned from the project experience, which might be valuable for the future JICA assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

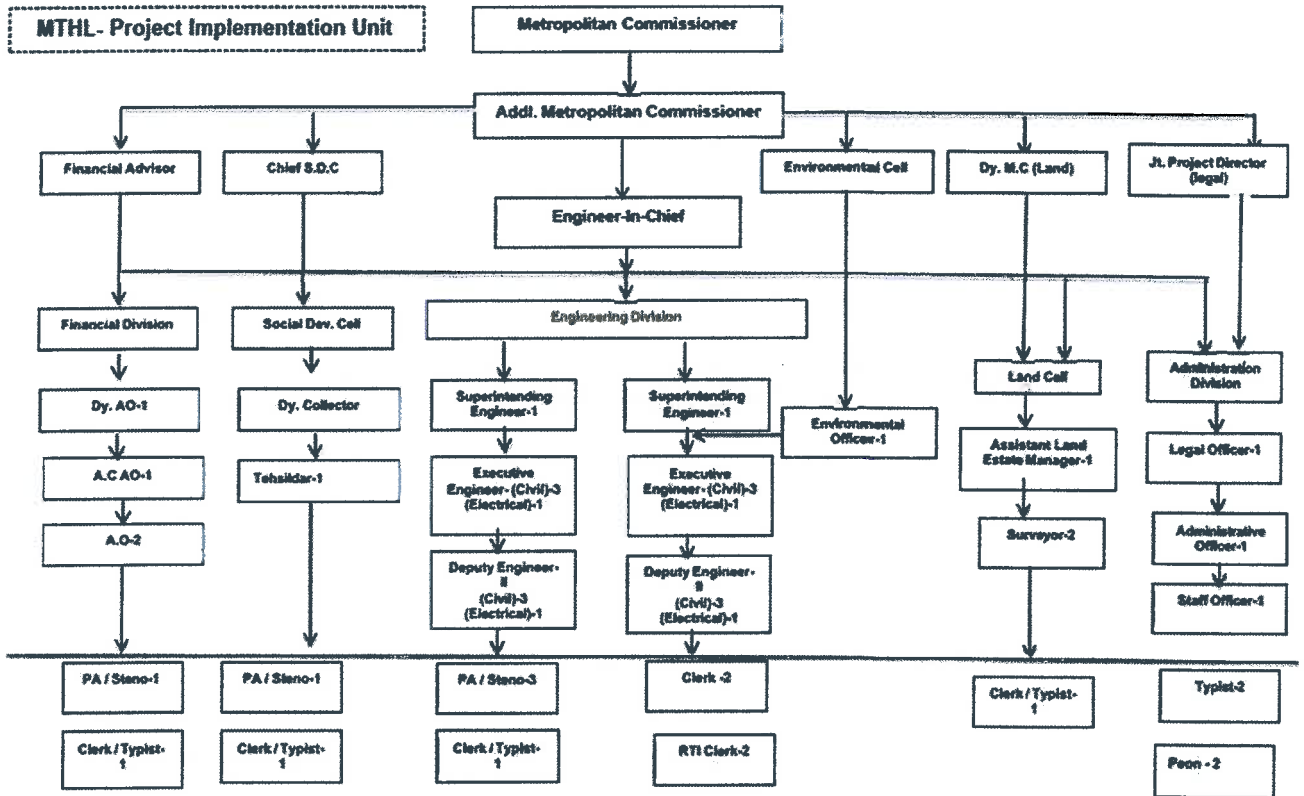
(PCR)

Attachment 1- MMRDA & PIU Organization Chart



MMRDA Organization chart





Attachment 2- Environmental & Social Impacts

Attachment 2-3 – Envi. Monitoring Plan with Package-wise Estimated Cost

Attachment 2-4 – Environmental Monitoring Result Reporting Form

Attachment 2-6 – MTHL Land Acquisition Status

Attachment 2-8 – RAP Internal Monitoring Form

Attachment 2-10 – Schedule of the RAP Implementation

QPR 1st Apr 2023 to 30th Jun 2023



Environmental Monitoring Plan with Package wise Estimated Cost

Category	No.	Impacted Item on JICA Guidelines	Parameter	Method	Location	Frequency a year	Cost (INR)	Cost Pkg.1 (INR)	Cost Pkg.2 (INR)	Cost Pkg.3 (INR)	Total Cost (INR)	Standard Central Pollution Control Board (CPCB) - Ministry of Environment & Forest (MoEF)	Remarks
Pollution	1	Air pollution	SO ₂ , NO ₂ , PM ₁₀ , PM _{2.5} , O ₃ , CO, (6 Items)	National Ambient Air Quality Standards, 2009	1. Sewri & Sewri bay area for package I	Fortnightly at all locations except 2 locations each near Batching plants	1,800,000	15,000,000	1,800,000	742,500	17,542,500	National Ambient Air Quality Standards (NAAQS) by Central Pollution Control Board (CPCB)	P1 contractor team is conducting Ambient air quality monitoring with reference to National Standards and clause 1.2 of Employer's requirement.
					2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year						(Standard for 24hrs: Industrial and Residential/ Ecological Sensitive area)	P 2 contractor Monitoring plan has been designed as per EIA of 2015
					3. Gavhan & Chirle for package III	Fortnightly only for 3 months (Jan-2019 to Mar-2019). Then quarterly monitoring as per MOEF and CPCB norms						SO ₂ : 80 / 80µg/m ³	P3 contractor team is conducting Ambient air quality monitoring with reference to National Standards and clause 1.2 of Employer's requirement.
												NO ₂ : 80 / 80µg/m ³	P 1 received Consents CTE & CTO from MPCB and they are following MPCB frequency in addition to frequency set by Environment Expert from GC. The NAAQ standards are showing High rate as that is the usual procedure. The frequency of monitoring is set by us which varies for different parameters as either Statutory requirements or as required by us to ensure we have sufficient data in hands if there are additional claims for Compensation in C5 category. Summary : Although the contract conditions for all packages were same at the time of bidding. Later modifications suggested by GC were not accepted by P 2. P1 and P3 accepted the modifications and hence the difference. Second point is P 1 carrying out monitoring as per the obatiend CTE and CTO. Both other packages have applied for CTE but haven't obtained it yet. So we expect the monitoring frequency would change after obtaining CTE.
	2	Water pollution	pH, BOD, DO, Turbidity and O&G	IS / AWWA	1. Sewri & Sewri bay area for package I	Quarterly	810,000	2,400,000	810,000	0	3,210,000	Marine water quality Standards - Class SW-IV Harbour Waters (MPCB)	Water Pollution not applicable for Pkg. 3
					2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year						pH: 6.5-9	
					3. Gavhan & Chirle for package III	Not applicable						DO: 3 mg/l	
												Turbidity: 30 NTU	
												BOD: 5 mg/l	
												O & G: 10 mg/l	
	3	Waste	Volume of waste soil, cutting tree and domestic garbage	Volumetric	1. Sewri & Sewri bay area for package I	Daily	500,000	299,200,000	500,000	600,000	300,300,000		The cost of waste disposal for P1 includes C&D waste, Pile muck etc. from all areas like, interchange, intertidal and marine. The disposal location is at MCGM approved location Ehayandarpada, Thane.



Category	No.	Impacted Item on JICA Guidelines	Parameter	Method	Location	Frequency a year	Cost (INR)	Cost Pkg.1 (INR)	Cost Pkg.2 (INR)	Cost Pkg.3 (INR)	Total Cost (INR)	Standard Central Pollution Control Board (CPCB) - Ministry of Environment & Forest (MoEF)	Remarks
					2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year						Municipal Solid Waste Management Rules, 2013 Generated waste shall be reused or disposed at designated site. Sites have been identified and the location for Pkg. 1 is at Bhayandar Pada in Thane. For Pkg. 2 & 3 is in Navi Mumbai at Pushpak Node near "Teen Tald Junction" along the Amar Marg.	P2 contractor has considered only Domestic garbage with respect to CIDCO. Other wastes are not considered. Construction wastes will be
				3. Gavhan & Chirle for package III	Once site clearing work/execution part of work start.								
4 and 8		Soil Contamination/ sedimentation	Heavy Metals & Oil & Grease (5-10 items shall be selected from Soil pollution standards)	IS / Methods Manual Soil Testing in India by Department of Agriculture and Cooperation, January 2011	1. Sewri & Sewri bay area for package I 2. Nhava temporary bridge & casting yard in Gavhan for package II 3. Gavhan & Chirle for package III	1. Muck: 1 Time / Year 2. Sediments: 4 Times / Year *If any spillage/ leakage take place from chemical, fuel storage area. *One time grab sample to be collected during Bridge Construction *Pre & Post Monsoon at Storage area only	150,000	1,500,000	150,000	100,000	1,750,000		
5		Noise and vibration	Ambient and road side noise (dB(A) _{LAeq})	IS Standard	1. Sewri & Sewri bay area for package I 2. Nhava temporary bridge & casting yard in Gavhan for package II 3. Gavhan & Chirle for package III	Fortnightly 2 Times / Year Fortnightly	150,000	54,000	150,000	369,000	573,000	-Construction Noise; 85dB(A) -Ambient Noise Standards in India (dB (A) _{LAeq}) 1. Industrial Area Day Time: 75 (6-22hr) Night Time: 70 (22-6hr) 2. Commercial Area: Day Time: 65 (6-22hr) Night Time: 55 (22-6hr) 3. Residential Area: Day Time: 55 (6-22hr) Night Time: 45 (22-6hr) 4. Silence Zone Day Time: 50 (6-22hr) Night Time: 40 (22-6hr)	
			Vibration (dB L10 or mm/sec)		1 Location Gavan area for package III	Half yearly	75,000	0	75,000	400,000	475,000	- Construction vibration 75dB -Vibration Standards roadside 1. Commercial /Industrial Area Day Time: 70 (7-20hr) Night Time: 65 (20-7hr) 2. Residential Area: Day Time: 65 (7-20hr) Night Time: 60 (20-7hr)	Not applicable for Pkg. 1
9 and 10		Protected Area /Ecosystem	1. Monitoring of mudflat conditions including fauna-flora 2. Monitoring of Cutting Tree and replantation/transplanting area 3. Monitoring of Mangrove Plantation area appointed by MoEF	Ocular Inspection and quantitative survey 1-1. Fauna-Flora Line-Point census and record number and appeared species	Along MTHL alignment and mangrove replant area for Package I Along MTHL alignment and mangrove replant area for package II Not applicable for Package III	Quarterly during the construction Period 4 Times / Year	6,500,000	7,200,000	6,500,000	0	13,700,000	Significant impacts are not caused by the project (Note)	Not applicable for Pkg. 3



Category	No.	Impacted Item on JICA Guidelines	Parameter	Method	Location	Frequency a year	Cost (INR)	Cost Pkg.1 (INR)	Cost Pkg.2 (INR)	Cost Pkg.3 (INR)	Total Cost (INR)	Standard Central Pollution Control Board (CPCB) - Ministry of Environment & Forest (MoEF)	Remarks	
Natural environment			4. Monitoring of sedimentation soil and ecological parameter (18 items on Supplemental EIA Table 6.1.15 for soil and 7 items such as 1) Net primary productivity, 2) Chlorophyll-a, 3) Phosphate, 4) Nitrate, 5) Nitrite, 6) Particulate Organic Carbon, 7) SiO ₂)	1-2: Mangrove density and community survey								<p>Detailed monitoring plan will be setup during basic design stage</p> <p>Standard for Soil; Supplemental EIA Table 6.1.15</p> <p>Standard for Ecological Parameter:</p> <ul style="list-style-type: none"> • Net primary Productivity <1,500 mgC/m³/day at surface • Chlorophyll-a <4mg/m³ • Phosphate: 0.1-90µg/l • Nitrate: 1.0-500µg/l • Nitrite: <125µg/l • Particulate Organic Carbon: 10-100mg/m³ • SiO₂: 10-5,000µg/l 		
				1-3: Benthos Survey										
				2-1: Cutting trees confirmation										
				3-1: Mangrove survey in the replanted area										
	11	Hydrology	Flooding situation	Flood level measurement during high precipitation periods	Not applicable for Package I		350,000	0	350,000	0	350,000	Project activities and structures does not cause flooding and impacts on tidal conditions	Not applicable for Pkg. 1 & 3	
					2 Locations (CRZ at Sewri and Shivaji Nagar) for Package II	4 Times / Year								
					Not applicable for Package III									
	12	Topography and Geology	Conditions in embankment area	Visual survey about Stability of embankment	Not applicable for Package I		115,000	0	115,000	0	115,000	Embankment shall be stabilized without any landslide and cracks	Not applicable for Pkg. 1 & 3	
					Interchange in Shivaji Nagar for Package II	4 Times / Year								
					Not applicable for Package									
Social environment	13	Local economy such as employment and livelihood			Affected area		As per Actuals							
	14	Local conflict of interests	Construction worker's township	Confirmation of workers list from contractor	2 Locations (camp site in Sewri and Shivaji Nagar) for Package II	2 Times / Year	125,000	0	125,000	0	125,000	Employment opportunity shall be provided fairly		
	15	Infectious diseases such as HIV/AIDS	Number of infected patient	Confirmation of health check list from contractor	2 Locations	4 times / year x 4.5 years	525,000	0	525,000	0	525,000	Infection disease rate shall not be caused by the project		
	16	Labour Environment	Construction worker's condition	Confirmation of safety devices and conditions via interviews	2 Location (camp site in Sewri and Shivaji Nagar) for Package II	2 times / year	500,000	0	500,000	0	500,000	"Building And Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996", "The building and other construction worker's welfare cess Act, 1996" and international standards such as "IFC Performance Standard 2 Labor and Working Conditions"		
Other	17	Accidents	Number of accidents	Confirmation of accidents list from local government and State Traffic Police Department	2 Locations (camp site in Sewri and Shivaji Nagar) for Package II	4 Times / Year	400,000	0	400,000	0	400,000	Any accidents are not caused by construction		
Total							8140500	325,354,000	12,000,000	2,211,500	339,565,500			



1. Environmental Monitoring during Construction for 4.5 years

Area	No	Item	Parameter	Location	Frequency a year	Item and Standard	Monitoring Result				Remark - reasons why the data is exceeding standard - counter measures when the data is exceeding						
							Location 1- Pkg 1	Location 2 - Package 2	Location 3- Pkg 3	Location 4- Pkg-04							
Pollution	1	Air pollution	SO ₂ , NO ₂ , PM ₁₀ , PM _{2.5}	1. Sewri & Sewri bay area for package I	Quarterly monitoring is conducted at all locations.	National Ambient Air Quality Standards (NAAQS) (Standard for 24hrs: Industrial and Residential)	Sewri	Shivaji Nagar	Chirle	Gavhan							
				2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year												
				3. Gavhan & Chirle for package III	From march -2019 onwards monitoring is conducted quarterly as per MOEF and CPCB norms							1. SO ₂ : 80µg/m ³	10.5	BDL	32	BDL	BDL- Below Detectable Limit
												2. NO ₂ : 80µg/m ³	40.50	28	50	16	
												3. PM ₁₀ : 100µg/m ³	250.00	81	86	149.2	
												4. PM _{2.5} : 60µg/m ³	36.25	29	45	47	
												5.CO:02mg/m ³	1.35	1.4	0.73	16	
			6.VOCs	0.97	2.7	1.05	BDL										
	2	Water pollution	pH, BOD, DO, Turbidity and O&G	1. Sewri & Sewri bay area for package I	Quarterly	Marine water quality Standards – Class SW-IV Harbour Waters (MPCB)	Zone I	Zone II	Zone III/ Package-03	Package -04							
				2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year	1. pH: 6.5-9	7.8	7.8	Not applicable	Not Applicable							
				3. Gavhan & Chirle for package III	Not applicable	2. DO: 3 mg/l	5.9	5.7	Not applicable	Not Applicable							
						3. Turbidity: 30 NTU	8.9	20.5	Not applicable	Not Applicable							
						4. BOD: 5 mg/l	BDL[DL=2]	BDL (DL=2)	Not applicable	Not Applicable							
						5. O & G: 10 mg/l	BDL[DL=2]	BDL (DL=2)	Not applicable	Not Applicable							
	3	Waste	Volume of waste soil, cutting tree and domestic garbage	1. Sewri & Sewri bay area for package I	Daily	Municipal Solid Waste Management Rules, 2013	71 Tonnes for 3 months	Shivaji Nagar Camp Site	Gavan Camp Site	Gavhan Camp site							
2. Nhava temporary bridge & casting yard in Gavhan for package II				4 Times / Year	Generated waste soil (t) total			NA	NA								



			3. Gavhan & Chirle for package III	Once site clearing work/execution part of work start.	Generated cutting tree (ha) total			Tree cutting work completed and Half yearly report submitted to Client (April, 2022)	NA	Both of forest and CIDCO area (234+75)=309		
					Generated domestic waste (t/month) total	71 Tonnes for 3 months	3.5 T/quarter.	2.1 T for the quarter	50 kg per day			
					Confirmation of adequate disposal (visual survey)	Waste is disposed through Municipal Corporation.	It is disposed through CIDCO daily.	Waste is disposed through Municipal Corporation.	waste is Disposed through CIDCO			
4	Soil Contamination/sedimentation	Heavy Metals & Oil & Grease	1. Sewri & Sewri bay area for package I	1. Muck: 1 Time / Year 2. Sediments: 4 Times / Year	Soil Pollution Standard in India (MOEF)	Sediment sample at Sewri	Muck Testing done in September 2021 and Reports submitted to GC.			Kindly check the letter No.Ref No. MTHL/P3/L&T/GC/LT/HSE-2226/2020 dated on 12.12.2020		
			2. Nhava temporary bridge & casting yard in Gavhan for package II									
			3. Gavhan & Chirle for package III	*If any spillage/leakage take place from chemical, fuel storage area. *One time grab sample to be collected during Bridge Construction *Pre & Post Monsoon at Storage area only								
				2. total cyanide : not detected	NA	<0.005	There is no reportable Oil spillage in project	NA				
				3. organic phosphorus: not detected	NA	8.5	One time Soil test done (Report has been submitted)	8				
				4. lead: 0.01mg/l	BDL[DL=0.6]	0.17	There is no huge quantity of oil storage area, Oil requirement fulfil by portable oil tanker (Indian Oil) on frequent basis. Only small quantity of Oil <1000 ltr is stored in well established oil storage area (Covered and bunded wall from all side)	BDL			Hazardous Storage is situated in low laying area at Gavan area. Due to this reason complete ground area is covered by boulders to avoid further water logging in rainy season. Therefore soil sample is impossible to taken out from in and around the Oil & chemical storage area. Same has witnessed by GC during Febuary-2020 monitoring.	
				5. chromium (VI): 0.05mg/l	Not detected	BDL		BDL				
				6. arsenic: 0.01mg/l or 15mg/kg (agri-land soil)	BDL[DL=1]	BDL		BDL				
				7. total mercury: 0.005mg/l	BDL[DL=2]	BDL		BDL				
				8. alkyl mercury: not detected	Not detected							
				9. PCBs: not detected	Not detected	BDL						
				10. copper: 125mg/kg (only paddy field soil)	147			0.45				
				11. dichloromethane: 0.02mg/l	Not detected	BDL		NA				
				12. carbon tetrachloride: 0.002mg/l	Not detected	BDL		NA				
				13. 1,2-dichloroethane: 0.004mg/l	Not detected	BDL		NA				
				14. 1,1-dichloroethylene: 0.02mg/l	Not detected	BDL		NA				
				15. cis-1,2-dichloroethylene: 0.04mg/l	Not detected	BDL		NA				
				16. 1,1,1-trichloroethane: 1mg/l	Not detected	BDL		NA				
				17. 1,1,2-trichloroethane: 0.006 mg/l	Not detected	BDL		NA				
				18. trichloroethylene: 0.03mg/l	Not detected	BDL		NA				
				19. tetrachloroethylene: 0.01mg/l	Not detected	BDL		NA				
				20. 1,3-dichloropropene: 0.002mg/l	Not detected	BDL		NA				
	21. thiuram: 0.006mg/l	Not detected	BDL		NA							
	22. simazine: 0.003mg/l	Not detected	BDL		NA							

					23. thiobencarb: 0.02mg/l	Not detected	BDL	-	NA		
					24. benzene: 0.01mg/l	Not detected	BDL	-	NA		
					25. selenium: 0.01mg/l	Not detected	BDL	-	NA		
5	Noise and vibration	Ambient and road side noise (dB(A))Laeq)	1. Sewri & Sewri bay area for package I	Fortnightly	Construction area Standard 85 dB(A) daytime (Japan standard)Not construction area : Ambient Noise Standard in India (dB(A) Laeq)	Sewri (ST 200-500)(Industrial area)	Sea Section (ST5000-5500) Migratory Bird Area (no standard on sea section)	Chirle (package-III) Commercial area	Gavhan (Package IV) Commercial Area		
			2. Nhava temporary bridge & casting yard in Gavhan for package II	2 Times / Year	Day time : 6-22 hr (continuous) dB(A)	69.8	69.4	63.35	68.3	-	
			3. Gavhan & Chirle for package III	Fortnightly	Night time: 22-6 hr (continuous) dB(A)	61.8	62.3	52.69	61.5	-	
					(only sea section)	-	-	-	-	-	
					Day time : 6-22 hr (10 min during 9-17 hrs)	70.2	-	-	-	-	
					Night time: 22-6 hr (10 min 22-24 hr)	65.4	-	-	-	-	
					-	-	-	-	-	-	
					Note (standard values in Not construction area)	-	-	-	-	-	
			Vibration (dB) shall be converted from mm/s to dB	Half yearly	1.Industrial Area	-	-	-	-	-	
					Day Time: 75 (6-22hr)	-	-	-	-	-	
		Night Time: 70 (22-6hr)			-	-	-	-	-		
		2.Commercial Area:			-	-	-	-	-		
		Day Time: 65 (6-22hr)			-	-	-	-	-		
		Night Time: 55 (22-6hr)			-	-	-	-	-		
		1 Location Gavan area for package III			Half yearly	Construction area Standard 75 dB daytime (Japan standard) Not construction area : Vibration Standard (Japan Standard along the road)	Sewri (ST 200-500) (Industrial area)	Shivaji Nagar (Commercial area)	Chirle	Gavhan	
		Day time : 6-22 hr (continuous)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	-			
		Night time: 22-6 hr (continuous)	-	-	-	-	-	-			
Note (standard values in Not construction area)	-	-	-	-	-	-					
1. Commercial /Industrial Area	-	-	-	-	-	-					
Day Time: 70 (7-20hr)	-	-	-	-	-	Kindly check the letter No Ref No. MTHL/ P3/L&T/GC/LT/HSE-2226/2020 dated on 12.12.2020					
Night Time: 65 (20-7hr)	-	-	-	-	-						
Natural Environment	6	Protected Area	1. Monitoring of mudflat conditions including fauna-flora 2. Monitoring of Cutting Tree and replantation/transplati on area 3. Monitoring of Mangrove Plantation area appointed by MoEF 4. Monitoring of sedimentation soil and ecological parameter (25 items on EIA main text Table 6.1.15 for soil and 7 items such as 1)Net primary productivity, 2)Chlorophyll-a, 3)Phosphate, 4)Nitrate, 5)Nitrite, 6)Particulate Organic Carbon, 7) SiO2)	Along MTHL alignment and mangrove replant area for Package I	Quarterly during the construction Period	Standard is not existing, but quantity and quality should not be worsen	Sewri side (ST500-5500)	Sea Section (ST5500-16000)	Shivaji Nagar side (app. ST16000-19000)	Shivaji Nager side (Ramp Area)	
				Along MTHL alignment and mangrove replant area for package II	4 Times / Year	1-1. Fauna-Flora (number of species and quantity	Bird monitoring is being done by a separate agency BNHS	Bird monitoring is being done by a separate agency BNHS	N/A	N/A	
					(1) Number of species of bird	28					Birds Monitoring report by BNHS has been submitted separately
					(2) Number of species of fish	25					
				(3) Estimated number of Flamingo	< 20,000						

				Shivaji Nagar)		Confirmation of health check record and inspect project site	Doctor on call checks site specific infections., minor and major incidents. 24x7 ambulance service, ERT team with trained first aiders available	Regular health checks-ups are done. In-house doctors are appointed at site and labour camps along with Male nurses, Trained first aiders and 24x7 ambulance services.	Regular Health checkup is carried out by site Doctor.	Regular health checks-ups are done. Inhouse doctors are appointed at site and labour camps along with Male nurses, Trained first aiders and Ambulance services on daily basis.	
	11	Labour Environment	Construction worker's condition	2 Locations (major camp site in Sewri and Shivaji Nagar)	2 times / year x 4.5 years	Criteria for evaluation "Building And Other Construction Workers (Regulation of Employment and Conditions of Service) Act,1996", "The building and other construction worker's welfare cess Act, 1996" and international standards such as "IFC Performance Standard 2 Labor and Working Conditions"	Distribution of Safety kits to 225 Workers Medical Camp organised; wherein > 500 workers were consulted. 220 No. of Malaria tests carried out. Glucose Distribution at Site during Summer Season for workmen. Organised Street Play for workers . Health Talk by Dr Akshay Shah Haemato Oncology on Hazards of Smoking & Chewing Tobacco and Preventive Measures. Inner health incentive program with co-ordination with Bhramakumaris Sanstha.	Shivaji Nagar Camp Site	Gavan Camp site	Gavhan Labour Camp	
						Site Visual Inspection	Weekly site inspection	Conforming with BOCW Act 1996	Conforming with BOCW Act 1996	Conforming with BOCW Act 1996	
Other	12	Accident	Number of accidents	2 Locations (major camp site in Sewri and Shivaji Nagar)	4 times / year x 4.5 years	Criteria for evaluation Any accidents are not caused by construction	Sewri Site	Shivaji Nagar Camp Site	Chirle/Other area	Gavhan area	
						Number of recorded accidents	0	Nil	Nil	Nil	



2. Environmental Monitoring during Operation for 2 years after completion of construction

This form is prepared for reporting the monitoring results to JICA India Office. Only minimum required parameters are included in this form, and not all parameters in EMOp are covered.

Area	No	Item	Parameter	Location	Frequency a year	Item and Standard	Monitoring result				Remark - reasons why the data is exceeding standard - counter measures when the data is exceeding
							Location 1	Location 2	Location 3	Location 4	
Pollution	1	Air pollution	SO ₂ , NO ₂ , PM ₁₀ , PM _{2.5}	2 Locations (Sewri and Shivaji Nagar)	2 times / year	National Ambient Air Quality Standards (NAAQS) (Standard for 24hrs: Industrial and Residential)	Sewri	Shivaji Nagar			
						1. SO ₂ : 80µg/m ³					
						2. NO ₂ : 80µg/m ³					
						3. PM ₁₀ : 100µg/m ³					
						4. PM _{2.5} : 60µg/m ³					
	2	Noise and vibration	Ambient and road side noise (dB(A))L _{Aeq}	2 Locations (Sewri and Shivaji Nagar where baseline monitoring was carried out)	2 times / year	Not construction area : Ambient Noise Standard in India (dB(A) L _{Aeq})	Sewri (ST 200-500) (Industrial area)	Sea Section (ST5000-5500) Migratory Bird Area (no standard on sea section)	Shivaji Nagar (Commercial area)		
						Day time : 6-22 hr (continuous)	-	-	-	-	
						Night time: 22-6 hr (continuous)	-	-	-	-	
						(only sea section)	-	-	-	-	
						Day time : 6-22 hr (10 min during 9-17 hrs)	-	-	-	-	
Night time: 22-6 hr (10 min 22-24 hr)	-	-	-	-							
Note (standard values in Not construction area)											
1.Industrial Area											
Day Time: 75 (6-22hr)											
Night Time: 70 (22-6hr)											
2.Commercial Area:											
Day Time: 65 (6-22hr)											
Night Time: 55 (22-6hr)											
		Vibration (dB) shall be converted from mm/s to dB	2 Locations (1. Sewri, 2. Shivaji Nagar)	2 times / year	Construction area Standard 75 dB daytime (Japan standard)	Sewri (ST 200-500) (Industrial area)	Shivaji Nagar (Commercial area)				
					Not construction area : Vibration Standard (Japan Standard along the road)						
					Day time : 6-22 hr (continuous)	-	-	-	-		
					Night time: 22-6 hr (continuous)	-	-	-	-		
					Note (standard values in Not construction area)						
1. Commercial /Industrial Area											
Day Time: 70 (7-20hr)											
Night Time: 65 (20-7hr)											
Natural Environment	3	Protected Area	1.Monitoring of mudflat conditions including fauna-flora2. Monitoring of Cutting Tree and replantation/transplantation area3.Monitoring of Mangrove Plantation area appointed by MoEF4. Monitoring of sedimentation soil and ecological parameter (25 items on EIA main text Table 6.1.15 for soil and 7 items such as	Along MTHL alignment and mangrove replant area	4 times / year x 4.5 years	Standard is not existing, but quantity and quality should not be worsen	Sewri side(ST500-5500)	Sea Section (ST5500-16000)	Shivaji Nagar side(app. ST16000-19000)	Mangrove Replantation area appointed by State Government	
						1-1. Fauna-Flora (number of species and quantity)					
						(1) Number of species of bird					
						(2) Number of species of fish					
						(3) Estimated number of Flamingo					
						1-2: Mangrove density and community survey		not required			
(1) Number of species of mangrove		not required									

Regarding soil contamination/sedimentation, some items shall be selected from the total 25 standards items during the Detailed Design. Only the selected items shall be reported to JICA, and the rest of items shall be deleted from this form.



			1)Net primary productivity, 2)Chlorophyll-a, 3)Phosphate, 4)Nitrate, 5)Nitrite, 6)Particulate Organic Carbon, 7) SiO2)		(2) Density of mangrove (xx trees/10m x 10m)		not required			
					1-3: Benthos Survey		not required			
					(1) Number of species and quantity by species		not required			
					2-1: Cutting tree confirmation		not required			
					(1) Number of cutting tree and	Regarding protected area (CRZ and Important Bird Area) and ecosystem, detailed long-term monitoring plan will be established during baseline survey of birds. This tentative monitoring form shall be updated based on the detailed long-term monitoring plan.				
					3-1: Mangrove survey in the re					
					(1) Number of species of mang					
					(2) Density of mangrove (xx trees/10m x 10m)		not required	not required	not required	
					4. Ecological Parameter					
					(1) Net primary Productivity : <1,500 mgC/m3/day at surface					
					(2) Chlorophyll-a: <4mg/m3					
					(3) Phosphate: 0.1-90µg/l					
					(4) Nitrate: 1.0-500µg/l					
					(5) Nitrite: <125µg/l					
					(6) Particulate Organic Carbon: 10-100mg/m ³					
(7) SiO2: 10-5,000µg/l										
4	Hydrology	Flooding situation	2 Locations (1. CRZ at Sewri and 2. Shivaji Nagar)	4 times / year	Criteria for evaluation Project activities and structures does not cause flooding and impacts on tidal conditions	Sewri	Shivaji Nagar			
					Monitoring of flooding situation	-	-	-		
5	Topography and Geology	Conditions in embankment area	2 Locations (1. Embankment of Inter Change in Shivaji Nagar and 2 Cutting area at toll gate in Chirle)	2 times / year	Criteria for evaluation Embankment shall be stabilized without any landslide and cracks	Shivaji Nagar	Chilre			
					Monitoring of embankment	-	-	-		



QPR No. 27 (October to December 2023) – Attachment 2-6

MTHL - ROW Land Acquisition Status (Attachment 2-6):

The total land required on the Navi Mumbai side is 108.4379 ha

Land acquired by MMRDA – 108.4379 ha

Land in possession of MMRDA – 106.3542 ha

Balance land under acquisition – 0.3937 ha

Note: The acquisition of 0.3937 ha of ROW land is in progress and likely to complete.

ROW Land Required in ha (for Package-3)	ROW land acquired by MMRDA In ha	ROW Land in possession of MMRDA in ha	Balance ROW to be handed over (Possession to be taken + Under acquisition)	Anticipated date for 100% ROW Land Acquisition	Remarks
108.4379	108.0442	108.0442	2.0837 (1.6900+0.3937)	31-1-2023	The payment status to the land owners is awaited from CIDCO. The same would be communicated to JICA on receipt of the same.



Attachment 2-8

**RAP Implementation Monitoring Form
For Mumbai Trans Harbour Link Project (MTHL)**

1. General Information

a. RAP Implementation Monitoring Progress Status Report (PSR) for the 1st quarter of 2023- 2024

b. Date of Preparing This form

30-06-2023

c. Person Preparing This form

Name: Shivananda. K

Position: The Engineer

Department/Organizations: General

Consultants

2. Scale of Impact

2.1 Project Affected Households (PAHs) and Project Affected Persons (PAPs) for Sewri side

Total Project Affected Households (PAHs)	231Hhs	Titleholders: 0 Hhs
		Non-titleholders: 231Hhs
Total PAPs	1,282 persons*	Titleholders: 0 persons
		Non-titleholders:1,282 persons*
PAHs who need relocation (as residents)	231Hhs	Titleholders: 0persons
		Non-titleholders:231 (1,088persons) *
PAPs who do not need relocation (as residents)	0 persons	Titleholders: 0 persons
		Non-titleholders: 0 persons
Commercial PAPswho need relocation	66 (194persons) *	Titleholders: 0 persons
		Non-titleholders:66(194persons) *
Commercial PAPswho do not need relocation	0 persons	Titleholders: 0 persons
		Non-titleholders: 0 persons

* - Figures for number of persons do not include no. of family members of few additional PAPs.



Structures

Structures	Residential:231 Commercial:65 Residential + Commercial: 1 (counted in Commercial) Community:9 (Religious Properties 6, Public Toilets3) Government:16 (MbPT Structures 9, Occupants of Leased Plots 6 & Police Chowki 1) Total: 322
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2.2 Fishery

Categories of Fisher-folks	Identified Number		Total	Remarks
	Mumbai side	Navi Mumbai side		
C1: Fishing stakes and nets in RoW (250 m.)	178	54	232	Funds for 232 nos C1 category fishermen are transferred to Commissioner of Fisheries in 2017-22.
C2: Fishing Stakes and Nets within 500 m. of RoW (Southern side)	268	493	761	1. Funds for 704 nos C2 category fishermen are transferred to Commissioner of Fisheries in 2017-22. 2. 57 nos C2 category fishermen are verified and disbursement in process.
C3: Hand Pickers	1492	4040	5532	Funds for 5229 nos of C3 category fishermen are already transferred to the Commissioner of Fisheries and the balance of 302 Nos. of C3 category fishermen are in process of fund transfer to the Commissioner of Fisheries.
C4: Commercial and Artisanal Fisher-folks (Loss of Time and Increased	Will be observed during the construction period	Will be observed during the construction period	---	Nil



Operating Costs)				
C5: Fisher-folks with Loss due to Turbidity	Will be observed during the construction period	Will be observed during the construction period	---	Nil
C6: Fisher-folks with Damages due to Accidents	Will be observed during the construction period	Will be observed during the construction period	---	Nil

2.3 Land Acquisition / Transfer

Location	Land Required in Ha.	Land Acquired in Ha.	Balance ROW to be Handed over in Ha	Remarks
Sewri	10.089	10.089	0	
Navi Mumbai	108.4379	108.0442	2.0837	1.69 Ha yet to over to the Contractor & 0.3937 Ha is under acquisition
Total	118.179	118.1332	2.0837	

3. Monitoring Results

3.1 Sewri Section

Activity	Indicator	Total Target	Progress till Last Quarter	Progress during reporting Quarter	Cumulative Progress till Current Quarter	Cumulative Achievement of Total Target (%)	Remarks, if Any
Resettlement	No. of Residential PAHs provided with Allotment Letters of Alternate Tenements	231	231	0	231	100%	
	No. of Residential PAHs given possession of Alternate Tenements	231	231	0	231	100%	



Mumbai Trans Harbour Link Project - Quarterly Progress Report No. 27 (Oct – Dec 2023)

QPR No. 27 (October to December 2023) Attachment 2-8

Activity	Indicator	Total Target	Progress till Last Quarter	Progress during reporting Quarter	Cumulative Progress till Current Quarter	Cumulative Achievement of Total Target (%)	Remarks, If Any
	No. of Commercial/R+C PAPs provided with Allotment Letters of Alternate Shops/Tenements	66	66	0	66	100%	
	No. of Commercial R+C PAPs given possession of Alternate Shops/Tenements	66	66	0	66	100%	
	No. of Occupants of MbPT Leased Plots provided Compensation	6	6	0	6	100%	
	No. of Religious properties Relocated / Removed	6	6	0	6	100%	
	No. of Other Community properties Relocated / Removed	4	4	0	4	100%	
	No. of Structures in possession of MbPT Dismantled / Cleared	9	9	0	9	100%	
	No. of PAHs/PAPs provided Shifting Charges / Arrangement	297	297	0	297	100%	
Rehabilitation	No. of PAHs / PAPs identified for Livelihood Support in Post Resettlement Assessment						



Activity	Indicator	Total Target	Progress till Last Quarter	Progress during reporting Quarter	Cumulative Progress till Current Quarter	Cumulative Achievement of Total Target (%)	Remarks, If Any
	No. of PAHs / PAPs provided Livelihood Support under Program-I (to be identified)						
	No. of PAHs / PAPs provided Livelihood Support under Program-II (to be identified)						
	No. of PAHs / PAPs provided Livelihood Support under Program-III (to be identified)						
	No. of new enterprises started						
Grievance Redress	No. of Grievances Received by FLGRC	4					
	No. of Grievances Disposed by FLGRC	3	3	0	3	100%	
	No. of Grievances Received by SLGRC	1	0	0	0		
	No. of Grievances Disposed by SLGRC	0					
Post Resettlement Assistance	No. of CHSs Registration helped						
	No. of CHSs provided Tenements for Social Amenities						
	No. of CHSs' Maintenance Fund Invested						



Activity	Indicator	Total Target	Progress till Last Quarter	Progress during reporting Quarter	Cumulative Progress till Current Quarter	Cumulative Achievement of Total Target (%)	Remarks, if Any
	No. of CHSs' Office Bearers provided training						

SUMMARY OF FISHER FOLKS OF MTHL PROJECT (Influence Zone of 24 villages)

Up to 30-06-2023

Sr.No.	Village Name	Total number of forms Received	Total approved eligible family units			
			C1	C2	C3	Total
1	Bamandongri	273	1	1	28	30
2	Belapur	110	0	5	15	20
3	Belpada	1185	0	7	478	485
4	Diwale	455	12	201	52	265
5	Ganeshpuri	276	0	37	35	72
6	Gavhan	2162	0	14	1317	1331
7	Jasai	926	0	0	18	18
8	Jawale	51	0	1	0	1
9	Kombadbhuja	413	1	23	134	158
10	Kopar	994	2	5	228	235
11	Karave	178	0	44	67	111
12	Mahul	1062	129	77	604	809
13	Moha	475	22	25	134	181
14	Mora	818	0	102	375	477
15	Morave	539	14	21	88	123
16	Nhava	1646	0	32	307	339
17	Sarsole	266	0	30	83	113
18	Sewri	305	0	1	72	73
19	Shelghar	241	0	0	15	15
20	Shivajinagar	202	1	4	61	66
21	Trombay	1208	49	219	823	1091
22	Ulwe	218	1	3	14	18
23	Uran & Hanuman Koliwada	683	0	11	600	611
24	Vahal	411	0	2	1	3
Total		15097	232	865	5548	6645

SUMMARY OF FISHER FOLKS OF MTHL PROJECT (Out of Influence Zone villages)

Up to 30-06-2023



QPR No. 27 (October to December 2023) Attachment 2-8

Sr.No.	Village Name	Total number of forms Received	Total approved eligible family units			
			C1	C2	C3	Total
1	Airoli	76	0	15	0	15
2	Ghansoli	340	0	15	0	15
3	Kopar khairne	245	0	1	0	1
4	Vashi Gaon	256	0	25	0	25
5	Juhugaon	201	0	3	0	3
6	Dhutum	398	0	1	0	1
7	Gharapuri	261	0	14	0	14
8	Kelavane	105	0	2	0	2
9	Koprolī	70	0	4	0	4
10	Takigaon	1	0	1	0	1
11	Vindhane	12	0	2	0	2
12	Dighode	708	0	17	0	17
13	Kundegaon	548	0	24	0	24
	Total	3221	0	124	0	124

Total applications received (Influence Zone)	15097
Total applications received (Out of Influence Zone)	5744
Duplicate/Repeated Application	2428
Rejected application	11643
Eligible applications	6770
Total approved applications	6527



QPR No. 27 (October to December 2023) Attachment 2-8

Grievance Redressal Committee (GRC) for Fisher-folk Compensation

No. of Cases referred to GRC	No. of Cases		No. of Cases Rejected	No. of Cases under Consideration
	Allowed	Compensation Paid		
3	3	3	0	3



QPR No. 27 (October to December 2023) Attachment 2-10

Implementation Schedule for Fisher-folks Compensation & Land Acquisition in Navi Mumbai

A. Implementation Schedule for Fisher-folks Compensation: -

Sr. No.	Task Designation	Approving authority	Start Date	Completion Date
1	Approval of fisherfolk's compensation Policy	Fisher-folks Compensation Committee (FCC)	08-10-2015	23-12-2015
2	Approval by MMRDA	MMRDA	10-12-2015	23-12-2015
3	Submission to JICA	MMRDA	-	04-01-2016
4	A detailed list of PAP and compensation plan	1. Detailed list of Fisher-folk PAP up to list 1 (1165 Nos) & 2 (1399 Nos) are finalized by the Fisheries Department. 2. From 2018, FEVC committee is the approval authority of PAF and approved C1- 232 Nos. C2 - 761 Nos and C3- 5534 Nos are approved.	23-12-2015	Up to 31-03-2023 1. Total up to date applications scrutinized = 20841 Nos (Influence zone & out of influence zone). 2. Eligible = 6770 Nos. 3. Rejected = 11643 Nos.
	Validation of compensation plan	Fisher-folks Compensation Committee (FCC)	23-12-2015	1. Approval to the Fisher-folk PAP list obtained from Fisheries Department for Fisherfolk from Sewri, Mahul & Trombay (Mumbai side) – 12th September 2017 and 20th November 2018 for C-2 & C3 Category only.



Mumbai Trans Harbour Link Project - Quarterly Progress Report No. 27 (Oct – Dec 2023)

QPR No. 27 (October to December 2023) Attachment 2-10

Sr. No.	Task Designation	Approving authority	Start Date	Completion Date
			23-12-2015	2. Approval to the Fisher-folk PAP list obtained from Fisheries Department for Fisherfolk of Navi Mumbai of C2 & C3 on 25th April 2018. 3. Validation of compensation is in progress and would be completed in phases.
6	Approval of compensation plan	FCC	23-11-2015	28-12-2017
7	Approval by MMRDA	MMRDA	23-11-2015	09-03-2021

B. Implementation Schedule for Land Acquisition in Navi Mumbai :-

ROW Land Required in Ha.	ROW Land Acquired by MMRDA in Ha.	ROW Land in Possession of MMRDA in Ha	Balance Land to be acquired in Ha	Anticipated date for 100% ROW Land Acquisition	Remarks
108.4379	108.0442	108.0442	0.3937	30-4-2023	



Implementation Schedule for SIA (Sewri Section)

Task No.	Task Designation	Start Date	Completion / Forecast Date
1	Preparation of Final SIA		
1.1	MMRDA Approval	October 2015	January 2016
1.2	JICA Approval	November 2015	January 2016
1.3	Posting of project Information on MMRDA		
1.4	Translation and disclosure of entitlement policy in local language to all PAP's	December 2015	January 2016
2	LARP Implementation		
2.1	Grievance redress mechanism established	August 2016	August 2016
2.2	Staff deployment SIA implementation	June 2016	Dec. 2021
2.3	Staff Deployment Public Relation	June 2016	June 2016
2.4	Hiring of Independent Evaluation Agency	November 2018	November 2020
2.5	Preparation and issue of allotment letters to PAPs	June 2018	Dec. 2022
2.6	Notice of PAPs for shifting (Sewri Section)	December 2018	Nov. 2021
2.7	Allotment of dwelling units to PAPs	September 2016	Dec. 2022
2.8	Shifting of PAPs to resettlement Colony	December 2018	Nov. 2021
2.9	Transfer of compensation/allowance/ assistance to PAPs	December 2018	Dec. 2022
2.10	Creation of Community Revolving fund (within 3 months post handing over)	April 2019	October 2023
2.11	Assessment of economic rehabilitation needs by individual household (within 6 months after handing over)	September 2019	October 2023
2.12	Registration of Co-operative housing societies transfer of maintenance funds. (6 months period)	December 2019	April 2023
2.13	Signing of Civil Contract		January 2018
2.14	Notice of Civil works to proceed		March 2018
3	Monitoring & Evaluation		
3.1	Internal Monitoring- Monthly/ Quarterly	June 2016	July 2020
3.2	Independent Evaluation Mid-term and End term evaluation Mid Term End Term	May 2019 November 2019	June 2020 October 2023



Attachment 3- JICA's Concurrence Status

QPR 1st Apr 2023 to 30th Jun 2023



Status of JICA'S Concurrence

Sl. No.	Brief description	Procurement procedure	Bid Cost		JICA'S Concurrence on					
			Local Currency (Cr Rs.)	Total (Cr Rs)	PQ Documents	PQ Evaluation	Bid Documents	Technical Evaluation	Financial Evaluation	Contract
1.	Package-1 (CH 0+000 km to CH10+380 km)	ICB with PQ (2P)	7637.30	7637.30	JICA's Concurrence - 9th May 2016	JICA's Concurrence - 22nd Dec 2016	JICA's Concurrence - 4th Jan 2017	JICA's Concurrence - 12th Sep 2017	JICA's Concurrence - 12th Oct 2017	JICA's Concurrence - 15th Feb 2018
2.	Package-2 (CH 10+380 km to CH18+187 km)	ICB with PQ (2P)	5612.61	5612.61	JICA's Concurrence - 9th May 2016	JICA's Concurrence - 22nd Dec 2016	JICA's Concurrence - 4th Jan 2017	JICA's Concurrence - 12th Sep 2017	JICA's Concurrence - 12th Oct 2017	JICA's Concurrence - 15th Feb 2018
3.	Package-3 (CH18+187 to CH21+800)	ICB with PQ (2P)	1013.79	1013.79	JICA's Concurrence - 9th May 2016	JICA's Concurrence - 4th Jan 2017	JICA's Concurrence - 4th Jan 2017	JICA's Concurrence - 15th Sep 2017	JICA's Concurrence - 12th Oct 2017	JICA's Concurrence - 15th Feb 2018
4.	Package-4 Intelligent Transport System	ICB with PQ (2P)	427.00	427.00	JICA's Concurrence - 23rd Aug 2019	NA	JICA's Concurrence - 24th Aug 2021	JICA's Concurrence - 15th Feb 2022	JICA's Concurrence - 21st Apr 2022	JICA's Concurrence - 13th Oct 2022

QPR 1st Oct 2023 to 31st Dec 2023



**Attachment 4- Project Procurement and Financial
Status till 31st December 2023**

QPR 1st Oct 2023 to 31th Dec 2023



PROJECT PROCUREMENT AND FINANCIAL STATUS TILL 31st Dec 2023

Type	Contract	Awarded or Estimated Value (In Rs. Crore)	Current Status	Contractors	Project Commencement Date	Stipulated Project Completion Date	Revised Project Completion Date After granting the Extension of Time (EOT)	% of Overall Works Progress (Design, Material Procurement and Construction) as per the Primavera Baseline Schedule Updated as of 31 st Dec 2023	% of Financial Progress till 30 th June 2023 (GC Certified) (Excluding Mobilization Advance, Price Adjustment and Work Variation)
CIVIL	Package-1 (CH 0+000 km to CH 10+380 km)	7637.30	Awarded	L&T-IHI Consortium	Mar 2018	21-Sep-2022	15-Dec-2023	100%	98.22%
	Package-2 (CH 10+380 km to CH18+187 km)	5612.61	Awarded	DAEWOO-TPL JV	Mar 2018	21-Sep-2022	15-Dec-2023	100%	96.99%
	Package-3 (CH18+187 to CH21+800)	1013.79	Awarded	L&T	Mar 2018	21-Sep-2021	07-Dec-2023	100%	93.50%
ITS	Package-4 Intelligent Transport System (ITS)	449.00	Awarded	Strabag GmbH JV	June 2022	30-Sep-2023	15-Dec-2023	98.53%	95.68%

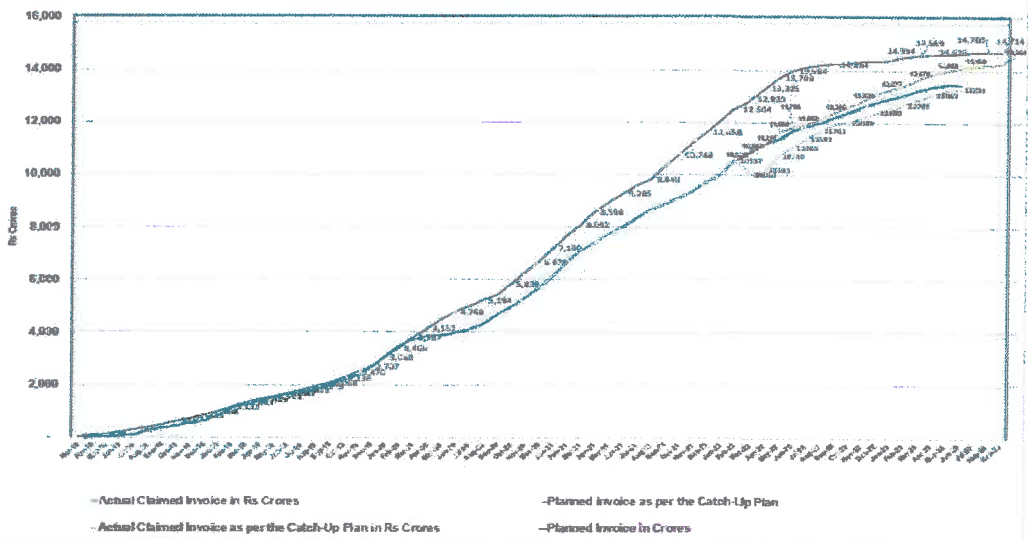
QPR-27 1st Oct 2023 to 31th Dec 2023

Attachment 5- Financial S-Curve for Cumulative Planned Vs Actual Amount in Rs Crores

QPR 1st Oct 2023 to 31th Dec 2023



MTHL - Combined Financial S-Curve Updated as of 30th June 2023



Attachment 6- Package-1's Construction Programme Updated as of 31st December 2023

QPR 1st Oct to 31th Dec 2023



**Attachment 7- Package-2's Construction Programme
Updated as of 31st December 2023**

QPR 1st Oct to 31th Dec 2023



Attachment 8- Package-3's Construction Programme Updated as of 31st December 2023

QPR 1st Oct to 31th Dec 2023



Attachment 9- Project Progress Photos for December 2023



Package 1 – Site Progress Photos



Photo 1-



Photo 2-





Photo 4-

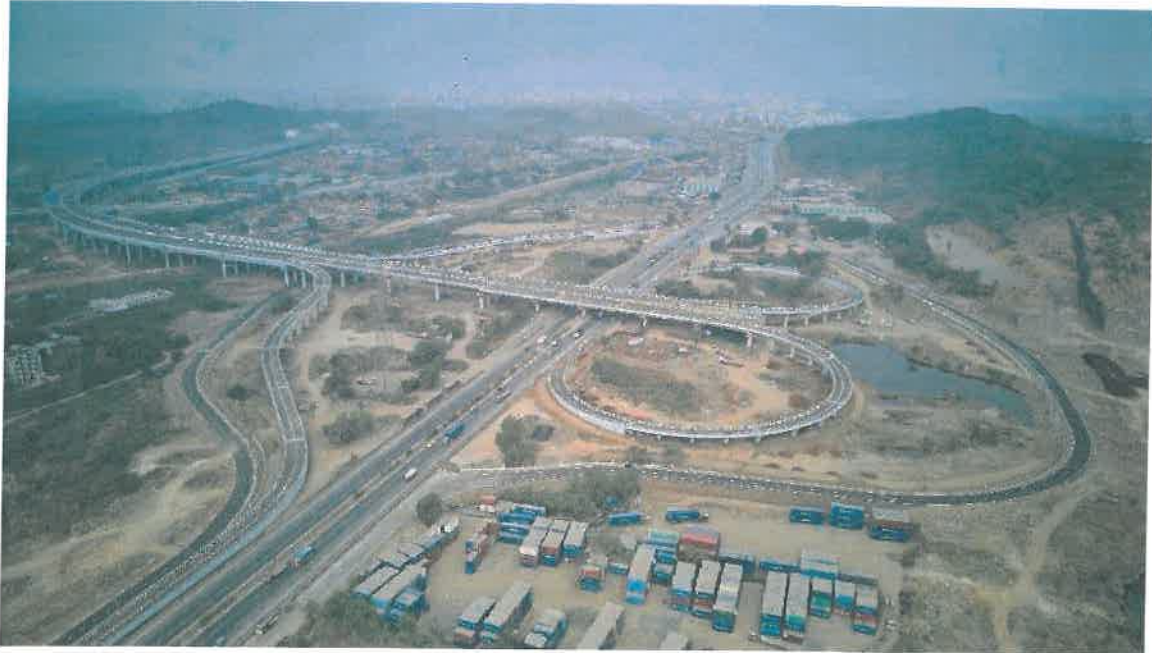


Photo 5-



Photo 6-



Photo 7-



Photo 8-



Photo 9-



Photo 10-

Package 2 – Site Progress Photos



Photo 1, 2-

QPR 1st Oct to 31th Dec 2023

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Photo 3-



Photo 4-



Photo 5-



Photo 6-



Photo 7,8 -



Photo 9,10 -

Package 3 – Site Progress Photos



Photo 1-

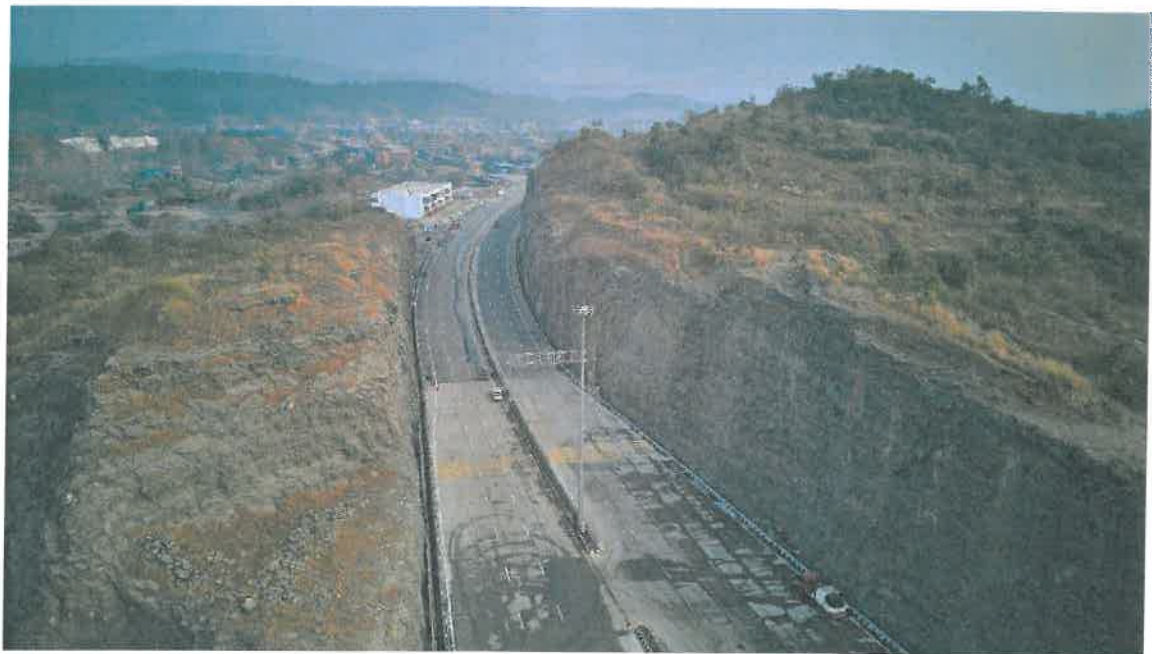


Photo 2-



Photo 3-



Photo 4-



Photo 5-



Photo 6-



QPR 1st Oct to 31th Dec 2023



Photo 7-

Package – 4 Site Progress Photos



Photo 1-



Photo 2-



Photo 3-



Photo 4-





Photo 5,6,7- Photographs of Command Control Center



Photo 8- Chirle-Service Road





Photo 9,10,11- Temporary Road Connecting to Ramp 3 & 5 – Shivaji Nagar



Photo 12- MAB – GAVHAN



Photo 13- SAB – SEWRI



Photo 14- SAB – SHIVAJI NAGAR



Photo 15-



Photo 16-

Annexure-1 JICA Reimbursement backup July-2023

QPR 1st Oct to 31th Dec 2023

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Reimbursement details for the month of April 2023

Date of disbursement	Amount of Disbursement in JPY
04-Apr-23	JPY 991,235,908
06-Apr-23	JPY 59,685,930
04-Apr-23	JPY 222,991,575
04-Apr-23	JPY 36,689,963
04-Apr-23	JPY 3,458,019
04-Apr-23	JPY 308,667,466
04-Apr-23	JPY 231,886,804
04-Apr-23	JPY 63,337,875
04-Apr-23	JPY 22,274,238
Total Amount	JPY 1940.22 million



Annexure-2 JICA Reimbursement backup May'2023

QPR 1st Oct to 31th Dec 2023

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Reimbursement details for the month of May 2023

Date of disbursement	Amount of Disbursement in JPY
12-May-23	JPY 314,829,487
12-May-23	JPY 135,125,879
12-May-23	JPY 29,724,135
12-May-23	JPY 95,378
12-May-23	JPY 1,002,128,298
12-May-23	JPY 34,642,414
12-May-23	JPY 38,763,148
12-May-23	JPY 17,953,076
30-May-23	JPY 110,012,453
30-May-23	JPY 35,569,230
30-May-23	JPY 90,695,240
30-May-23	JPY 289,373,568
Total Amount	JPY 2098.91 million

Annexure-3 JICA Reimbursement backup June'2023

QPR 1st Oct to 31th Dec 2023



Reimbursement details for the month of June 2023

Date of Disbursement	Amount of Disbursement in JPY
06-Jun-23	JPY 100,997,591
06-Jun-23	JPY 17,294,751
06-Jun-23	JPY 794,872,034
06-Jun-23	JPY 13,434,980
27-Jun-23	JPY 23,965,254
27-Jun-23	JPY 99,295,791
27-Jun-23	JPY 51,561,048
27-Jun-23	JPY 165,604,468
27-Jun-23	JPY 622,731,126
27-Jun-23	JPY 858,737,301
27-Jun-23	JPY 111,319,856
27-Jun-23	JPY 275,007,893
Total Amount	JPY 3134.82 million



