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FINAL EIA REPORT (ANNEXURES: I-VIII)

TOR REFERENCE: NO. 10-53/2020-IA-III DATED 29TH OCTOBER, 2020 BASELINE PERIOD: DECEMBER 2019 TO FEBRUARY 2020

ENVIRONMENTAL IMPACT ASSESSMENT

FOR ENVIRONMENTAL & CRZ CLEARANCE OF ON-GOING PROJECT FOR ESTABLISHMENT OF

NAVI MUMBAI INTERNATIONAL AIRPORT (NMIA)

AT ULWE, PANVEL TALUKA, RAIGAD DISTRICT, MAHARASHTRA



SUBMITTED TO: MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE (MOEF & CC), NEW DELHI

SUBMITTED BY: NAVI MUMBAI INTERNATIONAL AIRPORT PVT. LTD. (NMIAL)

ENVIRONMENT CONSULTANT: VIMTA LABS LIMITED, HYDERABAD (QCI/ NABET ACCREDITED SR.NO.139)

SEPTEMBER 2021

Environmental Impact Assessment for the Proposed Navi Mumbai International Airport (NMIA), At Ulwe, Navi Mumbai, Panvel Taluka, Raigad District, Maharashtra

Table of Contents

List of Annexures

Annexure-I	:	Environmental & CRZ Clearance	
Annexure-II	:	Transfer of Environmental & CRZ Clearance	
Annexure-III	:	Terms Of Reference and Its Compliance	
Annexure-IV	:	Statutory Clearances	
Annexure-V	:	Methodology Adopted for Sampling and Analysis	
Annexure-VI	:	Applicable Environmental Standards	
Annexure-VII	:	: Navi Mumbai Airport Influence Notified Area (NAINA) Notification	
Annexure-VIII	:	Modifications In Navi Mumbai Development Plan (NMDP) and NMDP	
Annexure-VIII		Мар	

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ANNEXURE-I ENVIRONMENTAL & CRZ CLEARANCE

(Letter No. F.No. 10-53/2009-IA.III Dated 22nd November, 2010)

F.No.10-53/2009-IA.III Government of India Ministry of Environment & Forests (IA-III Division)

> Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi - 110 003,

Dated: 22nd November, 2010

To

Vice Chairman & Managing Director, City & Industrial Dev. Corpn. of Maharashtra Ltd., CIDCO Bhawan, CBD-Belapur, Navi Mumbai-400 614.

Subject: Environmental and CRZ Clearance for establishment of Navi Mumbai International Airport by M/s. City & Industrial Development Corporation of Maharashtra Ltd. - Reg.

This has reference to your letter no. CIDCO/T&C/ACTE/MD/2009/567 dated 16.06.2009 and subsequent letters dated 06.07.2010, 07.08.2010, 10.10.2010 and 12.11.2010 seeking Environmental and CRZ Clearance under the Environment Impact Assessment Notification, 2006 and Coastal Regulation Zone (CRZ) Notification, 1991. The proposal has been appraised as per prescribed procedure in the light of provisions under the Environment Impact Assessment Notification, 1909 and CRZ Notification, 1991 on the basis of the mandatory documents enclosed with the application viz., Questionnaire, EIA/EMP and recommendations of Coastal Zone Management Authority, the additional clarifications furnished in response to the observations of the Expert Appraisal Committee constituted by the competent authority in its meetings held on $20^{\text{th}} - 22^{\text{nd}}$ July 2009, $21^{\text{st}} - 23^{\text{rd}}$ July 2010, $18^{\text{th}} - 20^{\text{th}}$ August 2010, $21^{\text{st}} - 23^{\text{rd}}$

2. It is interalia, noted that the proposed site of Airport is situated on National Highway No. 4B at a distance of approx. 35 kms. from the existing airport near Panvel in the geographical centre of Navi Mumbai having longitude of 73^o.4'.18" and latitude 18^o.59'.33". The main access to the proposed airport from the east is existing 4 lane National Highway 4B abutting the eastern boundary of the airport and 4 lane concrete road called Aamra Marg touches the western boundary of the airport. The proposed airport is also accessible by present commuter railway line called Mankhurd-Belapur-Panvel commuter railway line from the Khandeshwar Railway Station.

3. The proposal of Navi Mumbai International Airport is proposed to be established on an area of 1160 ha. The airfield of Navi Mumbai International Airport is designed to accommodate the new large aircraft (A-380 and equivalent) compatible to ICAO Standard of aerodrome 4-F. The ultimate capacity of airport will be 60 MPPA which will reach in four stages

Inward No. 0 61111 Date :

commencing from 10 MPPA in 2014. The Airport accommodates two parallel independent runways with the spacing of 1.55 kms. for simultaneous and independent operation with the provision of full length parallel taxi way along runways. The length of runway is of 3700 mts. X 60 mts. with runway safety area of 150 mts. X 60 mts., approach lighting of 900 mts., terminal building of domestic and international including Cargo admeasuring about 5,00,000 sq.mt. with other facilities such as; parking stands, GSE storage area, ATC Tower, airport ground lighting, airport lighting, cargo apron, maintenance and hanger along with other allied facilities etc. The other project activities involved are land development by cutting of hill and filling, development of airport in phases, re-coursing of the tidally influenced water body outlets from Ulwe, shifting of EHVT line, development of non-aeronautical activities, off-site physical infrastructure in terms of roads, interchange, water supply, power, etc., re-settlement & re-habilitation, and development of utility lines required for airport zone. The estimated basic cost (2008-09) of the project is Rs. 8722 Cr. spread over 4 phases i.e. in the first phase Rs 4424 Cr. in 2015 for 10 MPPA and Rs.1934 Cr. in 2020 for 25 MPPA in second phase; and Rs.1728 Cr. in 2025 for 45 MPPA in 3rd phase and finally Rs.636 Cr. in 4th phase for 2030 for 60 MPPA.

4. The non-aeronautical activities related to airport have been planned in the south of airport on an area of 276 ha. Further an area of 60 ha. will be required for diversion of tidally influenced water body of Ulwe River and 279 ha for off site infrastructure for roads, and crossings/intersection improvements.

5. A ToR for the project was issued on 04.08.2009. The Expert Committee also visited the site on 23rd December, 2009 and an additional TOR was issued on 8th February 2010. The public hearing was conducted on 5th May 2010 at Panvel Taluka, Dist. Raigad by Maharashtra Pollution Control Board (MPCB), Maharashtra and final EIA/EMP was submitted by CIDCO on 6th July 2010 for the issue of Environmental and CRZ Clearance. The recommendations of MCZMA were also submitted on 6th July 2010.

6. The Expert Appraisal Committee, after due consideration of the relevant documents submitted by the project proponent, additional clarifications furnished in response to its observations and various representations received on the project, have recommended for the grant of Environmental and CRZ Clearance for the project. Accordingly, the Ministry hereby accords necessary Environment and CRZ Clearance for the above project as per the provisions of Environment Impact Assessment Notification, 2006 and CRZ Notification 1991 and their subsequent amendments, subject to strict compliance of the terms and conditions as follows:

7. Specific Conditions:

I. Construction Phase

(i) "Consent for Establishment" shall be obtained from State Pollution Control Board under Air and Water Act and a copy shall be

submitted to the Ministry before start of any construction work at the site.

- (ii) CIDCO shall rehabilitate about 3000 families of 10 settlements from 7 villages falling within the airport zone as per the R & R policy of the Government of India or the Government of Maharashtra, which ever is more beneficial to the project affected persons.
- (iii) CIDCO shall obtain necessary permission from Hon'ble High Court of Bombay for cutting or damaging of mangroves and clearance under Forest Conservation Act 1980 as per the orders in respect of notice of Motion no. 417 of 2006 in PIL no. 87/2006, as required.
- (iv) The plantation and protection of mangroves over an area of 615 ha (245 hectares of good quality Mangroves Park shall be developed at Vaghivli on the north of the airport area + 60 hectare area located on the west side of the airport site around Moha creek and Panvel Creek + 310 hectares area on the northeast of the airport site between Gadhi River, Mankhurd Panvel Rail corridor and National Highway 4B shall be declared as No-development zone and CIDCO shall under take the development as Mangroves park/green area) would be developed and maintained in the shape of Biodiversity Mangrove Parks well before the airport project is initiated and its progress reported to the high level committee mentioned below at (xxxiii). CIDCO shall formally amend the land use in the sectioned development plan of Navi Mumbai following the due procedure under MRTP Act to achieve this objective.
- (v)The proposed re-coursing of tidally influenced water body outlets from Ulwe river has a large cross sectional area at the middle with the river/creek on either end remaining unchanged with its natural course. The whole system should function as was functioning earlier without airport project. Surface runoff should not be let into the channel just because the area of cross section is large. The whole airport area will be reclaimed and the level raised to 7m whereas the existing level all around the airport will continue to be low in its natural state. There will be flow all around due to surface runoff. This additional quantity must be collected by appropriate drainage system and let into Gadhi River and not into the re-coursing channel. The recourse channel may be able to take it but not the river or creek on either side of the channel. This aspect shall be examined by CIDCO in details to avoid the flooding of the low-lying areas besides inducting other hydrological and environmental studies.
- (vi) The entire system shall be studied as one composite system with appropriate boundary conditions to reflect the worst conditions – minimum 100 years to be specified and compliance ensured such as -flooding, surface runoff not only from the airport but also from surrounding areas as well, normal flow, tidal flow due to tidal surge having a long return period, possible obstructions to flow,

tributaries joining the main river etc so as to take appropriate protection and remedial measures. Due to construction of recourse Channels and also due to tail end of the Gadhi & Ulwe Rivers into Panvel Creek, there is a need to prepare a Comprehensive Master Plan for Surface drainage and Flood protection, keeping in view the proposed developments. CIDCO shall submit the above Master Plan to the Ministry.

- (vii) Systemic and periodic monitoring mechanism need to be put in place by CIDCO to assess the impact on sub-surface flow/ impact on aquifers as well as surface water bodies in different seasons. Necessary additional environmental protection measures to be adopted to address the impact of proposed development in coastal sub-subsurface flow as well as impact on aquifers.
- (viii) CIDCO shall prepare a Management Plan to handle the runoff from the airport and to ensure that runoff associated risks/ impacts such as siltation in receiving water body are avoided and are taken care within airport area during monsoons.
- (ix) On the northern part of the airport there is a secondary channel of the Gadhi River which will be filled up for the airport runway construction. This will be replaced by a shorter channel along the northern boundary of the airport. The channel shall be designed appropriately through overall modeling study so that the channel provides tidal water to the mangrove park and moderate tidal flows under worst environmental conditions. Need for widening and deepening of Gadhi River may also be studied simultaneously, if required. The revised widths and depths of recourse channels shall be determined with modified drainage and worst rainfall/tide conditions including appropriate factor of safety.
- (x) The flow channels and the low lying mangrove area which will receive water from diverted recourse/ Channels should remain undisturbed. No road, embankment or any other construction shall be permitted. Any island formed due to deposition of sediment in front of Panvel creek shall be periodically removed.
- (xi) A detailed map shall be submitted by CIDCO to the Ministry with quantification of affected mangrove area with density i.e. initial proposal & modified proposal and proposed mangrove forestation with species. The work on the proposed compensatory mangrove park should commence well before the construction of the airport is undertaken. The mangrove irrigation systems and diverse species selections for all the four areas may be scientifically made. The river front development in all the areas not protected by adequate mangrove buffer along the Panvel creek and Gadhi river may be considered through studies.

(xii) Whatever EIA data was submitted and presented was related to a situation for "no airport condition". The project proposal has under

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gone many changes in terms of converting the lagoon as Mangrove Park, shifting of non-aeronautical activities to the south etc. Updated EIA report with all the modifications and commitments given by CIDCO shall be submitted to the MoEF, MPCB and to MCZMA. This updated EIA report will serve as the preliminary baseline data. CIDCO shall submit the second report (EIA Report II) after finalization of all the facilities followed by Comprehensive EIA prepared with approved layout of the airport, new report hydrological scenario, altered topography and land use. The Comprehensive EIA report should also include ecological aspects answering quires raised by BNHS and several other points raised during the meeting. After completion of Phase I of the project, the CIDCO shall conduct the "Environmental Audit" with a reputed organization and the audit shall also include the "Validation of the conclusions drawn in the EIA Report" and to submit to MoEF, MPCB and to MCZMA and shall be uploaded on the website.

- (xiii) The water quality of the River Gadhi, Ulwe, the Panvel Creek and the ground water is to be monitored on quarterly basis for TOC, Pb, Cd and Hg at all the locations identified in the EIA study for a period of at least 2 years from the commencement for the construction work and the quarterly reports to be submitted to Ministry of Environment and Forests Govt. of India and Maharashtra State Pollution Control Board.
- (xiv) The waste water generated from the aircraft maintenance hangers may contain hazardous materials like lead, chromium, Sulphates, Phenolic compounds, V.O.C's etc. The surface runoff from the airport area shall also contain oils, grease, Sulphates etc, which cannot be sent directly to sewage treatment plant for the treatment. A separate treatment plant for managing the waste water shall be specified and adopted.
- (xv) Based on the geological profile underneath the proposed airport, suitable consolidation factor shall be arrived to assess the additional noise/ vibration levels that would be produced during impact of landing & take off the air crafts simultaneously on both the runways. Further, the partially quarried hills in the vicinity will become a rebound shell for noise. CIDCO shall examine the details of noise/ vibration levels those are likely to be increased both during day and night time and the mitigative measures shall be installed to reduce the (noise/ vibration levels) impacts.
- (xvi) Standard instrument arrival and departure procedure shall be designed to minimise the noise levels within the permissible limits for the area falling in the funnel near the airport on either side.
- (xvii) Energy conservation to the extent of 20% shall be incorporated in the bidding documents including water conservation (reuse/recycle, rain water harvesting and water efficient fixtures) and other green

building practices for various buildings proposed within the airport complex. CIDCO shall consider ECBC Guidelines 2009 to achieve the energy – efficient design.

- (xviii) CIDCO shall prepare a detailed traffic management plan to take care of increased vehicular traffic which should also cover/ clearly delineate widening/ increasing the existing roads and associated road infrastructure approving/ installation of road safety features/ pedestrian facility/FOB/under passes etc (that can be done by carrying out road safety audits). Measures shall be taken to prevent encroachment along/within the ROWs on connecting/ main arterial roads.
- (xix) Necessary road (National and State Highways) and rail connectivity shall also be upgraded to handle the increased passenger and cargo traffic, in addition to metro for transition of passengers. The proposal of Havorport shall not be taken up on the north part of the airport area as this shall damage the mangroves.
- (xx) The measures should be taken to improve public transportation including dedicated road / MRTS corridors to access to Airport, may also be considered for the same. Energy Efficient dedicated rail based public transport facility; suburban/ metro train in particular, may be created between the Santa Cruz and the Navi Mumbai Airport in addition to all other links connecting various parts of Mumbai city.
- (xxi) Traffic Management during construction phase should be clearly planned so that the traffic situation is not further worsened on the existing connecting roads. Installations of Noise barrier/ Green Belts should be clearly indicated in the plan (After identifying critical locations).
- (xxii) To avoid accidental damage (fire, hazardous material waste handling, oil spills, wastewater disposal) in the adjacent ecologically fragile surroundings and mangrove area – a risk assessment plan and disaster management plan should be prepared and with periodic compliance of safety measures in place to avoid loss due accidental damage that could have been otherwise avoided. Further CIDCO shall appoint a dedicated professional team/cell to handle disaster and associated risks.
- (xxiii) In addition to the above -CIDCO shall ensure that all the risks (such as fire, hazardous material waste handling, oil spills, waste - both liquid/solid wastes) associated/ resultant risk during various stages of development (like planning, construction, operation) are managed within the airport area. In case of any unforeseen event as stated above the liability - environmental and social will rest with the

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developer/CIDCO, the decision of the high level Committee, stipulated below will be full and final for liability fixations.

- (xxiv) The compliance report of the monitoring committee shall be made 'public' (put online and/or also displayed for wider dissemination of compliance) at all stages (planning, construction, operation) to ensure effective monitoring and compliance of conditions.
- (xxv) Environment Management Plan or associated monitoring plan shall ensure that mitigation measures detailed out in terms of role, responsibility, budgetary provisions, timeline for completion, frequency of monitoring and compliance etc.
- (xxvi) In order to meet all the essential aeronautical requirements and the further airport expansions, no property development shall be undertaken within the proposed aeronautical Airport Zone area (1160ha).
- (xxvii) The Master plan/Development plan of Navi Mumbai shall be revised and recasted in view of the airport development to avoid and unplanned haphazard growth around the airport. The landuse should take care of bird menace including that from the Mangrove Parks.
- (xxviii) All other nearby villages, if not required to be relocated should be provided with best possible infrastructure so that they compare well with the adjoining ultra modern airport infrastructure.
 - (xxix) CRZ provisions shall be applicable on the tidally influenced diverted channels of Ulwe and Gadhi Rivers and CIDCO shall finalise the Airport plans accordingly.
 - (xxx) Any cutting or filling up the airport site will create significant turbidity problem. CIDCO shall examine the impact on the marine life. The details will be put up on the website every 3 months.
 - (xxxi) CIDCO shall conduct the baseline survey of avian fauna before the start of construction and the details shall be put up every 3 months on the website in association with BNHS.
 - (xxxii) The Environmental Clearance/ CRZ Clearance is recommended below is only for the Navi Mumbai Airport project. CIDCO shall obtain the Environmental and CRZ clearance separately for off airport facilities and other off infrastructure projects after finalising the locations and details as may be required under the EIA Notification 2006 and the CRZ Notification.
- (xxxiii) Taking a cue from the man-made 26/11 incident arising out of external threat to our country, a strategic airport safety and security plan covering also surrounding inhabited areas of the airport shall be prepared and put in place in consultation with appropriate government departments

- (xxxiv) A high level advisory and monitoring committee which should include International experts of repute, reporting directly to the highest Airport Management Authority shall be constituted by CIDCO to plan, execute and maintain the environmental issues/ recommendations mentioned above. The monitoring shall be done at various stages (planning, construction, operation) of project for compliance of conditions. Budgetory provisions shall be made to the satisfaction of this Committee. The committee shall meet at least once in three months and the decisions taken in the meetings shall be put up on the web site for public information.
- (xxxv) Regular modeling study of air, noise shall be carried out due to the increase in traffic
- (xxxvi) The solid waste shall be properly collected, segregated and disposed as per the provision of Solid Waste (Management and Handling) Rules, 2000.
- (xxxvii) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- (xxxviii)A First Aid Room will be provided in the project both during construction and operation of the project.
- (xxxix) Disposal of muck during construction phase should not create any adverse effect on the neighboring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
 - (xl) Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.
 - (xli) Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.
 - (xlii) Installation and operation of DG set shall comply with the guidelines of CPCB.
 - (xliii) The diesel generator sets to be used during construction phase should be low sulphur diesel type and should conform to

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Environment (Protection) Rules prescribed for air and noise emission standards.

- (xliv) The diesel required for operating DG sets shall be stored in underground tanks and if required, clearance from Chief Controller of Explosives shall be taken.
- (xlv) Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.
- (xlvi) Ambient noise levels should conform to residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB/ MPCB.
- (xlvii) Fly ash should be used as building material in the construction as per the provisions of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003.

(xlviii) Ready mixed concrete must be used in building construction.

- (xlix) Storm water control and its re-use as per CGWB and BIS standards for various applications.
- (l) Water demand during construction should be reduced by use of premixed concrete, curing agents and other best practices referred.

(li) Use of glass may be reduced by upto 40% to reduce the electricity consumption and load on airconditioning. If necessary, use high quality double glass with special reflective coating in windows.

- (lii) The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of fire fighting equipments, etc. as per National Building Code including protection measures from lightening etc.
- (liii) Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.

II. Operation Phase

i) Diesel power generating sets proposed as source of back up power for elevators and common area illumination during operation phase should be of enclosed type and conform to rules made under the

Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with Maharashtra Pollution Control Board.

- ii) Noise should be controlled to ensure that it does not exceed the prescribed standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.
- iii) The green belt of the adequate width and density preferably with local species along the periphery of the plot shall be raised so as to provide protection against particulates and noise.
- iv) Weep holes in the compound walls shall be provided to ensure natural drainage of rain water in the catchment area during the monsoon period.
- v) Rain water harvesting for roof run- off and surface run- off, should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease. The borewell for rainwater recharging should be kept at least 5 mts. above the highest ground water table.
- vi) The ground water level and its quality should be monitored regularly in consultation with Central Ground Water Authority.
- vii) Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.
- viii) Energy conservation measures like installation of CFLs/TFLs for the lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Use CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination. Use of solar panels may be done to the extent possible.
- ix) Efforts should be made to use solar energy to the maximum extent possible.

III. <u>General Conditions</u>:

(i) In the event of any change in the project profile a fresh reference shall be made to the Ministry of Environment and Forests.

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- (ii) This Ministry reserves the right to revoke this clearance, if any, of the conditions stipulated are not complied with to the satisfaction of this Ministry.
- (iii) This Ministry or any other competent authority may stipulate any additional conditions subsequently, if deemed necessary, for environmental protection, which shall be complied with.
- (iv) Full support should be extended to the officers of this Ministry's Regional Office at Bhopal and the offices of the Central and State Pollution Control Board by the project proponents during their inspection for monitoring purposes, by furnishing full details and action plans including the action taken reports in respect of mitigative measures and other environmental protection activities.

8. These stipulations would be enforced among others under the provisions of water (Prevention and Control of Pollution) Act, 1974 the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and Municipal Solid Wastes (Management and Handling) Rules, 2000 including the amendments and rules made thereafter.

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

10. The project proponent should advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded CRZ Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at <u>http://www.envfor.nic.in</u>. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Bhopal.

11. Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No.460 of 2004, if applicable to this project.

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

13. The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall

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update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO₂, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

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

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

(Bharat Bhushan) Director (IA-III) 22.11.2010

Copy to:

- 1. The Secretary, Department of Environment, Govt. of Maharashtra, Mantralaya, Mumbai 400 032.
- 2. The Joint Secretary (AS), Ministry of Civil Aviation, Rajiv Gandhi Bhawan, Safdarjung Airport, New Delhi 110003.
- 3. The Chairman, CPCB, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi 32.
- 4. The Chairman, Maharashtra Coastal Zone Management Authority, Room No.217 (Annexe), Mantralaya, Mumbai – 400 032.
- The Chairman, Maharashtra Pollution Control Board, Kalpataru Points, 3rd
 & 4th floor, Opp. Cine Planet, Sion Circle, Sion (E) Mumbai-400 022.
- 6. The Chief Conservator of Forests, Ministry of Environment and Forests, Regional Office, Western Region, Kendriya Paryavaran Bhavan, Link Road No. 3, Ravishankar Nagar, Bhopal – 462016 (M.P.)
- 7. Guard File.
- 8. Monitoring Cell.

(Bharat Bhushan) **Director (IA)**

ANNEXURE-I(A) EXTENSION OF ENVIRONMENTAL & CRZ CLEARANCE

(Letter No. F.No.10-53/2009-IA.III Dated 20th December, 2017)

F.No.10-53/2009-IA.III Government of India Ministry of Environment, Forest and Climate Change (IA-III Section)

Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 3

Date: 20th December, 2017

Τo,

The General Manager (Environment),

City and Industrial Development Corporation of Maharashtra Ltd (CIDCO), Navi Mumbai International Airport Office, 3rd Floor, Tower No.10, Belapur Railway Station Complex, C.B.D. Belapur, Navi Mumbai-400614 (Maharashtra) Fax: 022-22022509/66500933 Email: consultant.env@cidcoindia.com

Subject: Environmental and CRZ Clearance for establishment of Navi Mumbai International Airport at Mumbai by M/s City and Industrial Development Corporation of Maharashtra Ltd – Extension of validity of Environmental and CRZ Clearance - reg.

Sir,

This has reference to your online proposal No. IA/MH/MIS/235/2009 dated 6th September, 2017 submitted to this Ministry for extension of validity of Environmental and CRZ Clearance granted vide letter No. 10-53/2009 dated 22nd November, 2010 for 'Establishment of Navi Mumbai International Airport at Mumbai' in favour of M/s City and Industrial Development Corporation of Maharashtra Ltd, in terms of the provisions of the Environment Impact Assessment (EIA) Notification, 2006 under the Environment (Protection) Act, 1986 and CRZ Notification, 2011.

2. The proposal for grant of extension of validity of Environmental and CRZ Clearance to the above referred project was considered by the Expert Appraisal Committee (Infra-2) in its 24th meeting held in 30-31 October, 2017.

3. The EAC in its 24th meeting held in 30-31 October, 2017 has recommended the project for grant of extension of the validity of EC&CRZ clearance issued vide letter dated 22nd November, 2010 for a period of three years. As per recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby extend the validity of Environmental and CRZ Clearance up to 21st November, 2020. The following additional conditions were also recommended.

- (i) A certified report on the sources and availability of water from the local body supplying water along with the permission received by them for the same shall be submitted. This report shall specify the total annual water availability with the organization (local body), the quantity of water already committed to other development projects, the quantity of water committed for this project and the balance water available for distribution. This should be specified separately for ground water and surface water sources and ensure that there is no impact on other users.
- (ii) A detailed traffic management and a traffic decongestion plan, to ensure that the current level of service of the roads within a 05 kms radius of the project site is maintained and improved upon, shall be drawn up through an organization of

repute and specializing in Transport Planning within the next 6 months. This should be based on the cumulative impact of all development and increased inhabitation being carried out or proposed to be carried out by the project or other agencies in this 05 kms radius from the site under different scenarios of space and time and shall be implemented to the satisfaction of the State Urban Development and Transport Departments with the consent of all the concerned implementing agencies.

- (iii) Treated effluents shall also be used for irrigation and in Road side plantation after taking due permission from the concerned authorities/ Forest department
- (iv) The project proponents shall satisfactorily address to all the complaints that have been received against the project and submit a compliance report to the Ministry
- (v) The extension of validity is being granted for the original proposals for which Environmental and CRZ Clearance was granted earlier. The project proponents will not make any changes in the project nature, structure or configuration and limit themselves to activities for which the Environmental and CRZ Clearance has been given earlier.

4. All other conditions stipulated in the Environmental and CRZ Clearance granted vide letter No. 10-53/2009 dated 22nd November, 2010, shall remain unchanged.

5. This issues with the approval of the Competent Authority.

(Kushal Vashist) Director

Copy to:

- 1) The Principal Secretary, Environment Department, Government of Maharashtra, 15th Floor, New Administrative Building, Mantralaya, Mumbai 400 032.
- 2) The Joint Secretary (AS), Ministry of Civil Aviation, Rajiv Gandhi Bhawan, Safdarjung Airport, New Delhi 110 003.
- 3) The APCCF (C), MoEF&CC, Regional Office (WCZ), Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur 440001.
- 4) The Chairman, Maharashtra Coastal Zone Management Authority, Room No. 217 (Annexe), Mantralya, Mumbai 400 032.
- 5) The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi 110 032.
- The Chairman, Maharashtra Pollution Control Board, Kalpataru Point, 3rd and 4th floor, Opp. Cine Planet, Sion Circle, Mumbai - 400 022.
- 7) Monitoring Cell, MoEF&CC, Indira Paryavaran Bhavan, New Delhi.
- 8) Guard File/ Record File/ Notice Board.

(Kushal Vashist) Director

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ANNEXURE-I(B) NOTIFICATION REGARDING EXTENSION OF ENVIRONMENTAL & CRZ CLEARANCE TILL 21ST NOVEMBER, 2021

(MoEF&CC Notification S.O. 221(E) Dated 18th January, 2021)

REGD. No. D. L.-33004/99



सी.जी.-डी.एल.-अ.-18012021-224513 CG-DL-E-18012021-224513

> असाधारण EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (ii) PART II—Section 3—Sub-section (ii)

प्राधिकार से प्रकाशित PUBLISHED BY AUTHORITY

सं. 201] नई दिल्ली, सोमवार, जनवरी 18, 2021/पौष 28, 1942 No. 201] NEW DELHI, MONDAY, JANUARY 18, 2021/PAUSHA 28, 1942

पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 18 जनवरी, 2021

का.आ. 221(अ).— केंद्रीय सरकार, तत्कालीन पर्यावरण और वन मंत्रालय में, पर्यावरण (संरक्षण) अधिनियम, 1986 की धारा 3 की उप-धारा (1) और उप-धारा (2) के खंड (v) के अधीन अपनी शक्तियों के प्रयोग करते हुए, पर्यावरण समाघात निर्धारण अधिसूचना, 2006 (जिसे इसके बाद उक्त अधिसूचना कहा गया है) संख्या का. आ. 1533 (अ), तारीख 14 सितंबर, 2006 द्वारा प्रकाशित किया जा चुका है, उक्त अधिसूचना की अनुसूची में सभी संबंधित सूचीबद्ध नई परियोजनाओं या क्रियाकलापों के लिए उनके विस्तार और आधुनिकीकरण और/या उत्पाद मिश्रण में परिवर्तन किया जा सकता है यथास्थिति, भूमि को अभिप्राप्त करने के सिवाय, परियोजना प्रबंधन द्वारा किसी भी संनिर्माण कार्य या भूमि को तैयार करने के सिवाय, परियोजना प्रबंधन द्वारा किसी भी संनिर्माण कार्य या भूमि को तैयार करने से पूर्व संबंधित विनियामक प्राधिकरण से पूर्व पर्यावरणीय अनापत्ति अपेक्षित होगी।

और कोरोना वायरस (कोविड-19) के प्रकोप को देखते हुए और तत्पश्चात इसके नियंत्रण के लिए घोषित लॉकडाउन (कुल या आंशिक) ने , क्षेत्र में परियोजनाओं या क्रियाकलापों के कार्यान्वयन को प्रभावित किया है। पर्यावरण और वन जलवायु परिवर्तन मंत्रालय उक्त अधिसूचना में अनुज्ञात अधिकतम अवधि से परे पूर्व पर्यावरणीय अनापत्तियों की विधिमान्यता के विस्तार के लिए अनुरोधों की संख्या प्राप्ति में है, क्योंकि कोविड 19 महामारी अभी तक समाप्त नहीं हुई है। मामले की उक्त मंत्रालय में समीक्षा की गई है और चिंता इस तथ्य को ध्यान में रखते हुए है कि लॉकडाउन (कुल या आंशिक) के कारण, क्षेत्र में क्रियाकलापों को जारी रखना कठिन हो सकता है। अत: अब, केंद्रीय सरकार, पर्यावरण (संरक्षण) नियम, 1986 के नियम 5 के (4) खंड के साथ पठित पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उप-धारा (1) की उप-धारा (2) के खंड (v) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, लोक हित में उक्त नियमों के नियम 5 के उप-नियम (3) के खंड (क) के अधीन नोटिस की अपेक्षा अभिमुक्ति के पश्चात भारत के राजपत्र असाधारण, भाग- II, खंड 3, उपखंड (II), में प्रकाशित, भारत सरकार की तत्कालीन पर्यावरण और वन मंत्रालय अधिसूचना का.आ.1533 (अ), तारीख 14 सितंबर, 2006, में निम्नलिखित और संशोधन करती है, अर्थातु: -

उक्त अधिसूचना में,

(i) उप शीर्ष II "चरण (2)_विस्तारण", के अधीन पैरा 7 के उप पैरा 7(i) में, खंड (viii) के पश्चात निम्नलिखित खंड अंत:स्थापित किया जाएगा अर्थात्: -

- "(ix) उपरोक्त में अंतर्विष्ट किसी बात के होते हुए, 1 अप्रैल 2020 से 31 मार्च 2021 की अवधि में कोरोना वायरस (कोविड-19) के प्रकोप को देखते हुए और तत्पश्चात इसके नियंत्रण के लिए घोषित लॉकडाउन (कुल या आंशिक) की दृष्टि में इस अधिसूचना के उपबंधो के अधीन मंजूर संदर्भ की शर्तों की विधिमान्यता की अवधि की गणना के प्रयोजन के लिए विचार नहीं किया जाएगा ,तथापि उक्त संदर्भ की शर्तों के संबंध में इस अवधि के दौरान अपनाए गए सभी क्रियाकलाप विधिमान्य समझे जाएंगे।";
- (ii) पैरा 9 क के स्थान पर, निम्नलिखित पैरा रखा जाएगा, अर्थात् : -

"9 क. इस अधिसूचना में अंतर्विष्ट किसी बात के होते हुए, 1 अप्रैल 2020 से 31 मार्च 2021की अवधि में कोरोना वायरस (कोविड-19) के प्रकोप को देखते हुए और तत्पश्चात इसके नियंत्रण के लिए घोषित लॉकडाउन (कुल या आंशिक) की दृष्टि में इस अधिसूचना के उपबंधो के अधीन मंजूर पूर्व पर्यावरणीय अनापत्ति की विधिमान्यताकी अवधि की गणना के प्रयोजन के लिए विचार नहीं किया जाएगा ,तथापि उक्त पर्यावरणीय अनापत्ति के संबंध में इस अवधि के दौरान अपनाए गए सभी क्रियाकलाप विधिमान्य समझे जाएंगे।";

[फा. सं. 22-25/2020-आईए.III]

गीता मेनन, संयुक्त सचिव

टिप्पण : मूल अधिसूचना भारत के राजपत्र, असाधारण, भाग II, खंड 3, उप-खंड (ii) संख्या का.आ. 1533 (अ), तारीख 14 सितंबर, 2006 द्वारा प्रकाशित की गई थी और अधिसूचना अधिसूचना संख्या का.आ. 4254 (अ),तारीख 27 नवंबर, 2020 द्वारा अंतिम बार संशोधन किया गया था।

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE NOTIFICATION

New Delhi, the 18th January, 2021

S.O. 221(E).—Whereas, the Central Government in the erstwhile Ministry of Environment and Forests, in exercise of its powers by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 has published the Environment Impact Assessment Notification, 2006 (hereinafter referred to as the said notification) *vide* number S.O.1533(E), dated the 14th September, 2006, making the requirement of prior environmental clearance from the concerned regulatory authority mandatory for all new projects or activities listed in the Schedule to the said notification, their expansion and modernisation and/or change in product mix, as the case may be, before any construction work or preparation of land by the project management except for securing the land;

And whereas, in view of the outbreak of Corona Virus (COVID-19) and subsequent lockdowns (total or partial) declared for its control, implementation of projects or activities in the field has been affected. Ministry of

Environment, Forest and Climate Change is in receipt of number of requests for extension of the validity of prior environmental clearances beyond the maximum period allowed in the said notification, as the COVID-19 pandemic has not yet come to an end. The matter has been examined in the said Ministry and the concern is genuine keeping in view the fact that due to lockdowns (total or partial), continuation of activities in the field has been difficult.

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986), read with sub-rule (4) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government, after having dispensed with the requirement of notice under clause (a) of sub-rule (3) of rule 5 of the said rules in public interest, hereby makes the following further amendments in the notification of Government of India, in the erstwhile Ministry of Environment and Forests, number S.O. 1533 (E), dated the 14th September, 2006, published in the Gazette of India, Extraordinary, Part-II, Section 3, Sub-section (II), namely:-

In the said notification, -

(i) in paragraph 7, in sub-paragraph 7(i), under sub-heading II. "Stage (2) – Scoping", after clause (viii), the following clause shall be inserted, namely:-

"(ix). Notwithstanding anything contained above, the period from the 1st April, 2020 to the 31st March, 2021 shall not be considered for the purpose of calculation of the period of validity of Terms of Reference granted under the provisions of this notification in view of outbreak of Corona Virus (COVID-19) and subsequent lockdowns (total or partial) declared for its control, however, all activities undertaken during this period in respect of the said Terms of Reference shall be treated as valid.";

(ii) for paragraph 9A, the following paragraph shall be substituted namely:-

"9A. Notwithstanding anything contained in this notification, the period from the 1st April, 2020 to the 31st March, 2021 shall not be considered for the purpose of calculation of the period of validity of Prior Environmental Clearances granted under the provisions of this notification in view of outbreak of Corona Virus (COVID-19) and subsequent lockdowns (total or partial) declared for its control, however, all activities undertaken during this period in respect of the Environmental Clearance granted shall be treated as valid.".

[F.No.22-25/2020-IA.III]

GEETA MENON, Joint Secy.

Note: The principal notification was published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii) *vide* number S.O. 1533 (E), dated the 14th September, 2006 and was last amended vide the notification number S.O. 4254(E), dated the 27th November, 2020.

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ANNEXURE-I(C) COMPLIANCE STATUS OF CONDITIONS STIPULATED IN ENVIRONMENTAL & CRZ CLEARANCE OF NMIA PROJECT [MOEF VIDE LETTER NO. 10-53/2009-IA-III DATED 22.11.2010]

(MoEF&CC Letter No.F.No.6-22/2010(ENV)/7994 Dated 31.03.2021)



भारत सरकार GOVERNMENT OF INDIA पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय MINISTRY OF ENVIRONMENT, FORESTS & CLIMATE CHANGE E-1

Integrated Regional Office Ground Floor, East Wing New Secretariat Building CS Civil Lines, Nagpur - 440001 E-mail: apccfcentral-ngp-mef@gov.in

F.No:6-22/2010(ENV)/ 7994

To,

Date: 31.03.2021

The Director & Member Secretary (Infra-II) IA Division Ministry of Environment, Forest & Climate Change Indira Paryavaran Bhawan, Aliganj, Jorbagh Road, New Delhi-110003

Sub: Environmental and CRZ Clearance for establishment of Navi Mumbai International Airport by M/s. City Industrial Development Corporation (CIDCO) of Maharashtra Limited (currently EC &CRZ Clearance transferred to M/s. Navi Mumbai International Airport Private Limited (M/s. NMIAL)

Ref:

- 1. MoEF letter F.No. 10-53/2009-IA-III dated 22.11.2010
- 2. MoEF&CC letter F.No. 10-53/2009-IA-III dated 20.12.2017
- 3. MoEF&CC letter F.No. 10-53/2009-IA-III dated 17.08.2020

Sir,

I am directed to invite your kind attention on the above subject and letters under reference. Site inspection of the project sire for establishment of Navi Mumbai International Airport by M/s. City Industrial Development Corporation (CIDCO) of Maharashtra Limited (currently EC &CRZ Clearance transferred to M/s. Navi Mumbai International Airport Private Limited (M/s. NMIAL) has been carried out on 11.11.2020. Following observations were made during the site inspection:

Ministry vide letter dated 22.11.2010 granted Environmental and CRZ clearance for establishment of M/s. Navi Mumbai International Airport by M/s. City & Industrial Development Corporation of Maharashtra Limited. The validity of the clearance was extended upto 21.11.2020. Ministry vide letter dated 17.08.2020 transferred the clearance to M/s. Navi Mumbai International Airport Private Limited (M/s.NMIAL). During the site inspection it was observed that pre-development works (levelling of the site, etc.) were in progress. As per the information provided by CIDCO, following is the status of work as on the date if site inspection:

- Cutting of hills on site up to +8m AMSL and filling of site up to + 5.5m AMSL completed.
- R and R of nearly 2558 structures in 10 villages by developing seven R and R pockets near the airport site and shifting of PAPs, handover of plots etc.
- Cutting of trees in non-forest area in the site as directed by Tree authority.

. And the second spectrum is a subsection of

- Cutting of mangroves under supervision of Forest Department and compensatory plantation of mangroves through Mangrove cell/FDCM in identified area as per NMDP
- Construction of Ulwe recourse channel on the south of site completed.
- Shifting /relocation of existing Utilities;
- Re-routing of High Voltage Transmission Lines.

M/s.NMIAL during the site inspection informed that conditions pertaining to construction and operation phases will be complied during the respective periods. M/s. NMIAL (Presently termed as PP) during the site inspection requested that compliance of certain conditions of the clearance shall lie with CIDCO as the area falls out the airport area. PP was advised to take up this matter with Ministry during the presentation. PP submitted that MCZMA will be approached after completion of draft EIA report.

Following conditions were not complied:

Specific Condition no.s xxiv &xxxiv (Construction Phase):

High Level Advisory and Monitoring Committee (HLAMC) was constituted by Govt. of Maharashtra vide its Order dated 13th May, 2011. However, no meeting was held so far as discussed during visit. Present, **PP i.e.**, **M/s.NMIAL** was directed to take the matter with concerned authorities and submit ATR.

Specific Condition no. xxx (Construction Phase):

The turbidity of surface waters (around the airport area) during pre-construction was analyzed regularly as part of marine water quality monitoring by CIDCO but did not upload the copies of monitoring report to project website.

Specific Condition no. xxxi (Construction Phase):

As per the information provided, CIDCO appointed BNHS for the survey of avian fauna. Final report has been provided to Regional Office. However PP did not provide the details of website over which the reports were uploaded.

General Condition no. 13:

Copies of earlier six monthly compliance reports could not be seen on CIDCO's website. Also copy of the latest six monthly compliance report was not uploaded to M/s. NMIAL website.

Additional Condition no. ii:

CIDCO has submitted final report for detailed traffic management and traffic decongestion plan for Airport to MOEF vide letter No. CIDCO/GM(ENV&F)/NMIA/2020 /491 dated 14th July 2020. The report was not submitted within the stipulated period (i.e. 6 months from the grant of revalidation of EC)

This issues with the approval of the Regional Officer, Integrated Regional Office, Nagpur.

Sweet 1975 m Kumar Adap Scientist 'D'

Encl: as above

рала С

Copy to:

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- 1. The Additional Director (Monitoring Cell), Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Aliganj, Jorbagh Road, New Delhi-110003
- 2. The Director (Urban Planning), M/s. Navi Mumbai International Airport Private Limited, Terminal 1B, CSI Airport, Santacruz, Mumbai, Maharashtra -400099 (PP shall submit action taken report for the non/partial compliances raised in the monitoring report)

A. fronth (21/0)m Suresh Kumar Adapa Scientist 'D'

Monitoring the Implementation of Environmental Safeguards Ministry of Environment, Forest& Climate Change Integrated Regional Office, Nagpur <u>Monitoring Report</u> Part – I <u>DATA SHEET</u>

1.	Project Type: River-valley / Mining / Industry /Thermal / Nuclear / Other (Specify)	Other- Infrastructure Green field Airport
2.	Name of the Project	NAVI MUMBAI INTERNATIONAL AIRPORT
3.	Clearance Letter (s) / OM No. and date	 F. No. 10-53/2009-IA.III dt 22nd Nov 2010 valid up to 21st Nov 2017 Extension of Validity vide dt 20th Dec 2017 valid up to 21stNov2020. NMIAL has received Transfer of Environment & CRZ Clearance on its name vide letter dated 17th Aug 2020; MoEF&CC Notification dated 18thJanuary 2021 extending the validity of EC in view of COVID-19 pandemic.
4.	Location a. District (s) b. State (s) c. Latitude d. Longitude	a. Raigad b. Maharashtra c. 18°59'33.00''N d. 73°4'18.00''E
5.	Address for correspondence a. Address of concerned Project Chief Engineer (with Pin Code & Telephone/ Telex/ Fax Numbers) b. Address of Executive	Mr.Charudatta Deshmukh Director-Urban Planning Navi Mumbai International Airport Limited (NMIAL), Terminal I-B, CSI Airport, Santacruz, Mumbai- 400099 Telephone 022-66850840/ Mobile (9833301594)
	ProjectEngineer/Manager (with pin code/fax numbers)	-
6.	Salient features a. Of the Project	 NMIA site is located at Panvel taluka, district Raigad, Navi Mumbai. Airport Area- 1160 Ha (2,867 acres) Planned Capacity- Passengers- 60 MPPA, Cargo- 1.5 MTPA. BUA-14,66,150.204 Sq. Mtrs. Project Site/ Land- 99% Land Available R&R- 96% Completed. Percentage Work Achieved- >20% of phase 1 & II Cost.
	b. Of the Environmental Management Plan	 Project Cost- Rs 36,538 Cr. NMIAL is planned with objective to be one of the most resource efficient & Green airport in the world. It has been

7.	Breakup of the Project area a. Submergence Area: Forest &Non-Forest	 planned to achieve environmental sustainability through resource optimization, recycling and reuse. Zero Sewage Discharge Rainwater Harvesting Ponds. Utilization of Solar Power. Energy Optimization Waste Re-cycling Natural Day Lighting. Plantation & Landscape Air side-948.90 Ha; Landside area-211.10 Ha (Total 1160 Ha); LAND USE in Ha - Facilities, pavements, building and structures - 600.77; Green/open spaces - 385.57; Transportation-roads, parking, metro - 143.09; Utilities - 10.38; Drains - 20.19 Permission for Removal of Mangroves (Order from Hon'ble Bombay High Court) Notice of Motion No. 419 of 2011 in PIL No 87of 2006 dated 29 th Oct 2013. a. Forest Clearance- 250.0635 Ha (Stage I and Stage II clearance obtained vide F. No. 8-95/2012-FC dated 17
	b. Others	December 2013 and 24 April 2017 respectively)
	a. Total Plot Area	b
	b. Built - Up Area (including Road)	1160 Ha.
	c. Open Space available	14,66,150.209 Sq. Mtrs
	d. Green belt area	38,55,689.74 Sq. Mtrs (Open/ Green area) Same as above
8.	Breakup of the Project affected	The entire land for the Project including land for airport site
	population with enumeration of those losing houses/dwelling units only, agricultural land only, both dwelling	i.e.1160 ha has been acquired and is under the possession of CIDCO.
	units & both dwelling units & agricultural land & landless laborers/artisan a. SC, ST/Adivasis b. Others (Please indicate whether these figures are based on any scientific and systematic survey carried out or only provisional figures, if a survey carried out gives details and years of survey.)	About 2487 allotments are executed (out of 2812 allotments), 2544 structures demolished, and 2330 plots given possession. To this date, 97% demolition has been realized and about 89 buildings are remaining.
9.	Financial Details a. Project costs as originally planned & subsequent revised estimates and the year of price reference.	 a) Total cost of the development of airport zone consist of aeronautical and non-aeronautical activities works out for four Phases at FY 2010 prices by CIDCO Rs.9,625 Cr. Revised FY 2015 prices by CIDCO Rs 13,560 Cr Revised FY 2019 prices by NMIAL Rs 36,538 Cr.

5/183

	 Allocations made for Environmental Management Plan with item wise & year wise breakup. 	
:	Ŵ	Item Amount (Rs in Lakh)
-		Part of EMP Cost by NMIAL 705
		Part of Capex Cost by NMIAL 1945
		Cost Compensatory Mangrove 85500 Plantation and R&R by CIDCO
		Total Cost 88,150
		Total Cost: Rs 881.50 Cr
e	 c. Benefit Cost Ratio / Internal rate of Return and the year of assessment. d. Whether (c) includes the cost of Environmental Management as shown in the above. e. Actual expenditure incurred on the Project so far f. Actual expenditure incurred on the Environmental Management Plan so far 	 ii. EMP cost during operational phase- Rs. 63 lakhs (As per 2017 EIA report) iii. Mangrove Cell- Rs 7.38 Cr for Plantation mangrove a Kamothe Kandeshaear by CIDCO. iv. NMIAL allocated Rs. 2.29 Cr for EMP 2021. - e) Rs 5181 Cr (by CIDCO till Dec 2019 including R&R Cost) f) Rs 1.32 Cr incurred on EMP so far.
10. F	Forest land requirement a. The status of approval for diversion of Forestland for non-forestry use	 a. Permission for Removal of Mangroves (Order fror Hon'ble Bombay High Court) Notice of Motion No. 41 of 2011 in PIL No 87of 2006 dated 29th Oc 2013.250.0635 Ha (Stage I and Stage II clearanc obtained vide F. No. 8-95/2012-FC dated 17 Decembe 2013 and 24 April 2017 respectively)
	 b. The Status of clearing felling c. The status of compensatory Afforestation programme in the light of actual field experience 	 b. Completed c. Status of Compensatory Afforestation I. 250.0635 Ha Degraded Forest Land taken up I Alibaug, Dahanu and Shahpur Division and total of 70,073 trees planted through Forest Department II. CIDCO has undertaken 109 Ha compensator mangroves plantation to NE of site on S. No.27, village Kolhekhar in between Jui creek and Taloja cree through the Mangrove Cell of State Forest Dept III. Compensatory Mangrove Plantation done over 109 Ha as per FC condition (to compensate loss of mangroves linked to the airport development Location: S. No. 27

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		village Kolhekhar
11.	The status of clear felling in non- forest areas (such as submergence area of reservoir, Approach roads), if any with quantitative information	
12.	Status of construction a. Date of commencement (Actual and/or Planned) b. Date of completion (Actual and/or Planned)	 a. Commencement- April 2017 b. Phase I & II – 30th April 2024 Final Phase IV-FY 2030
13.	Reasons for the delay if the project is yet to start	The project implementation of NMIA commenced in April 2017, after receipt of Forest Clearance.
14.	Dates of site visits a. The dates on which the Project was monitored by Regional Office on previous occasions if any b. Date of site visit for this monitoring Report	- 11.11.2020
15.	Details of correspondence with project authorities for obtaining action plan / information on status of compliance to safeguards other than the routine letters for logistic support for site visit. (The monitoring report may obtain the details of all the letters issued so far but the later reports may cover only the letters issued subsequently)	 Request letter dated 4thJune 2020 sent to MOEF&CC Nagpur for Issuance of Certification of Compliance Report for Navi Mumbai International Airport (NMIA). Request letter dated 12th Oct 2020 sent to MOEF&CC Nagpur for Issuance of Certification of Compliance Report for Navi Mumbai International Airport (NMIA). Letter dated 29th Oct 2020 sent to IRO, Nagpur with monitoring data sheet and additional information of project for issuance of certification of Compliance Report for NMIA.

7/183

Compliance status of conditions stipulated in Environmental and CRZ Clearance for establishment of Navi Mumbai International Airport by M/s. City Industrial Development Corporation (CIDCO) of Maharashtra Limited (currently EC &CRZ Clearance transferred to M/s. Navi Mumbai International Airport Private Limited (M/s. NMIAL) granted by MoEF vide letter no. 10-53/2009-IA-III dated 22.11.2010

Specific Conditions Construction Phase:

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Sr. No.	Condition	Compliance status
(i)	"Consent for Establishment" shall be obtained from State Pollution Control Board under Air and Water Act and a copy shall be submitted to the Ministry before start of any construction work at the site.	Complied. Consent for Establishment" was obtained from MPCB vide letter dt. 14.10.2015 for Phase 1 which was valid up to 13.10.2020. PP submitted that copy of consent to establish to Regional
(ii)	CIDCO shall rehabilitate about 3000 families of 10 settlements from 7 villages falling within the airport zone as per the R & R policy of the Government of India or the Government of Maharashtra, whichever is more beneficial to the project affected persons.	Office vide letter dated 01.03.2016. Compliance in progress . As per the information provided by CIDCO: • R&R package was approved vide Urban Development Department,
(iii)	CIDCO shall obtain necessary permission from Hon'ble High Court of Bombay for cutting or damaging of mangroves and clearance under Forest	presentation. Complied. The Bombay High Court had permitted CIDCO to clear Mangroves for the development of NMIA vide its order

Sr. No.		Compliance status
	Conservation Act 1980 as per the order	rs dated 29th October 2013 in NoM 419 of
	in respect of notice of Motion no. 417 d	of 2011 in PIL No. 87/2006. Copy is
	2006 in PIL no. 87/2006, as required.	enclosed as Annexure-1.
(iv)	The plantetter	of As per the information provided, the
	mangroves over an area of 615 ha (24	5 Urban Development Department,
	hectares of good quality Mangrove	s Govt.of Maharashtra has sanctioned
	Park shall be developed at Vaghivli o	n change in Navi Mumbai Development
	the north of the airport area + 6	
	hectare area located on the west side	e G.R.No.TPS/1711/2495/C.R.202/11/UD
	of the airport site around Moha cree	
	and Panvel Creek + 310 hectares area	a informed that the work of plantation &
	on the northeast of the airport site	
	between Gadhi River, Mankhurd Panve	been completed by Mangrove Cell,
[Rail corridor and National Highway 4E	
	shall be declared as No-development	
	zone and CIDCO shall under take the	give planation has
	development as Mangroves park/green	The second in release where the
	area) would be developed and	
	maintained in the shape of Biodiversity	
	Mangrove Parks well before the airport	mangrove plantation. Details of the mangrove plantation are enclosed as
	project is initiated and its progress	Annexure-2.
	reported to the high level committee	
	mentioned below at (xxxiii), CIDCO	that DNUO
	shall formally amend the land use in the	
	sectioned development plan of Navi	
	Mumbai following the due procedure	village. The details are enclosed as Annexure-3.
	under MRTP Act to achieve this	1
	objective.	PP submitted that as the villagers (of
		Vaghivali village) have not vacated the village and considering the
		recommendation of BNHS, the island
		will be protected as NDZ for the time
		being and mangroves will be retained in
T T	he proposed re-coursing of tidally	their natural state.
l ir	offluenced water body outlets from Ulwe	PP agreed to comply with.
ri	iver has a large cross sectional area at	As per the information provided, the
t	he middle with the river/creek on either	Central Water and Power Research
1	nd remaining unchanged with its	Station (CWPRS), Pune has carried out
-	atural course. The whole system	1D, 2D Mathematical & Physical Model
	hould function as was functioning	studies based on the approved layout
e	arlier without airport project. Surface	plan of airport covering 1160 Ha.
Г	noff should not be let into the channel	CIDCO informed that master drainage
	st because the area of cross section is	plan of surrounding areas has been
la	rge. The whole airport area will be	prepared by incorporating the various
re	claimed, and the level raised to 7m	recommendations of CWPRS.
w	hereas the existing level all around the	PP submitted that the detailed drainage
ai	na a	plan for the airport has been prepared
na	fund state ""	by the M/s. NMIAL as a part of Master
an		Plan, incorporating CWPRS
	ound due to surface runoff. This	recommendations and integrating with

9/183

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Sr. No.	Condition	Compliance status
	additional quantity must be collected by appropriate drainage system and let into Gadhi River and not into the re-coursing channel. The recourse channel may be able to take it but not the river or creek on either side of the channel. This aspect shall be examined by CIDCO in details to avoid the flooding of the low- lying areas besides inducting other hydrological and environmental studies.	CIDCO plans. PP informed that the whole Storm Water from Airport area will be discharged in Gadhi River. CWPRS recommendations are enclosed as Annexure-4. M/s.NMIAL during visit, has submitted during discussion that the area where the rivers are located is outside NMIA site & and therefore, implementation of condition lies with CIDCO. PP was advised to take up this matter with Ministry.
(vi)	The entire system shall be studied as one composite system with appropriate boundary conditions to reflect the worst conditions – minimum 100 years to be specified and compliance ensured such as - flooding, surface runoff not only from the airport but also from surrounding areas as well, normal flow, tidal flow due to tidal surge having a long return period, possible obstructions to flow, tributaries joining the main river etc. so as to take appropriate protection and remedial measures. Due to construction of recourse Channels and also due to tail end of the Gadhi & Ulwe Rivers into Panvel Creek, there is a need to prepare a Comprehensive Master Plan for Surface drainage and Flood protection, keeping in view the proposed developments. CIDCO shall submit the above Master Plan to the Ministry.	PP agreed to comply with. As submitted by CIDCO, data on the topography of area surrounding the airport was collected and a 100 year return period has been selected to decide the worst rainfall conditions. CIDCO submitted that recommendations of the CWPRS report and their compliance has been incorporated in the Comprehensive EIA report. M/s. NMIAL during visit, has submitted during discussion that the area where the rivers are located is outside NMIA site & and therefore, implementation of condition lies with CIDCO. PP was advised to take up this matter with Ministry.
(vii)	Systemic and periodic monitoring mechanism need to be put in place by CIDCO to assess the impact on sub- surface flow/ impact on aquifers as well as surface water bodies in different seasons. Necessary additional environmental protection measures to be adopted to address the impact of proposed development in coastal sub- subsurface flow as well as impact on aquifers.	Complying with. CIDCO had appointed a Laboratory recognized by MoEF&CC, for monitoring the various environmental parameters of river water and groundwater. It was observed that M/s.NMIAL has continued the monitoring accordingly. M/s. NMIAL informed that due to country wide lockdown in event of COVID-19 pandemic, environmental parameters were not monitored from April to July 2020. Environmental analytical reports for the reporting period from (Aug-Dec 2020)have been submitted by NMIAL in

10/183

Sr. No	o. Condition	Compliance status
		support of six-monthly report (July-Dec 2020). PP submitted that additional environmental protection measures (as necessary) will be taken to address the
(viii)	CIDCO shall prepare a Managemer Plan to handle the runoff from the airpol and to ensure that runoff associated risks/ impacts such as siltation in receiving water body are avoided and are taken care within airport area during monsoons.	 As per the information provided by PP, CWPRS carried out the studies on siltation rates in Gadhi River and Panvel Creek. As per the CWPRS studies, the siltation rates in Gadhi River and Panvel creek are low and obstructions due to such factors have been considered while designing Master Drainage layout. M/s. NMIAL submitted that the Master Drainage Plan Report of Airport has been prepared addressing the issue pertaining to runoff and associated risks during the monsoon. M/s.NMIAL during visit, has argued during discussion that implementation of condition lies with
	On the northern part of the airport there is a secondary channel of the Gadhi River which will be filled up for the airport runway construction. This will be replaced by a shorter channel along the northern boundary of the airport. The channel shall be designed appropriately through overall modeling study so that the channel provides tidal water to the mangrove park and moderate tidal flows under worst environmental conditions. Need for widening and deepening of Gadhi River may also be studied simultaneously, if required. The revised widths and depths of recourse channels shall be determined with modified drainage and worst rainfall/ tide conditions including appropriate factor of safety.	CIDCO for Master Drainage Plan for outside area. PP was advised to take up this matter with Ministry. As per the information provided by CIDCO & NMIAL, the proposed North connecting channel is designed in accordance with the Model studies carried out at CWPRS, Pune. 1. As per CWPRS recommendations Northern Channel is planned with 75 m

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	Condition	Compliance status
		CIDCO. PP was advised to take up
		this matter with Ministry.
(X)	The flow channels and the low lying mangrove area which will receive water from diverted recourse/ channels should remain undisturbed. No road, embankment or any other construction shall be permitted. Any island formed due to deposition of sediment in front of Panvel creek shall be periodically removed.	PP agreed to comply with. As informed by CIDCO, CWPRS studies concluded that siltation rates in Gadhi River and Panvel creek are low and obstructions due to such factors are considered while designing Maste Drainage layout. CIDCO has submitted that all the flow channels in No Development Zone (615 Ha.) are kept undisturbed. M/s.NMIAL during visit, has intimated that the area is located outside NMIA site and therefore implementation of condition lies with CIDCO. PP was advised to take up this matter with Ministry.

12/183

Sr. N	lo. Condition	Compliance status
(xi)	A detailed map shall be submitted by	As per the information provided by
	CIDCO to the Ministry with quantification	I CIDCO, Mumbai University has
	of affected mangrove area with density	quantified the affected mangroves using
	i.e. initial proposal & modified proposa	Satellite Imagery for years 1995, 2000
j	and proposed mangrove forestation with	2005 and 2010. Thereafter the EC was
	species. The work on the proposed	granted.
	compensatory mangrove park should	
	commence well before the construction	plantation & protection of 310ha + 60ha
	of the airport is undertaken. The	
	mangrove irrigation systems and diverse	
	species selections for all the four areas	
	may be scientifically made. The river	
	front development in all the areas not	
	protected by adequate mangrove buffer	
	along the Panvel creek and Gadhi river	village Kolhekhar in between Jui creek
	may be considered through studies.	and Taloja creek through the Mangrove
		Cell of State Forest Dept.
		PP submitted that the scheme for
		regeneration of Mangroves is prepared
		through a consultant M/s. Lewis
[Environment Services USA. The
		regeneration of mangroves was done in
		a phased manner, in consultation with
		the Mangrove Cell of State Forest Dept.
		through FDCM in the 310 Ha of NDZ to the North East of airport, 60 Ha in Moha
		Creek and 20 Ha on North of Airport.
1		A certificate from Mangrove Cell, Forest
		department showing completion of
		Mangrove regeneration over 380 Ha.
		CIDCO submitted that a river front
		development plan will be in place for
		mangrove protection along the
		riverbank & its protection.
		M/s. NMIAL during visit, has
		intimated that the area is located
		outside NMIA site and therefore,
		implementation of condition lies with
		CIDCO. PP was advised to take up
(xii)	Whatovor EIA data was a with	this matter with Ministry.
(**)	Whatever EIA data was submitted and presented was related to a situation for	PP agreed to comply with.
		As per the information provided, an
		updated EIA report was submitted by to
		MoEF, MPCB and MCZMA on 21st
	[April, 2011. Further, a Comprehensive
		EIA report has been prepared and
		submitted to MoEF, MPCB and MCZMA dated 29 th August, 2017.
		Environmental Audit will be conducted

1.3/183

Sr. No.	Condition	Compliance status
Sr. No.		Compliance status after commissioning of phase-I of the airport as assured by M/s.NMIAL.
(xiv)	The waste water generated from the aircraft maintenance hangers may contain hazardous materials like lead, chromium, Sulphates, Phenolic compounds, V.O.C's etc. The surface	Laboratory and reports have been submitted to MOEFCC along with six monthly compliance report. M/s.NMIAL has continued the monitoring accordingly. It was noted that due to country wide lockdown in event of COVID-19 pandemic, environmental parameters were not monitored from April to July 2020 at NMIA site and its surrounding area. Environmental analytical reports for the reporting period from (Aug-Dec 2020) have been submitted by M/s.NMIAL in support of six-monthly report (July-Dec 2020). M/s.NMIAL has assured to continue the monitoring during construction and operation phases also. PP agreed to comply with .

Sr. No.	Condition	Compliance status	
	runoff from the airport area shall also	Compliance status	а. Н
	contain oils, grease, Sulphates etc,		
	which cannot be sent directly to sewage		
	treatment plant for the treatment. A		
	separate treatment plant for managing		
	the waste water shall be specified and		,
	adopted.		
(xv)	Based on the geological profile	DD a super of the second secon	
. ,	underneath the proposed airport,		
	suitable consolidation factor shall be		
	arrived to assess the additional noise/	commence, PP has assured to abide by the condition However it was	
	vibration levels that would be produced	and the second s	
	during impact of landing & take off the	submitted during visit that runway	
	air crafts simultaneously on both the	pavement will be designed taking into	
	runways. Further, the partially quarried	consideration subsoil condition beneath	
	hills in the vicinity will become a	to minimize noise/vibration. Necessary	
	rebound shell for noise. CIDCO shall	actions to reduce noise/vibration levels	
	examine the details of noise/ vibration	during the operations phase shall be taken.	
	levels those are likely to be increased		
	both during day and nighttime and the		
	mitigation measures shall be installed		
	to reduce the (noise/ vibration levels)		
	impacts.		
xvi)	Standard instrument arrival and	PP agreed to comply with.	
	departure procedure shall be designed	Since project is yet to be operational,	
t	o minimize the noise levels within the	PP has assured to abide by the	
۲ ا	permissible limits for the area falling in	condition,	
t	he funnel near the airport on either side.		
(vii) E		PP agreed to comply with.	
2		Since construction work is yet to	
C	Jaa	commence, PP has assured to abide by	
(the example of the second se	
a		submitted during visit that necessary	
g	roop building garatic t		
þ	uildings proposed within the airport	conservation and water conservation measures will be adopted.	
0	omplex. CIDCO shall consider ECBC	auopted.	
G	Suidelines 2009 to achieve the energy -		
e	fficient design.		
viii) C	IDCO shall prepare a detailed traffic I	PP agreed to comply with	
l m	anagement plan to take care of	As per the information provided by	
l in	creased vehicular traffic which should (CIDCO, detailed Connectivity Study	
al	so cover cleany delineate widening/ "	Regional and Local Transport	
in	creasing the existing roads and (Connectivity Plan for Navi Mumbai	
as	ssociated road infrastructure approving	nternational Airport" was carried out	
/	installation of road safety features/ tl	hrough international consultant M/s.	
pe	edestrian facility/ FOB / under passes L	ea Associates South Asia Pvt Ltd. The	
ete	c (that can be done by carrying out if	ndings of the study are enclosed as	
roi	ad safety audits).Measures shall be A	nnexure- 5.	
tal		ased on the findings of study, CIDCO	1
			15/183
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Sr. No. Condition		Compliance status
along/within the main arterial roa	ROWs on connecti ds.	have taken up projects for improving the connectivity through different modes Details of the projects are provided in
		compliance status of condition no. xix. M/s.NMIAL during visit, has intimated that the area is located outside NMIA site and therefore implementation of condition lies with CIDCO. PP was advised to take up this matter with Ministry.
Highways) and also be upgr increased pass in addition to passengers. Th shall not be take	I (National and Sta rail connectivity sh aded to handle t enger and cargo traff metro for transition e proposal of Hoverp n up on the north part as this shall damage t	te PP agreed to comply with. all As per the information provided by M/s. NMIAL and CIDCO following projects ic, have been taken up for road and rail of connectivity: • The National and State Highway of surrounding the airport are

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16/183

Sr. No	o. Condition	Compliance status
		CIDCO. PP was advised to take up
(100)	The	this matter with Ministry.
(xx)	The measures should be taken to	
	improve public transportation including	
	dedicated road / MRTS corridors to	
	access to Airport, may also be	(WINCO)
	considered for the same. Energy	
	Efficient dedicated rail based public	
	transport facility; suburban/ metro train	
	in particular, may be created between the Santa Cruz and the Navi Mumbai	
	Airport in addition to all other links	M/s.NMIAL during visit, has
	connecting various parts of Mumbai	i i i i i i i i i i i i i i i i i i i
	city.	outside NMIA site and therefore,
		implementation of condition lies with
		CIDCO. PP was advised to take up
xxi)	Traffic Management during construction	this matter with Ministry.
,,,,,,,	phase should be clearly planned so that	PP agreed to comply with.
	the traffic situation is not further	Since construction work is yet to
	worsened on the existing connecting	commence, PP has assured to abide by the condition.
	roads. Installations of Noise barrier/	
	Green Belts should be clearly indicated	
	in the plan (After identifying critical	
	locations).	
xxii)	To avoid accidental damage (fire,	PP agreed to comply with.
	hazardous material waste handling, oil	Since construction work is yet to
	spills, wastewater disposal) in the	commence, PP has assured to abide by
	adjacent ecologically fragile	the condition. However, it was
	surroundings and mangrove area - a	submitted during visit that Risk
	risk assessment plan and disaster	Assessment and Disaster Management
	management plan should be prepared	Plan is being prepared for development
	and with periodic compliance of safety	& operational phases to avoid
	measures in place to avoid loss due	accidental damage in the adjacent
	accidental damage that could have	ecologically fragile surroundings and
	been otherwise avoided. Further	mangrove area. Disaster Management
	CIDCO shall appoint a dedicated	Plan will be updated periodically.
	professional team/cell to handle	
	disaster and associated risks.	
		PP agreed to comply with.
		Since construction work is yet to
	hazardous material waste handling, oil	commence, PP has assured to abide by
		the condition. However, it was
		submitted that action will be taken as
	stages of development (like planning,	per condition (xxii) cited above.
	construction, operation) are managed	
	within the airport area. In case of any	
	unforeseen event as stated above the liability – environmental and social will	

Sr. No.	Condition	Compliance status
	rest with the developer/ CIDCO, the decision of the high level Committee, stipulated below will be full and final for liability fixations.	
[xxiv]	The compliance report of the monitoring committee shall be made 'public' (put online and/or also displayed for wider dissemination of compliance) at all stages (planning, construction, operation) to ensure effective monitoring and compliance of conditions.	Not complied. High Level Advisory and Monitoring Committee (HLAMC) was constituted by Govt. of Maharashtra vide its Order dated 13th May, 2011. However, no meeting was held so far as discussed during visit. PP was directed to take the matter with concerned authorities and submit ATR.
[xxv]	associated monitoring plan shall ensure that mitigation measures detailed out in terms of role, responsibility, budgetary provisions, timeline for completion, frequency of monitoring and compliance etc.	PP agreed to comply with.
[xxvi]	In order to meet all the essential aeronautical requirements and the further airport expansions, no property development shall be undertaken within the proposed aeronautical Airport Zone area (1160 ha).	PP agreed to comply with. Since construction work is yet to commence, PP has assured to abide by the condition.
[xxvii]	The Master plan/ Development plan of Navi Mumbai shall be revised and recasted in view of the airport development to avoid and unplanned haphazard growth around the airport. The land use should take care of bird menace including that from the Mangrove Parks.	1711/2495/CR202/11/UD-12 dated 21st
		CIDCO submitted that a long term MOU has been made with BNHS (Bombay Natural History Society) by CIDCO for studying Bird movement patterns and to guide regarding all round development of Navi Mumbai to ensure that sufficient

18/183

Sr. No.	Condition	Compliance status
		foraging grounds exist for birds and the birds do not pose danger to aircraft movements in NMIA.
		M/s.NMIAL during visit, has
		intimated that the area is located
		outside NMIA site and therefore,
		implementation of condition lies with
		CIDCO. In view these facts, PP was
		advised to take up matter for suitable
		amendment before EAC during
xxviii]	All other nearby villages, if not required	presentation.
	to be relocated should be provided with	
	best possible infrastructure so that they	PP during the site inspection informed that, the development of area falling
	compare well with the adjoining ultra-	outside the airport area is under the
	modern airport infrastructure.	purview of CIDCO. CIDCO submitted
		that the necessary infrastructure will be
		provided by CIDCO
xxix]	CRZ provisions shall be applicable on	PP agreed to comply with
	the tidally influenced diverted channels	
	of Ulwe and Gadhi Rivers and CIDCO	
	shall finalize the Airport plans accordingly.	
	accordingly.	
xx]	Any cutting or filling up the airport site	Not complied.
	will create significant turbidity problem.	The turbidity of surface waters (around
	CIDCO shall examine the impact on the	
	marine life. The details will be put up on	the airport area) during pre-construction
	the website every 3 months.	was analyzed regularly as part of
		marine water quality monitoring by
		CIDCO but did not upload the copies of
		monitoring report to project website.
(xi]	CIDCO shall conduct the baseline	Not complied.
· •	survey of avian fauna before the start of	As per the information provided, CIDCO
	construction and the details shall be put	appointed BNHS for the survey of avian
1	up every 3 months on the website in	fauna. Final report has been provided to
	association with BNHS.	Regional Office. However PP did not
		provide the details of website over
		which the reports were uploaded.
	The Environmental Clearance /CRZ	PP agreed to comply with.
	Clearance is recommended below is	As per the information provided,
	only for the Navi Mumbai Airport project. CIDCO shall obtain the	separate approvals have been obtained
	project. CIDCO shall obtain the	by CIDCO for associated infrastructure
	eparately for off airport facilities and	of airport. The status of clearances is as below:
fi	nalizing the locations and details as	
1		i i i i i i i i i i i i i i i i i i i
	nay be required under the EIA	bridges and interchanges has been

Condition	Compliance status
Notification 2006 and the CRZ Notification.	granted by MCZMA vide letter dated 15th February 2016.
ý × .	• CRZ clearance for Shifting of EHV lines has been granted by MOEF vide letter no. F.No.11-38/2016-la.III dated
	 28th August 2017. Forest Clearance Stage I for shifting of EHVT Lines was received vide letter dt. 02.08.18; Process of obtaining Final Forest Clearance under FC Act for Shifting of EHVT lines is in final stage. The Bombay High Court permittee CIDCO to clear Mangroves for the rerouting of EHVT lines for development of NMIA vide its Orde dt. 19th December 2013 in WP no 22362 OF 2019.
Taking a cue from the man-made 26/11 incident arising out of external threat to our country, a strategic airport safety and security plan covering also surrounding inhabited areas of the airport shall be prepared and put in place in consultation with appropriate government departments	PP agreed to comply with. PP has submitted that Airport safety and security plan will be prepared as per DGCA mandates safety requirements and procedures fo submission to DGCA, AAI, BCAS.
A high level advisory and monitoring committee which should include International experts of repute, reporting directly to the highest Airport Management Authority shall be constituted by CIDCO to plan, execute and maintain the environmental issues/ recommendations mentioned above. The monitoring shall be done at various stages (planning, construction, operation) of project for compliance of conditions. Budgetary provisions shall be made to the satisfaction of this Committee. The committee shall meet at least once in three months and the decisions taken in the meetings shall be put up on the web site for public information.	Not Complied High Level Advisory and Monitoring Committee (HLAMC) was constituted by Govt. of Maharashtra vide its Orde dtd. 13th May, 2011. However, no meeting was held so far as discussed during visit. PP was directed to take the matter with concerned authorities and submit ATR.
Regular modeling study of air, noise shall be carried out due to the increase in	
	Notification 2006 and the CRZ Notification.

2.0/183

·····	Condition	Compliance status
	collected, segregated and disposed	as PP has assured to abide by th
:	per the provision of Solid Was	te condition once construction works a
	(Management and Handling) Rule	s, commenced.
	2000.	
[xxxvii]		PP agreed to comply with.
	of construction labour within the site with) PP has assured to abide by th
	all necessary infrastructure and facilities	S condition once construction works ar
	such as fuel for cooking, mobile toilets	, commenced.
	mobile STP, safe drinking water	
	medical health care, crèche etc. The	
	housing may be in the form of temporary	
	structures to be removed after the	
	completion of the project.	
[XXXViii]		e PP agreed to comply with
	project both during construction an	PP has assured to abide by the
	operation of the project.	condition once construction works are
		commenced. However, CIDCO official
		have submitted during discussion that
		first aid facilities were provided a
		offices of various contractors doing the
		pre- development construction works.
[xxxix]	Disposal of muck during construction	PP agreed to comply with
	phase should not create any adverse	PP has assured to abide by the
	effect on the neighboring communities	Condition once construction works are
	and be disposed taking the necessary	commenced
	precautions for general safety and health	
	aspects of people, only in approved sites	
	with the approval of competent authority.	
[xl]	Soil and ground water samples will be	PP agreed to comply with
	tested to ascertain that there is no threat	PP has assured to shide by the
	to ground water quality by leaching of	condition once construction works are
	heavy metals and other toxic	commenced.
	contaminants.	oonmeneed,
xlí]	Construction spoils, including bituminous	PP agreed to comply with
_	material and other hazardous materials,	PP has assured to childe her it
	must not be allowed to contaminate	Condition oppo construction (used
	watercourses and the dump sites for	commenced
	such material must be secured so that	constitution.
	ouve malonal must be sechien on man	
1	they should not leach into the ground water.	
	they should not leach into the ground water.	PP agreed to comply with
(lii)	they should not leach into the ground water. Installation and operation of DG set shall	PP agreed to comply with.
(liř)	they should not leach into the ground water.	PP has assured to abide by the
(lii)	they should not leach into the ground water. Installation and operation of DG set shall	PP has assured to abide by the condition once construction works are
clii]	they should not leach into the ground water. Installation and operation of DG set shall comply with the guidelines of CPCB.	PP has assured to abide by the condition once construction works are commenced.
clii] /	they should not leach into the ground water. Installation and operation of DG set shall comply with the guidelines of CPCB. The diesel generator sets to be used	PP has assured to abide by the condition once construction works are commenced.
(liř) 	they should not leach into the ground water. Installation and operation of DG set shall comply with the guidelines of CPCB. The diesel generator sets to be used furing construction phase should be low	PP has assured to abide by the condition once construction works are commenced. PP agreed to comply with. PP has assured to abide by the
liii] iiii] 	they should not leach into the ground water. Installation and operation of DG set shall comply with the guidelines of CPCB. The diesel generator sets to be used turing construction phase should be low sulphur diesel type and should conform	PP has assured to abide by the condition once construction works are commenced. PP agreed to comply with. PP has assured to abide by the

Sr. No.	Condition a	Compliance status
	standards.	······································
[xliv]	The diesel required for operating DG sets	PP agreed to comply with.
	shall be stored in underground tanks and	PP has assured to abide by the
	if required, clearance from Chief	condition once construction works are
	Controller of Explosives shall be taken.	commenced.
[xlv]	Vehicles hired for bringing construction	PP agreed to comply with.
	material to the site should be in good	PP has assured to abide by the
	condition and should have a pollution	condition once construction works are
	check certificate and should conform to	commenced.
	applicable air and noise emission	
	standards and should be operated only	
	during non-peak hours.	
[xlvi]	Ambient noise levels should conform to	
	residential standards both during day and	-
	night. Incremental pollution loads on the	
	ambient air and noise quality should be	
	closely monitored during construction phase. Adequate measures should be	
	made to reduce ambient air and noise	
	level during construction phase, so as to	• –
	conform to the stipulated standards by	-
	CPCB/ MPCB.	
[xlvii]	Fly ash should be used as building	PP agreed to comply with.
	material in the construction as per the	
	provisions of Fly Ash Notification of	condition once construction works are
	September, 1999 and amended as on	commenced.
	27th August, 2003.	
[xlviii]	Ready mixed concrete must be used in	
	building construction.	PP has assured to abide by the
		condition once construction works are
		commenced.
[xlix]	Storm water control and its re-use as per	
	CGWB and BIS standards for various	-
[applications.	condition once construction works are commenced.
(I)	Mator domand during construction	
(I)	Water demand during construction should be reduced by use of pre-mixed	PP agreed to comply with.
	concrete, curing agents and This	
	condition need to be incorporated in the	
	Bid Document to be issued to	boninonood.
	prospective bidders. This condition need	
	to be incorporated in the Bid Document	
	to be issued to prospective bidders. other	
	best practices referred.	
(li)	Use of glass may be reduced by upto	PP agreed to comply with.
	40% to reduce the electricity	PP has assured to abide by the
1	consumption and load on air-	condition once construction works are
[consumpson and load on an-	
	conditioning. If necessary, use high quality double glass with special	

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Sr. No.	Condition	Compliance status	
	reflective coating in windows.	Compliance status	
(iii)	The approval of the competent authority shall be obtained for structural safety of	PP has assured to abide by the condition once construction works are commenced	
	Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.	PP has assured to abide by the condition once construction works are	

<u>Operation Phase:</u> Since construction at site is yet to commence, the condition pertaining to operation phase cannot be verified. However, PP has ensured to comply all the conditions once construction is completed.

General Conditions:

S.No.	Condition	Compliance Status		
(i)	In the event of any change in the project profile a fresh reference shall be made to the Ministry of Environment and Forests.	PP agreed to comply with.		
(ii)	This Ministry reserves the right to revoke this clearance, if any, of the conditions stipulated are not complied with to the satisfaction of this Ministry.	PP has assured to abide by the condition.		
(111)	This Ministry or any other competent authority may stipulate any additional conditions subsequently, if deemed necessary, for environmental protection, which shall be complied with.	PP has assured to abide by the condition.		
(iv)	Full support should be extended to the officers of this Ministry's Regional Office at Bhopal and the offices of the Central and State Pollution Control Board by the project proponents during their inspection for monitoring purposes, by furnishing full details and action plans including the action taken reports in respect of mitigative measures and other environmental protection activities.			
3	These stipulations would be enforced among others under the provisions of water (Prevention and Control of Pollution) Act, 1974 the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and Municipal Solid Wastes (Management and Handling) Rules,	obtained from MPCB vide letter dated 14.10.2015 for Phase 1 which was valid up to 13.10.2020.		

	2000 including the amendments and rules made thereafter.	
	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department and Civil Aviation Department from height point of view, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.	PP agreed to comply with.
10	The project proponent should advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded CRZ Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at http://www.envfor.nic.in. The advertisement should be made within 10 days from the date of receipt of theClearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Bhopal.	
11	Environmental Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No.460 of 2004, if applicable to this project.	PP agreed to comply with.
12	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad / Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	
13	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project	website.

24/183

	shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	
14	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB,	Complying with . PP submitted the six monthly reports regularly since the grant of EC.
15	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.	PP agreed to comply with.

25/183

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Additional Conditions stipulated vide letter dated 20.12.2017

S.No.	Condition	Compliance status
(1)	Certified report on sources and availability of water from the local body supplying water along with the permission received by them for the same shall be submitted. This report shall specify the total annual water availability with the organization (local Body), the quantity of water already committed to other development projects, the quantity of water committed for this project and the balance water available for distribution. This should be specified separately for ground water and surface water sources and ensure that there is no impact on other uses.	PP agreed to comply with. CIDCO has submitted water Adequacy Report vide letter dated 21st Sept. 2018. As per the report the total water requirement will be 27.94 MLD at 60 MPPA handling.
(ii)	Detailed traffic management and traffic decongestion plan, to ensure that the current level of service of the roads within a 5 kms radius of the project site is maintained and improved upon, shall be drawn up through an organization of repute and specializing in Transportation Planning within next 6 months. This should be based on the cumulative impact of all development and increased inhabitation being carried out by the project or other agencies in this 5 kms radius from the site under different scenarios of space and time and shall be implemented to the satisfaction of State Urban Development and Transports Departments with the consent of all the concerned implementing agencies.	Not complied. CIDCO has submitted final report for detailed traffic management and traffic decongestion plan for Airport to MOEF vide letter No. CIDCO/GM(ENV&F)/NMIA/2020 /491 dated 14 th July 2020 but report was not submitted within the stipulated period (i.e. 6 months from the grant of revalidation of EC)
(iii)	Treated effluents shall also be used for irrigation and Road side plantation after taking due permissions from the concerned authorities/Forest department.	PP agreed to comply with.
(iv)	Project proponent shall satisfactorily address all the complaints that have been received against the project and submit a compliance report to the Ministry.	CIDCO submitted that compliance was submitted to Ministry vide letter dated 2nd November 2017.
(v)	The extension of validity is being granted for the original proposal for which Environmental and CRZ Clearance was granted earlier. The Project proponents will not make any changes any changes in the project nature, structure and configuration and limit themselves to activities for which the Environmental and CRZ Clearance has been given earlier.	PP agreed to comply with.

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Summary Note

1. Implementation of Conditions:

Site inspection of the project has been carried out on 11.11.2020. Ministry vide letter dated 22.11.2010 granted Environmental and CRZ clearance for establishment of M/s. Navi Mumbai International Airport by M/s. City & Industrial Development Corporation of Maharashtra Limited. The validity of the clearance was extended upto 21.11.2020. Ministry vide letter dated 17.08.2020 transferred the clearance to M/s. Navi Mumbai International Airport Private Limited (M/s.NMIAL). During the site inspection it was observed that pre-development works (leveling of the site, etc.) were in progress. Site photographs are enclosed as **Annexure-7**. As per the information provided by CIDCO & M/s.NMIAL, following is the status of work as on the date if site inspection:

- Cutting of hills on site up to +8m AMSL and filling of site up to + 5.5m AMSL completed.
- R and R of nearly 2558 structures in 10 villages by developing seven R and R pockets near the airport site and shifting of PAPs, handover of plots etc.
- Cutting of trees in non-forest area in the site as directed by Tree authority.
- Cutting of mangroves under supervision of Forest Department and compensatory plantation of mangroves through Mangrove cell/FDCM in identified area as per NMDP
- Construction of Ulwe recourse channel on the south of site completed.
- Shifting /relocation of existing Utilities;
- Re-routing of High Voltage Transmission Lines.

Present PP i.e., M/s.NMIAL during the site inspection informed that conditions pertaining to construction and operation phases will be complied during the respective periods. M/s. NMIAL during the site inspection requested that compliance of certain conditions of the clearance shall lie with CIDCO as the area falls out the airport area. PP was advised to take up this matter with Ministry during the presentation. PP submitted that MCZMA will be approached after completion of draft EIA report.

Following conditions were not complied:

Specific Condition no.s xxiv &xxxiv (Construction Phase):

High Level Advisory and Monitoring Committee (HLAMC) was constituted by Govt. of Maharashtra vide its Order dated 13th May, 2011. However, no meeting was held so far as discussed during visit. Present, **PP I.e.**, **M/s.NMIAL** was directed to take the matter with concerned authorities and submit ATR.

Specific Condition no. xxx (Construction Phase):

The turbidity of surface waters (around the airport area) during pre-construction was analyzed regularly as part of marine water quality monitoring by CIDCO but did not upload the copies of monitoring report to project website.

Specific Condition no. xxxi (Construction Phase):

As per the information provided, CIDCO appointed BNHS for the survey of avian fauna. Final report has been provided to Regional Office. However PP did not provide the details of website over which the reports were uploaded.

General Condition no. 13:

Copies of earlier six monthly compliance reports could not be seen on CIDCO's website. Also copy of the latest six monthly compliance report was not uploaded to M/s. NMIAL website.

Additional Condition no. il:

CIDCO has submitted final report for detailed traffic management and traffic decongestion plan for Airport to MOEF vide letter No. CIDCO/GM(ENV&F)/NMIA/2020

27/183

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/491 dated 14th July 2020. The report was not submitted within the stipulated period (i.e. 6 months from the grant of revalidation of EC)

2. Review w.r.t. MOEFs letter dated 30.5.2012:

The monitoring report is prepared after site inspection on 11.11.2020 for obtaining fresh Environmental & CRZ clearance in view of the expiry of existing EC of ongoing project envisaging the same configurations as approved in 2010 EC.

3. Court Cases and show cause/closure notices:

CIDCO has informed during visit that PIL was field in Bombay High Court but not admitted so far.

Consent for Establishment" was obtained from MPCB vide letter dated 14.10.2015 for Phase 1 which was valid up to 13.10.2020.

As per the information provided, application for the revalidation of consent to establish was submitted to MPCB. Same is pending with MPCB.

4. Uploading of compliance on web site:

M/s. NMIAL uploaded the copy of EC to project website, however copy of the six monthly compliance report was not uploaded.

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ANNEXUME-1

NMW-4

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IN THE HIGH COURT OF JUDICATURE AT BOMBAY

1

ORDINARY ORIGINAL CIVIL JURISDICTION

NOTICE OF MOTION NO.419 OF 2011

IN PUBLIC INTEREST LITIGATION NO.87 OF 2008

The Bombay Environmental Action Group & Anr.

. Vs.

The State of Maharashtra & Ors.

...Respondents

Petitiohers

And

City & Industrial Development Corporation of Maharashtra

...Applicant

Mr.G.S.Hegde i/b. G.S. Hegde & Co., for applicant. Ms. Gulnar Mistry i/b. M.V. Jayakar & Co., for the petitioners. Mr. R.A. Rodrigues with Mr. N.J. Prajapati for respondent Union of India Ms. Sharmila Mode for respondent-B.M.C. Ms. Sharmila Deshmukh for respondent-MCZMA.

> CORAM: MOHIT S. SHAH, C.J. & M.S.SANKLECHA, J. DATE : 29 OCTOBER 2013

This notice of motion has been taken out by CIDCS Mumbai for modification of the order dated 6 October 2005 permission to develop the Green Field Airport at Navi Mumbai without to seek clearance under the Forest Conservation Act, 1980.

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NMW-419-11

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2. Learned counsel for CIDCO has now tendered additional affidavit dated 3 October 2013 placing on record the order dated 11-12 July 2013 passed by Government of India in the Ministry of Environment & Forests Department ,(FC Division) recommending the proposal of CIDCO Ltd. Navi Mumbai for diversion of 250.0635 hectors of forest land in Navi Mumbai for establishment of Navi Mumbai International Airport in Alibag Forest Division in District Raigad of Maharashtra. The recommendation is subject to certain standard conditions and also additional conditions, which are as under:-

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1. Afforestation of mangroves species over an area equivalent in extent to mangroves forest area being diverted has to be raised and maintained by the user agency at their own cost in consultation with the State Forest Department. It will be in addition to the mangrove area to be raised under CRZ approval.

2. All conditions imposed by the Standing Committee of the National Board for Wildlife will be complied with.

3. A specific plan shall be prepared by the user agency through a reputed organization like WII, SACON, BNHS, etc. and its recommendations shall be implemented by the User Agency to mitigate the impact of the project on avifauna under the supervision of the State Forest Department at the cost of project.

4. A Monitoring Committee will monitor the implementation of different measures stipulated herein and will submit six monthly report to the Ministry in this regard. The Committee will be comprised of Principal Chief Conservator of Forests as Chairman, representative of the Regional Office, Bhopal, representative of Bombay Natural History Society and representative of CIDCO and Conservator of Forests (territorial), who will be the Member Secretary of the Monitoring Committee.

5. The R & R Plan approved by the State Government shall be submitted before Stage-II approval.

6. State Government shall ensure that settlement of displaced people does not take place in the forest land.

2 of 6

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NMW-419-11

7. In future, user agency shall not submit any posal for extension of the project or any other project ancillary/related to this project in the forest land between the present project site and Karnala Bird Sanctuary.

3. In the meantime, at the 29th meeting of the Standing Committee of the National Board for Wildlife held on 6 June 2013 the following decision was recorded thereafter in its minutes on 20 July 2018:-

> 5(1) Proposal for construction of Navi Mumbai International Airport (NMIA) at Panye/ Talukaa, District Raigad in Maharashtra in 10 km eco-sensitive zone/Area (ESA) of Karnala Bird sanctuary (KBS)

The Member Secretary informed the committee that this proposal was discussed during the 28th Meeting of Standing Committee of NBWL and after discussion the committee had decided that a team comprising of Dr.Asad Rahmani and Shri Kishor Rithe would conduct site inspection and submit a report to the Standing Committee of NBWL for consideration. Subsequently, Dr.Asad Rahmani of Bombay Natural History Society (BNHS) informed the MoEF that BNHS had accepted the study from project proponent CIDCO and hence he would be unable to be a part of site inspection team as it would be conflict of interest for him. Therefore, Additional Director General of Forest (Wildlife), Dr.Divyabhanusinh Chavde and Kishor Rithe were directed to conduct the site inspection vide letter (no.6-34/2013WL) dated 3 May 2013. However, Dr.Chavda could not join the site inspection team due to his other engagements.

The site inspection was conducted on 9th and 10th May 2013 and after inspection, the team had recommended the proposal with certain conditions. An important observation that came out during the site inspection was that Shri Debi Goenka of the Conservation Action Trust, Mumbai had filed a Public Interest Litigation (PIL) on mangrove protec tion which will be applicable to mangrove area to be destroyed by proposed project of NMIA.

The committee, after discussion, unanimously decided to recommend the proposal subject to the following conditions, as stipulated in the site inspection report:

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i. As there are several project proposals coming to SC-NBWL around KBS, it is recommended that the CWLW should compile the information and proceed to assess the cumulative impart of the those projects on KBS landscape (which includes several Pas mentioned by CWLW and surrounding wildlife habitats (together with forest, wetland and mangroves), and plan about compensating/mitigating the damages collectively. For any further project in 10km ESZ of KBS, this condition must be given due consideration.

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ii. Air traffic at NMIA should not use the air space above the KBS as promised during the meeting. The annual report "Baseline Survey of Avian fauna at and around NMIA" produced by BNHS has, though not sufficient enough, suggested conservation measures in 10 km radius of NMIA. The potential wildlife habitats (wetlands, forest and mangroves) which comes in 10km ESZ of KBS should also be considered for implementing conservation measures.

lii. In order to have alternate site for migratory birds visiting wetland within proposed NMIA site, Sewri coast wetland should be considered to be developed. The Sewri coast wetland of 1037.3 ha is a marshland protected from Arabian sea near the mouth of Thane creek. Thousands of flamingos along with many other migratory water birds about 150 species (11 are globally threatened) inhabit this marsh partly covered by mangrove. The Government of Maharashtra should nominate the same for Ramsar site.

iv. As per the Hon'ble High Court order dated 27 January 2010 the mangrove is a protected forest. As the project involves mangrove forest land, the State Government should see if any approval from the Hon'ble High Court is required. Mangrove eco-system has a unique aquatic fauna which carries a great importance. There is dense mangrove cover towards north side of the proposed NMIA site and parts of it also occur inside the NMIA site. To compensate for the loss of important mangrove forest portion inside the NMIA site, the mangrove forest bordering NMIA site (including the mangrove Park) should be declared as a mangrove sanctuary.

v. The project proponent should pay 3% of project cost for a fixed deposit with the wildlife department so that the interest amount can be spent on conservation of man grove in the entire Mumbai wildlife circle.

32-/183

4 of 6

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NMW-419-1

vi. The government of Maharashtra has pres in notified only 12.11 sq.km area as KBS though there are more wildlife potential forest lands available between the KBS and the NMIA site. As those lands will be vulnerable for encroachments, we recommend that the state government should notify all such forest patches between the KBS and NMIA as sanctuary before granting the final clearance. This will not only help to stop further encroachments on forest lands around NMIA site (unlike encroachments around existing Mumbai airport) but also will help to reduce the risk of having any air traffic accident due to garbage attracted bird movements.

vii. Looking at the encroachments around SGNP and the existing Mumbai airport, the Government of Maharashtra need to ensure that the families be relocated at relocation site-2 (55 Ha) at Dapoli which requires 40 ha land and at relocation site-3 at Vahai on Amra Marg should not further encroach upon any forest land around these sites or in 10 km ESZ of KBS. There are 10 settlements from Crevenue villages which need to be acquired for NMIA project and to be relocated at these three sites.

viii. The project proponent should construct the boundary was specially for relocation site-2 (along with 100 ha nonaeronautical activity area) during the construction of the project. This will also help to minimise the garbage issue which attracts birds and other wild animals and also stop encroachments on surrounding forest areas.

ix. Project propo0nent should allocate enough display space at the prominent location in the NMIA (As per the requirement of CWLW Maharashtra) free of cost to depict and highlight/ publicise the importance of protected areas of Maharashtra to the tourists arriving at NMIA till the lifetime of NMIA.

x. CWLW Maharashtra should incorporate the measures in the Management plan of KBS.

Thus, the Standing Committee of National Board for Wildlife recorded its recommendation to the proposal subject to ten conditions stipulated hereinabove.

> 33/183 5 of 6

NMW-419-11

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4. Learned counsel for CIDCO submits that in view of the above recommendations of the National Board for Wildlife at the meeting of the Standing Committee held on 6 June 2013 and recommendations of the Forest Advisory Committee in the Ministry of Environment & Forests (MOEF) at the meeting held on 11-12 July 2013, there is no impediment to the permission being granted to CIDCO for removal of mangroves from 108.50 Learned counsel for CIDCO' states that MOEF had already hectors. amended the CRZ Notification of 1991 thereby permitting the development of Airport in June 2009 and by letter dated_22 November 2010 the MOEF had also given environmental and CRZ clearance for the proposed Airport at Navi Mumbai. CIDCO had delineated an area of 108.50 hectors of mangroves for clearing the same to enable development of Airport and associated off-site infrastructure. As per the approval of MOEF, CIDCO is permitted to clear the mangroves in 108.50 hectors subject to development of 245 hectors of mangroves and protect 370 hectors of mangroves. CIDCO has also produced the plan at Exh.F to the affidavit in support of the notice of motion showing the area from which the mangroves are to be cleared and compensatory aforestation is to be done.

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4. In view of the above, having heard the learned counsel for parties, we permit CIDCO to clear mangroves from 108.50 hectors subject to condition that CIDCO shall plant and develop 245 hectors of mangroves at the site indicated in Exh.F and also to protect 370 hectors of mangroves as indicated in Exh.F to the affidavit dated 18 August 2011 in support of Notice of Motion No.419 of 2011. CIDCO is directed to comply with all conditions stipulated by Forest Advisory Committee as well as the Standing Committee of National Board for Wildlife in the aforesaid approvals/recommendations.

5.

Notice of motion, accordingly, stands disposed of.

CHIEF JUSTICE

(M.S.SANKLECHA, J.)

6 of 6

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Office of The Divisional Forest Officer, Mumbai Mangrove Conservation Unit 68-B. Kampar Nagar, Near Tilaknagar Station, Kurla (E) - 400 024 Phore / Fax, 022-25220097



विभागीय वन अधिकारी गुंवई कांदळवन संधारण घटक. यांचे कार्यालय व-6 8 कामगार नगर टिळकनगर स्टेशन जवळ, कुर्ला पूर्व- 400 024. Email:-dfommcu@gmail.com

विषय — नवी मुंबई आंतरराष्ट्रीय विमानतळाच्या शेजारच्या क्षेत्रावर कांदळवन रोपवन सुधारणा करणेबाबत. जा.क्र.कक्ष-02/योजना 400 /2019-20 मुंबई दि.- 19 / 08/2019

प्रति,

मा. महाव्यवस्थापक (पर्यावरण व वने), सिडको नवी मुंबई.

संदर्भ - आपले दि. 08/08/2019 रोजीचा ई-मेल.

उपरोक्त विषयांन्वये नवी मुंबई विमानतळाच्या सिडकोच्या मालकीच्या जमीनीवर या विभागाच्या सुमारे 400 हे. क्षेत्रावर कांदळवन प्रजातीचे रोपवन प्रस्तावित केले आहेत.

सदर कामाच्या देखभालीची कामे, स्वच्छता (Garbage cleaning) व इतर कामे चालू आहेत. सदर कामासाठी झालेला खर्चाचा अहवाल सोबतच्या प्रपत्रात आपणास सादर करीत आहोत.

सहपत्र – वरीलप्रमाणे

(डी. आर पाटील) विभागीय वन अधिकारी

विभागीय वन अधिकारा मुंबई कांदळवन संधारण घटक

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205	300 E.	the second s	1	7,38,06,702
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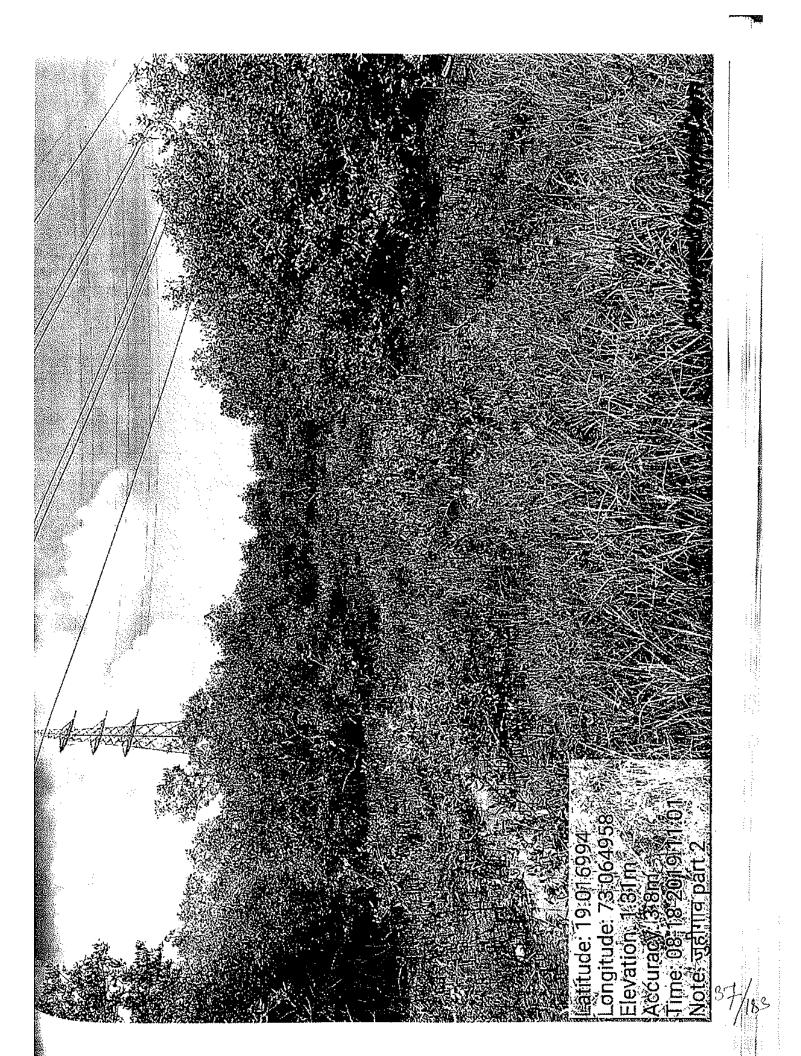
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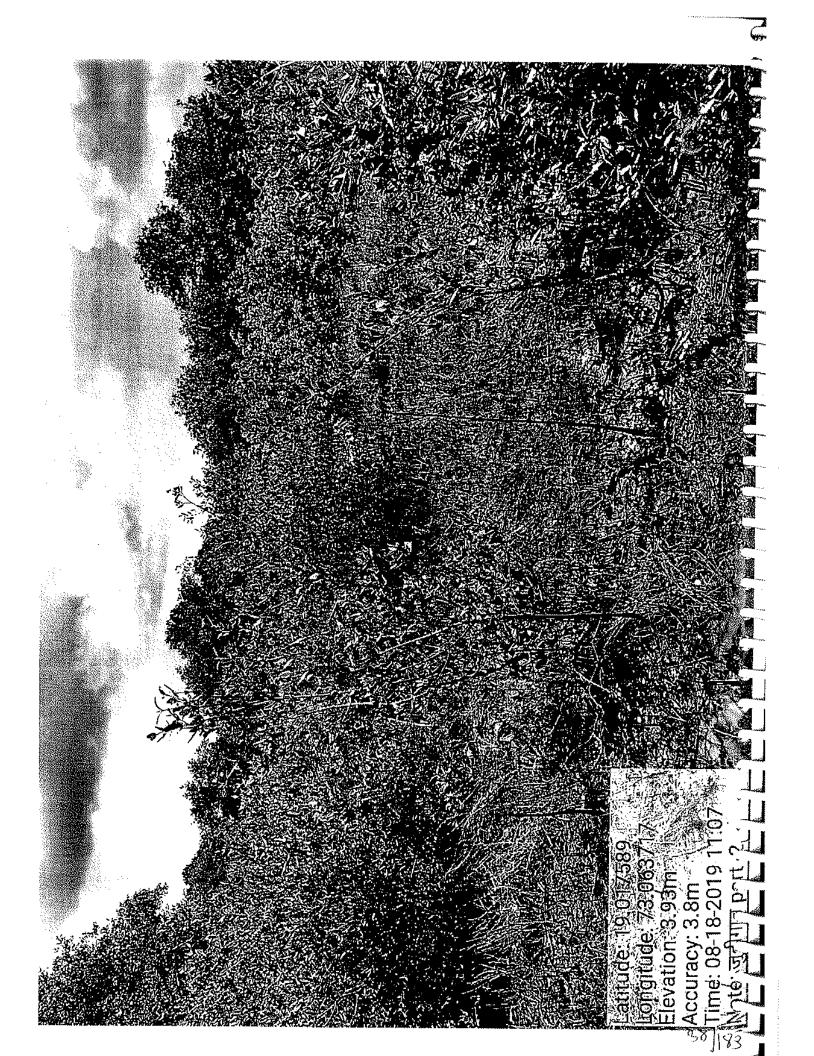
(डो. आर पाटील) विमागीय वन अधिकारी मुंबई कांदळवन संधारण घटक

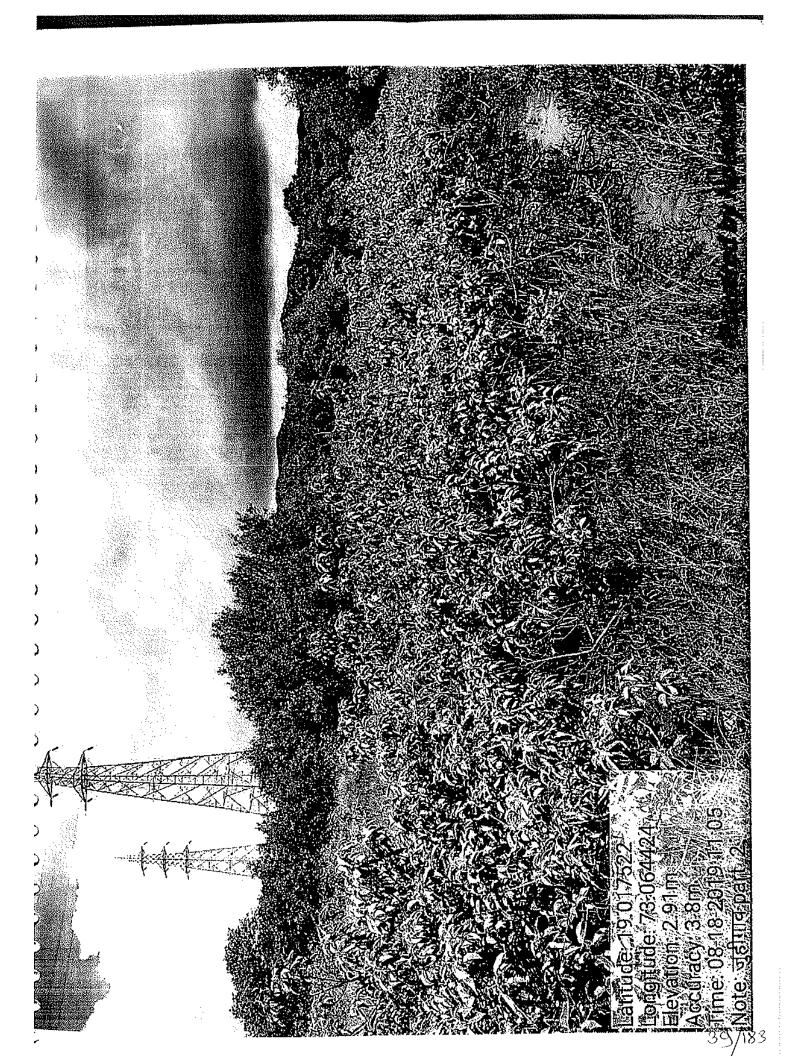
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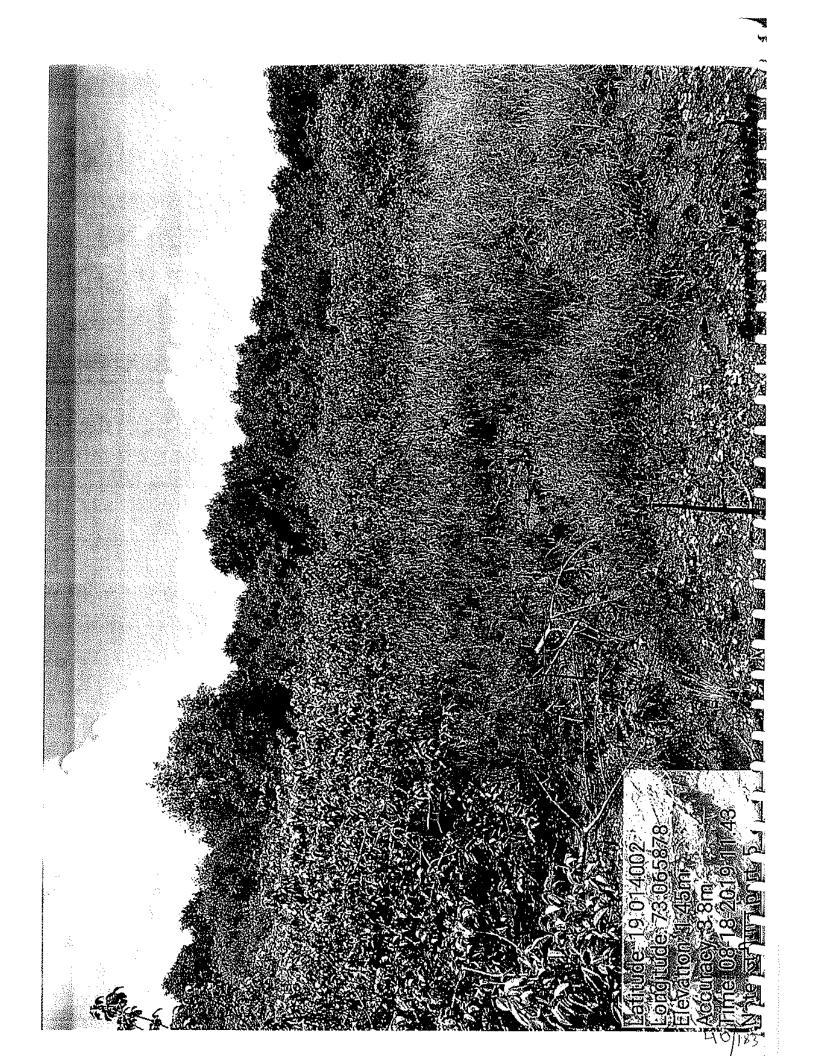
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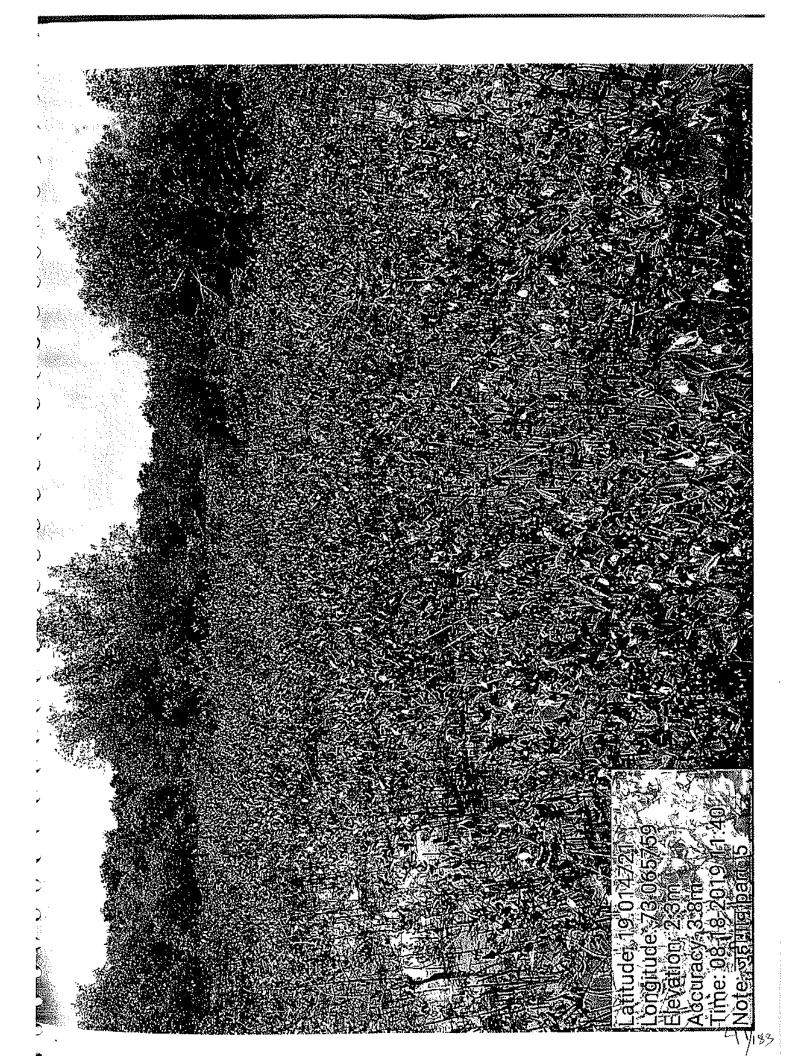
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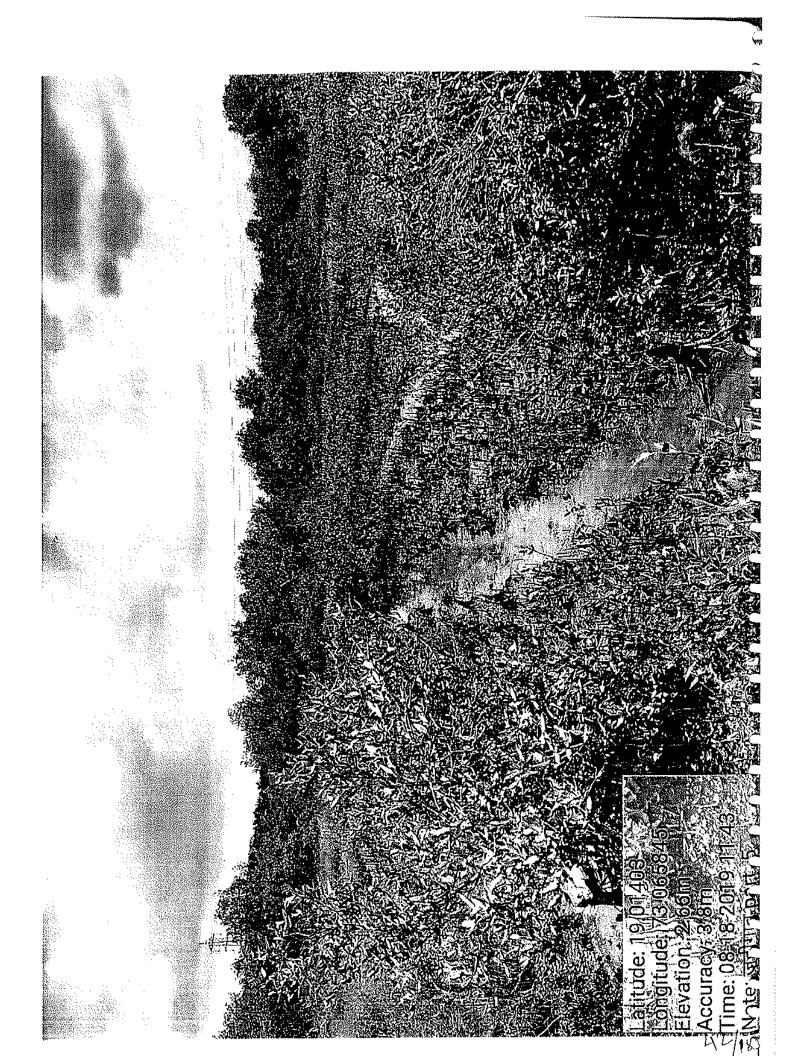


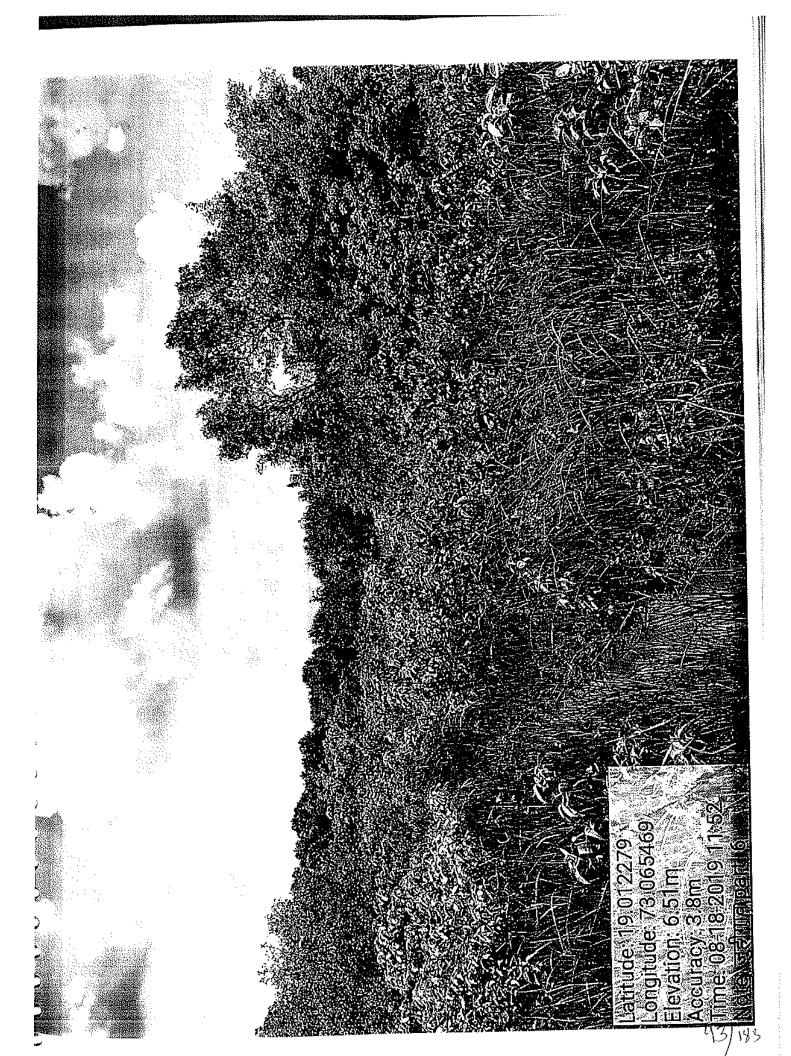




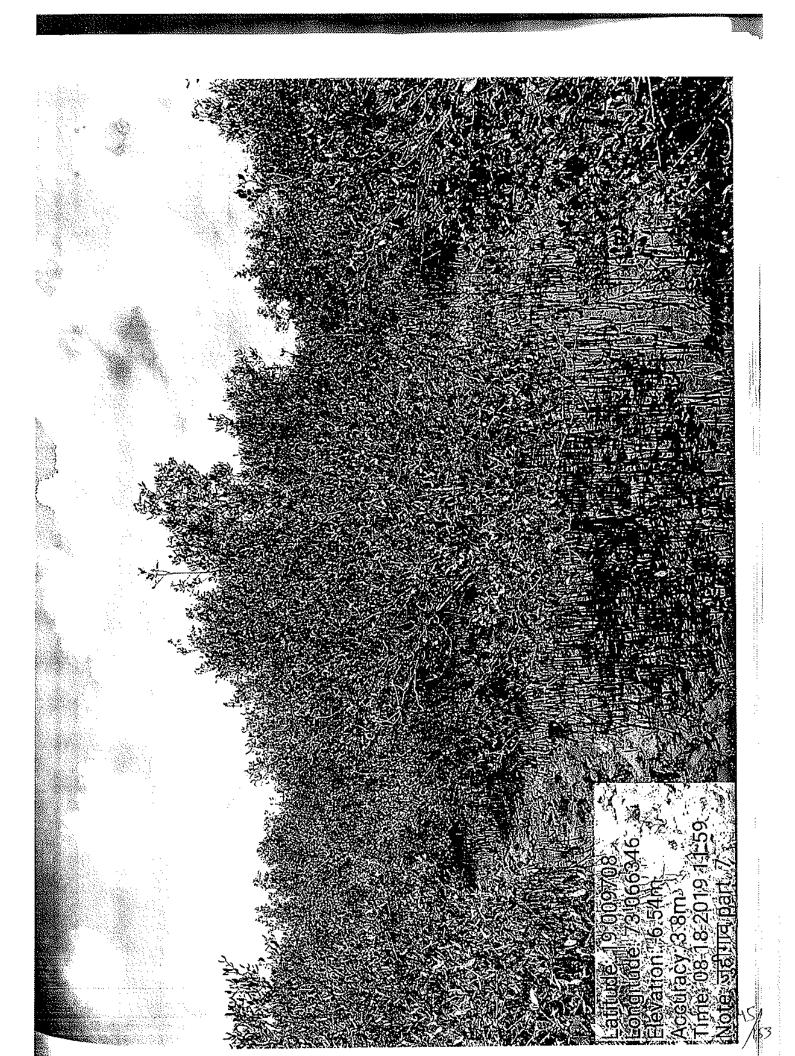














वनप्ररिक्षेत्र अधिकारी कांदळवन संधारण घटक, नवी मुंबई यांचे कार्यालय रो.हाकस नं 26 ब भारत बिजली मार्ग. श्रीराम महाविद्यालय मागे, सेक्टर 04, ऐरोली नवी मुंबई 400 70%. Email:rfommm@gmali.com

> विषय:- सिडको कॉबडभुजे तरघर रोपवनाबाबत... जा.क./न.मुं.का.संघ/रोपवन/ -२ ६ ५ /२०१९-२० नवी मुंबई दि. १० / ०१ /२०२०

प्रति,

मा.महाव्यवस्थापक, पर्यावरण व वने सिडको बेलापूर.

मा महोदय,

उपरोक्त विषयान्वये वनपरिक्षेत्र नवी मुंबई कडील असलेल्या नवी मुंबई आंतराष्ट्रीय विमानतळ प्राधिकरण, सिडको अंतर्गत 33 कोटी वृक्ष लागवड योजने अंतर्गत सिडकोचे मालकीचे जागेवर पर्यायी वनीकरण करणेकामी मौजे- तरघर कॉबडभुजे येथे २०.०० हे रोपवन ३० सप्टेंबर २०१९ ला पुर्ण करण्यात आले असून एकुण ८८८८० रोपांची लागवड केलेली आहे. माहितीस्तव सविनय सादर.

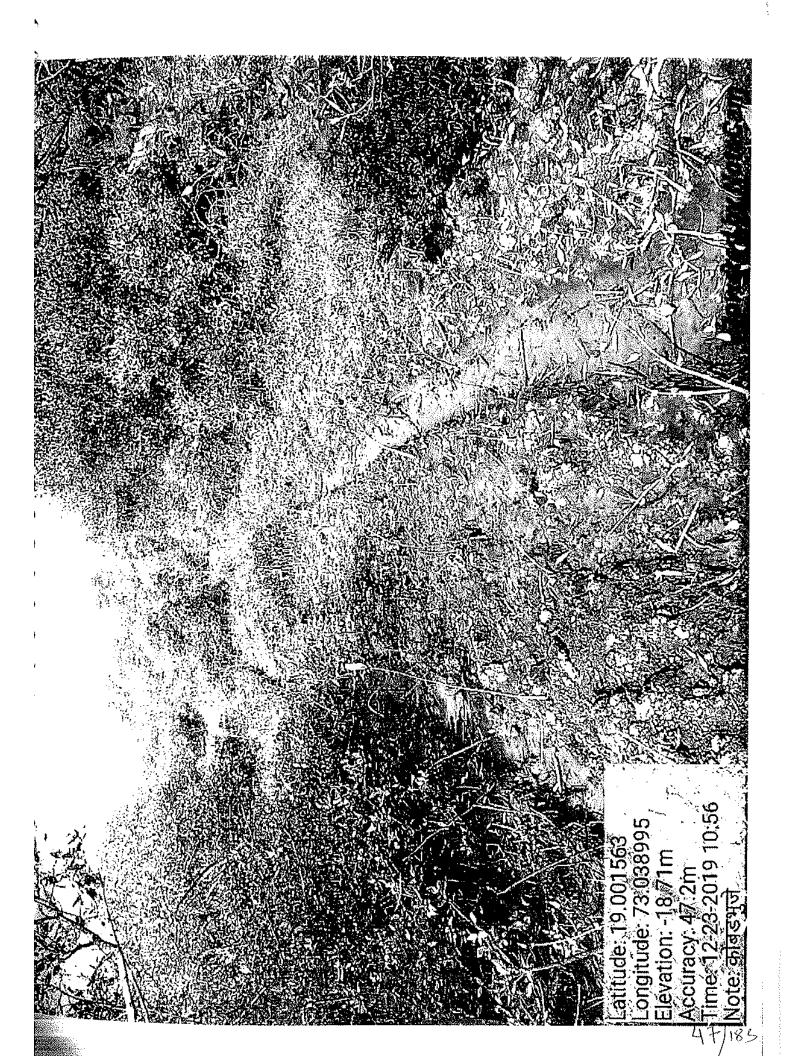
(डा.एस.कुकड)

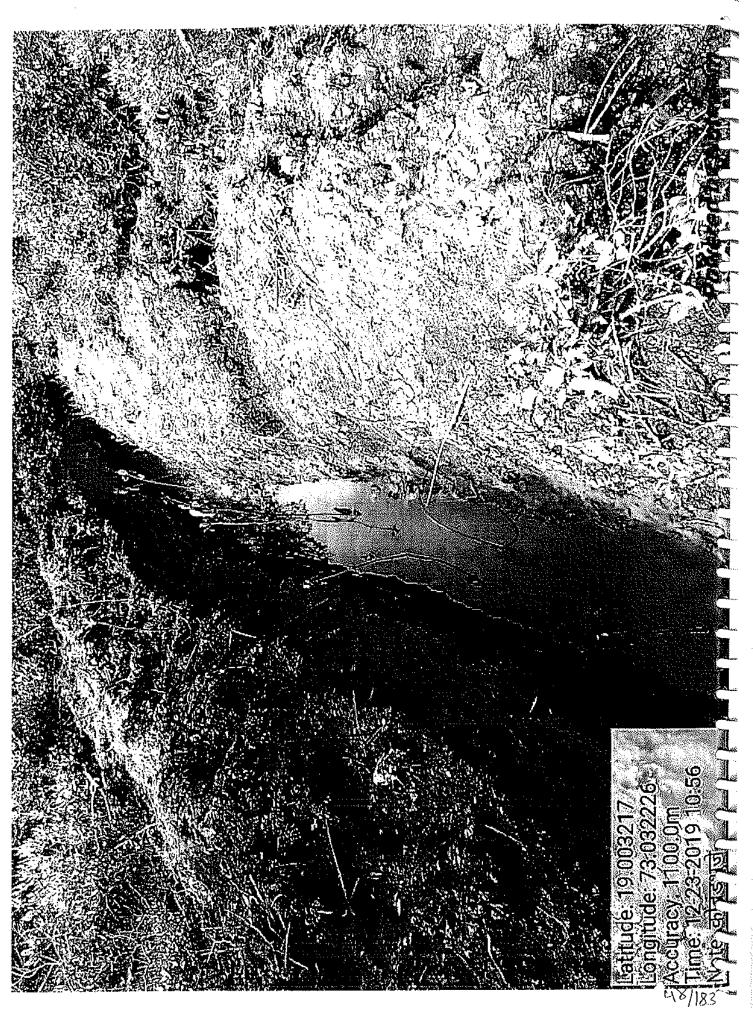
वनपरिक्षेत्र अधिकारी कांदळवन संघारण घटक, नवी मुंबई

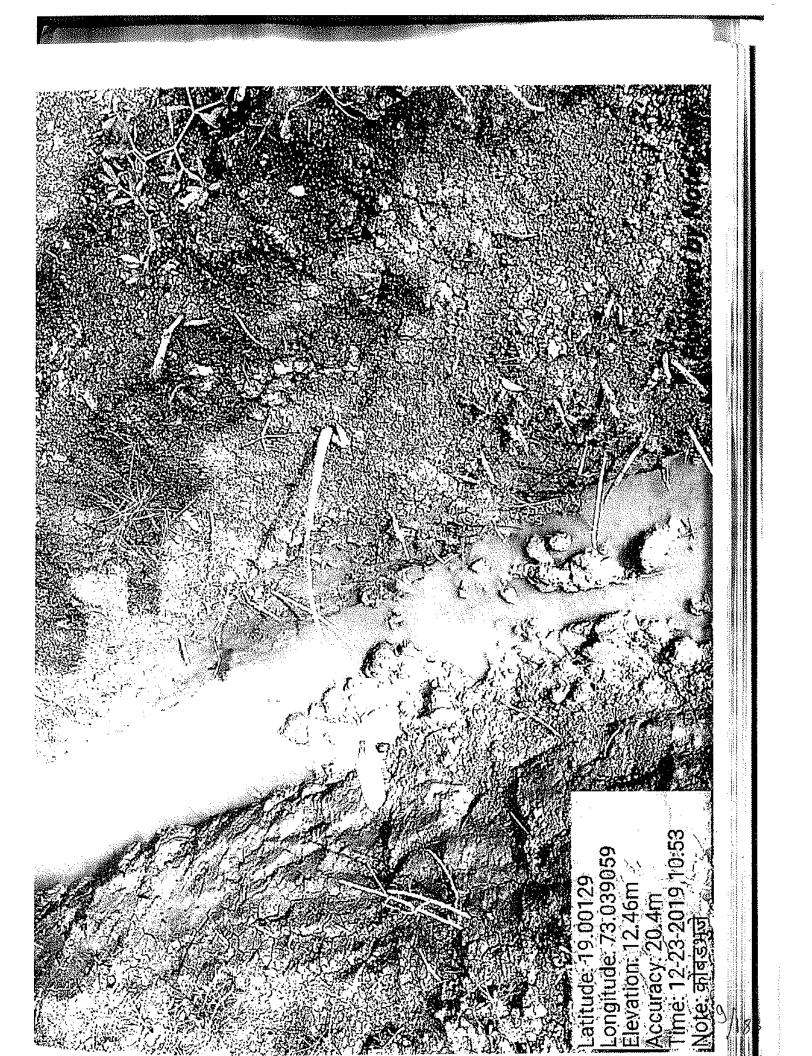
प्रतिलिपी:- मा.विभागीय वनअधिकारी, मुंबई कांदळवन संधारण घटक यांना माहितीस्तव सविनय सादर.

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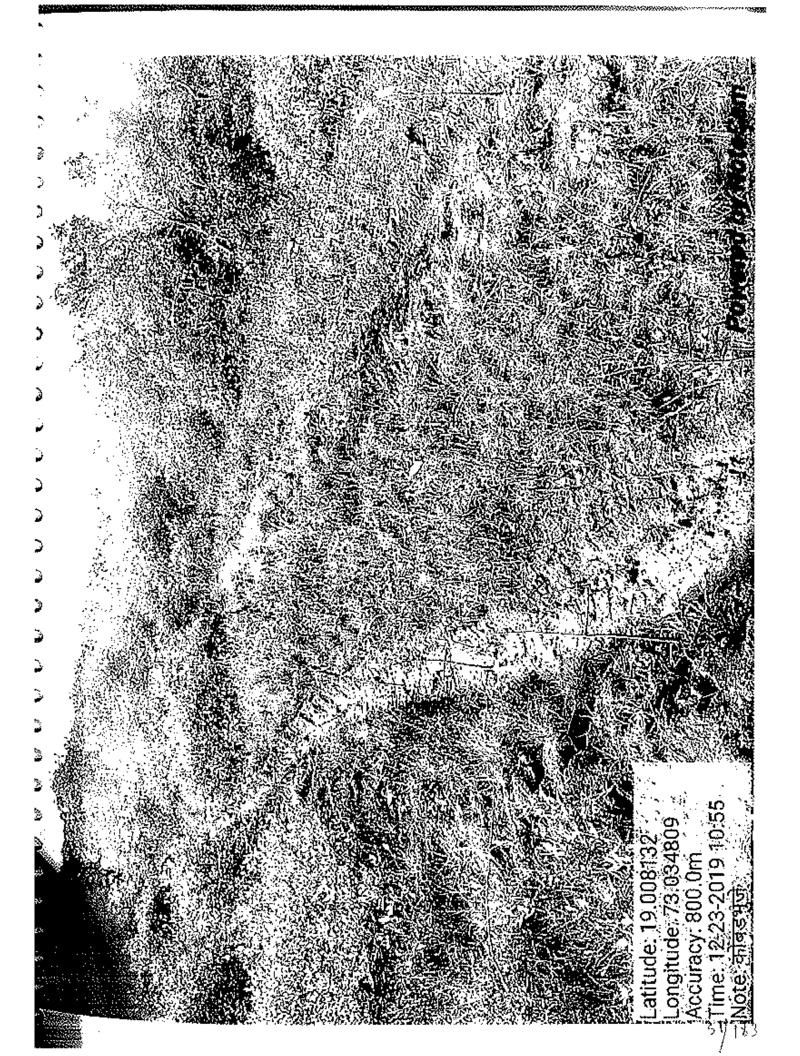
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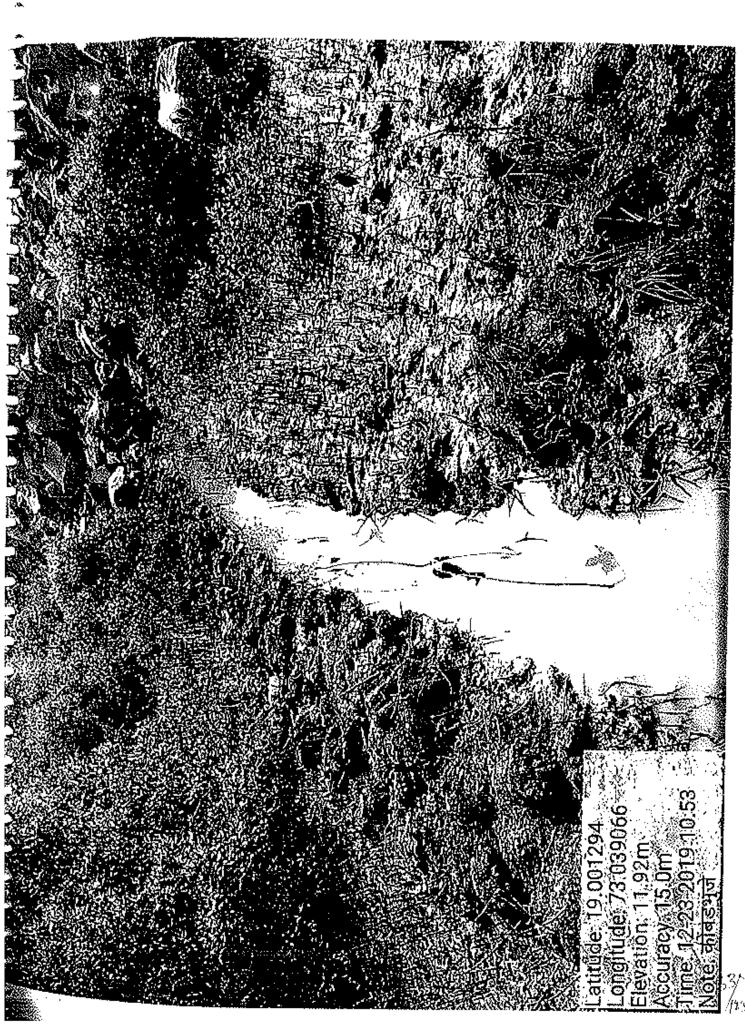


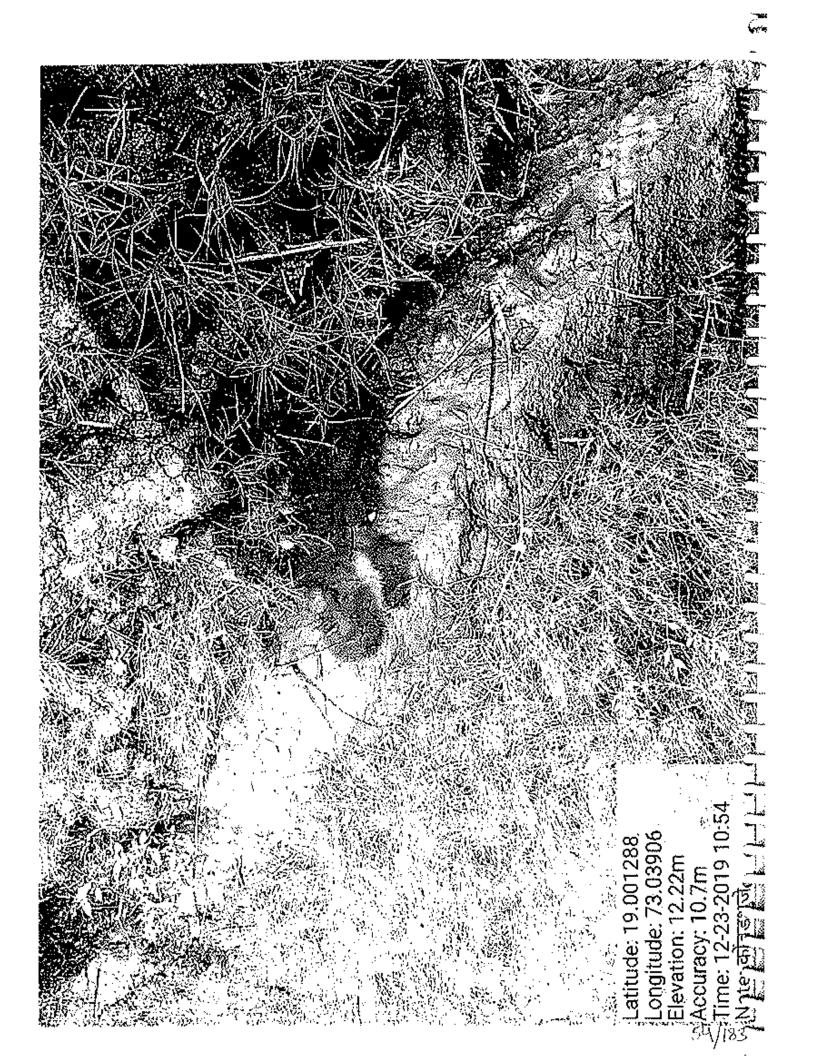














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फॉरेस्ट डेव्हलपमेंट कॉर्पोरेशन ऑफ महाराष्ट्र लिमिटेड

महाराष्ट्र शासकोथ उपक्रम;

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CIN-U45200MH1974SGC017206

ोजीकृत कार्यालय : एफडीसीएम भवम, अंबाझरी, हिंतण्ण लड, मातापुर, ८४००३९ वियागीय बायरेवयः व्यक्तिकास भवन, फॉरेस खेलतो, बाजरी, ठाण भुद्रे, २२०७०३

્યુરાષ્ટ્રમથી પ્રાથમિક તરણ સ્પાહરકદ્વાદાદ

Email : dm.fdcm@fdcm.nic.in and Email-dmfdcmthane@gmail.com website: www.fdcm.nic.in

👖 हर्नाचा अलग मुख्याने गांचे प्रायन्त १९७५ 🕡

ा अभिकाशीयत्वाप्रियः दाग्यतं कोतं २०२५ स्व २०१७-१८, त्यां, ७, १७१९ १८ इति, मा, महात्व्यवरथापक, पर्धायरथा व ठन्

२४२२ ३४१७ औद्योगिक विकास महामंडळ मर्यादत. अल्लाह, वर्षा मंदर्ड,

> विषयः : सिष्ठको १००००० भॅम्यूयः लामधङः च देखमाल प्रकानावायम. संदर्भः यः कार्यलियाचे ४४ का विवय/प्रविय/कक्ष-६/१९०५, वि. २८.७.२०१७

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टपरोक्त संयुशिय पश्चम्बये १ लक्ष मेन्द्रुका रोपत्रम आगवह २ पश्चभान्ततं आह ५५ ३२०० ०००० अतर उकल्पाया ध्वरत्यावर्थरे सहे ऑक्टोबर, २०१७ ला संपूष्टात आलंता आह. तरी क्रम्यक्रिये अभिकार, २० की ठागे योचेकडील एव प्र: प्रवर्श्वर्टर्नकी/ठागे/योजना/१८८५वि, ३१,१०,२०१७ अन्वये प्राण्डेप्राय प्रथान २०००० मंन्द्रक रायांची प्रत्यश्वर मोर्कणी केलेखाबतचा व जिवंत संपूर्व्या २क्वेत्यांने १२,५००० अस्वये प्राण्डेप्राय प्रधान २०००० अन्युक रायांची प्रत्यश्वर मोर्कणी केलेखाबतचा व जिवंत संपूर्व्या २क्वेत्यांने १२,५००० अस्वये प्राण्डेप्राय क्रम अन्युक रायांची प्रत्यश्वर मोर्कणी केलेखाबतचा व जिवंत संपूर्व्या २क्वेत्यांने १२,५००० अस्वयंत्र वाय आहाल प्रायस्य अग्रेलन रोपत्रमांचे फोटो य सक्वासंस्थल सोबत जोडून आवण्यांको हे स्वयंत्र वाय आहा प्रयोग आवल्य प्रायस्य अग्रिमाण फोटवन संपूर्वन संपूर्वन संपर्धन सोन्यांचे कार्यवाही युद्धात्री ही विभंती.

तरी जमरनाग्याधील बांब झा ४ नुसार माहे ऑक्टोबर,२०१७वर्थ्य प्रभन्मवर्ध देव असल्पती जियाण्य इपथापी उर्थरित स्वक्रम स. ४५६०२५५/- (स. पंथेथळीस लाख साठ इजार दोनज्ञ पंघावस्य माण्) लावजात मायवर्ग फिळणेस विनंती आहे.

तर्थक गैर्दाभग गवाम्बयं कळविलेलुम्बर गतां ऑकटोबरायन्त्रका प्रमुव कथावा सहस्या कारत जनस्थानं रोपांची फास्त मैंग्झळ क्षेत्रु वये तस्वेच रोपांचे उत्तावासून संस्थान करणं रोपांचा पाणां केवे दून मुर्शक मन्द्रवा १००००० मंस्युक रापांचे पैसॉदन निमा च चेख्रभाल पृर्वास १ वर्णाकरीता (माते आंवरावेन्द्रव्यक्त्र) वर्षत)करणेकरोता वर्मावकास महामेद्रळ इच्छूवा आहे. तमी सहर रोपव्याणं रम्बयासीयी घटन जनका (स्वतं पर पाइण्याकारा आपमी काम्यत असल्याम स्वायकायचे प्रसाद स्थान चारव्यान प्रकृत कार्याणं कार्यकार्णनं कार्यकार्य कर्कावर्थ शब्द बोर्डल माहिती व मान्यतेमाठी सादर.

โซนเป็น หมุ่งหมู่ปรัก

करव्यक रेक्सर, उन्हें,

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४२ : अक्रम्भ धनसंत्रपाला, तमें की, रहणे यांना माहिली म पूर्वतम कार्यकार्तमान्दी स्वामा, न्यांनी इत्यत्व सी प्रयोक रमक्रम म, ४७६०,५६६६ - रह, पंथेकाइतेस स्टाख माट हामार देवरण पंचायमन सम्य जनमवाम्पन नववार जन्म जनम भगणपत्रक अंतंधीन वजनेवाई पाटवूसया करावा.

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भगवतेलवरण थता - धनुविवाम भवत, पहि पुरुषार्भ अभव्यः	टर्न की, ठाणे यांचे कार्यालय रेफ्ट ४४११नी, ४२१मी, अर्थ (५२) ४००९०२ २४२ २५३२९६८६
जा.अ.प्रवसे/टर्नको ठाणे/योजना/ 18	8 /२०१६.१७ ठाणे दि. 31-16-2019
प्रति, मा. महाव्यवस्थाधक, पर्यावरण व वने, शहर आणि औद्योगीक विकास महामंडळ भर्वावि बेलापूर, नवी मुंबई ४००६१४. विषयप- भिष्टको १००	
सादर करणे	विवत.

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महोदय,

उपरोक्त विषयास अनुसरुन सिडको १००००० मॅग्रुव्ह रोपवन कोल्हेखार येथील मॅग्रुव्ह रोपांची प्रत्यक्ष जागेवर जाऊन दि. १६.१०.२०१७ ते ३१.१०.२०१७ या कालावधीमध्यें मोजणी केली असता, ९२५४७ मॅग्रुव्ह रोपे जिवंत आहेत सदर रोपांची स्थिती उत्तम आहे. त्याचा तपशिल खालील प्रमाणे-

प्लॉट नं लावलेली		सद्यस्थितीत जिवंत रोपांची प्रजातीनिहाथ संख्या				
रोपे		अव्हेसिनीया	सिरीॲपस स्टॅगल	एकृण		
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3	१४६२	હ૮૫	468	१३६४		
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ել	१८८१	દ્દ૬૬૫	৩২০	હિંદ્દ		
A	२२३५	१८९२	१९०	२०८३		
В	३७८१	२८७४	७८५	३६५२		
Ę	. १६८७	१२६९		<u>શ્</u> યુદ્ધ		
9	୧७६५	6253	१२७२	૧ ૫૫૫		
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२ १	२३९२	928	2059	2040
22	2490	११६०	१२३१	2368
A ?३	2685	२०१९	હુર્વય	२७२४
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वरील प्रमाणे सिडको एक लक्ष मॅग्रुव्ह रोपवन कोल्हेखार येथील मॅग्रुव्ह जिवंत रोपांची सरासरी टक्केवारी ९२.५० टक्के आहे. सोबत रोपवनाचे जीपीएस कॅभेरयाने घेतलेले फोटो व गुगल अर्थ नकाशा जोडलेला आहे.

आपला विश्वासू

सहपत्र :-फोटो अल्बम य नकाशा

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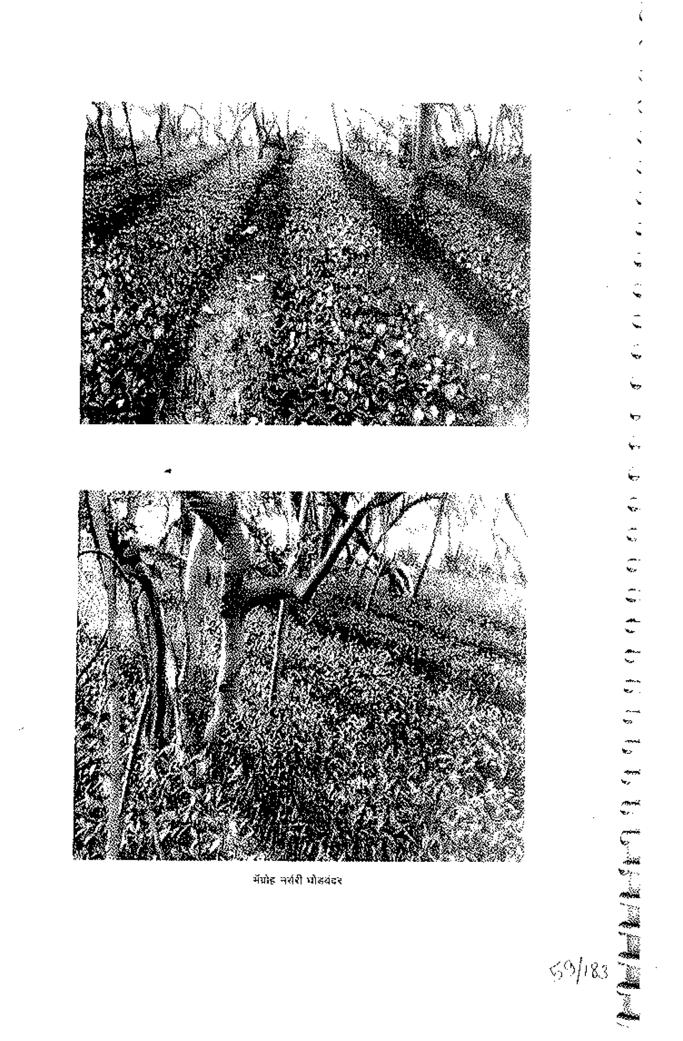
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वनपरिक्षेत्र अधिकारी टर्न को कार्यकेंद्र, ठोणे.

√प्रतिलिपी :- मा. विभागीय व्यवस्थापक, वन प्रकल्प विभाग, ठाणे यांना माहितीस्तव तथा आवश्यक कार्यवाहीस्तव संविनय सादर.

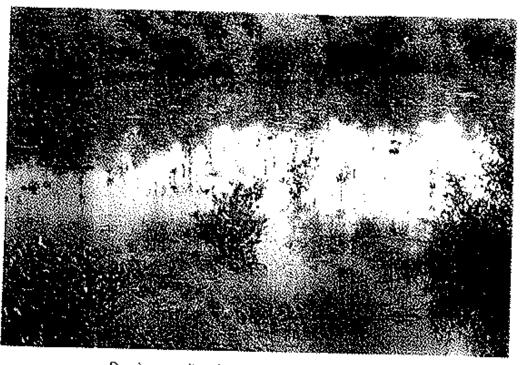


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सिडकोएक लक्ष मॅग्रह रोपवन सन-२०१६ भरती स्थिती



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शिहको ९ लक्ष मॅग्रोह लागवड सन-२०१६ भरतीनंतरथी स्थिती.

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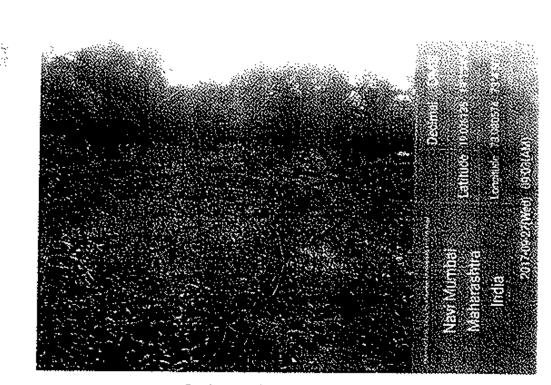
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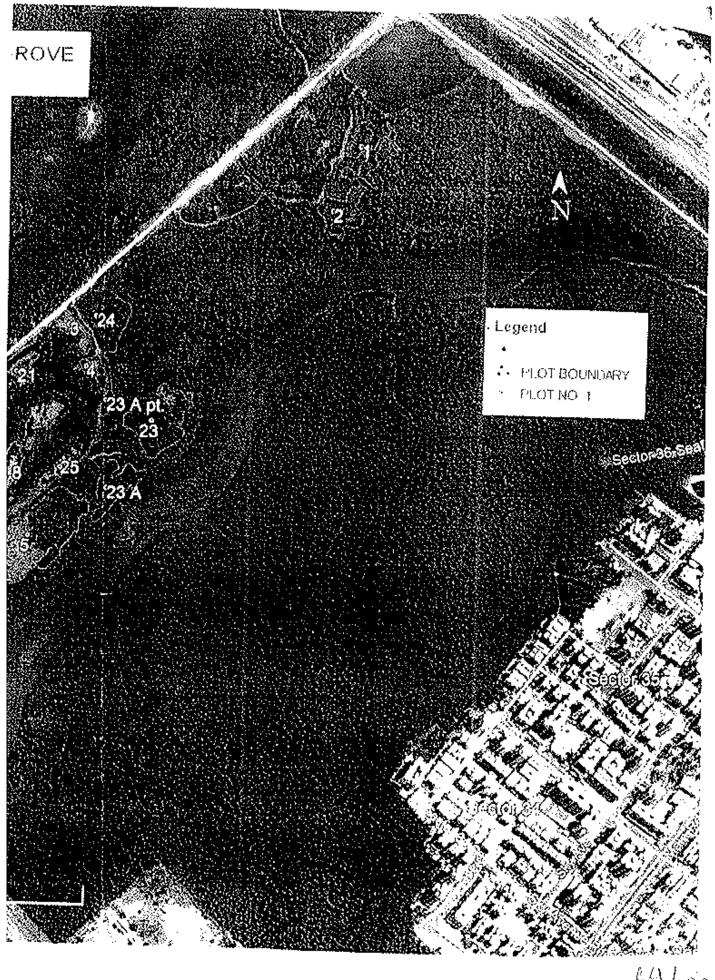
सिडको ९ लक्ष मॅग्रोह लागवड रान २०१६.

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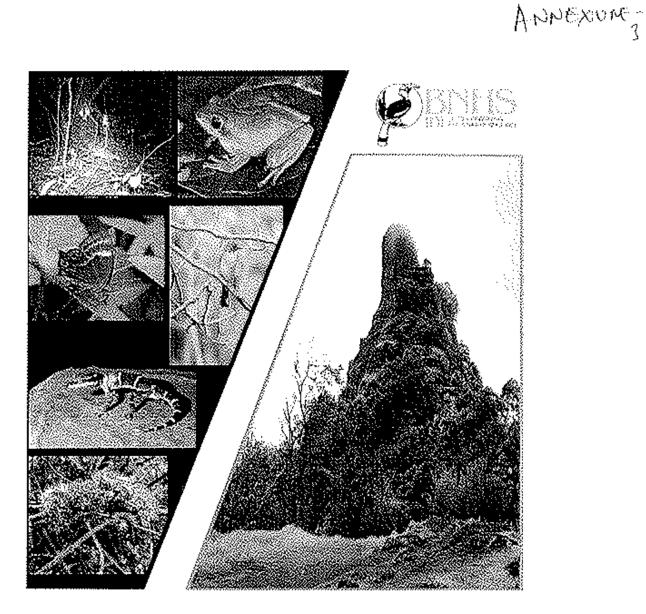


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BASELINE DOCUMENTATION OF FLORA AND FAUNA OF KARNALA BIRD SANCTUARY (KBS) AND NAVI MUMBAI INTERNATIONAL AIRPORT (NMIA) PROJECT AREA FOR PREPARATION OF CONSERVATION AND PRESERVATION PLAN - PART II

BASELINE DOCUMENTATION OF FLORA AND FAUNA OF KARNALA BIRD SANCTUARY (KBS) AND NAVI MUMBAI INTERNATIONAL AIRPORT (NMIA) PROJECT AREA FOR PREPARATION OF CONSERVATION AND PRESERVATION PLAN

PART - II

CONSERVATION AND PRESERVATION PLAN

Dr. Deepak Apte Rahul Khot Sameer Bajoru Mrugank Prabhu Saunak Pal Neha Mujumdar Unmesh Katwate Pinal Patel Dr. Rajdeo Singh Reshma Pitale



 Bombay Natural History Society
 Tel + 01-22-2282 1811

 Hambill House, Opp.Lion Gate,
 Mob-Not- 88/9101310

 Shaheed Bhagat Singh Road,
 Fox - 01-22-2282 1811

 Mumbai 400-001, Maharashtra, India
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The land use and land cover table (Table 1) clearly shows that a very small proportion of the study site is covered with primary and less disturbed forest (semi-evergreen forest, moist deciduous forest and mangrove, 9%) while 24 % is occupied with degraded forest (serub and grassland) and the remaining 67 % constitute settlement and agriculture (Map 1). Similarly, the landscape is also covered with a small amount of primary and less disturbed forest (9%), followed by degraded forest (40 %) and settlement and agriculture (51%). In contrast to percentage cover, if we look at the actual area under

	Study Site Area*		Lands Are	
	Ba	26	11a	- 96
Settlement	100423	31	21028	13
Agriculture	11083	33	76281	1.39
Grassland	1584	5	20160	10
Serub	6555	19	58212	30
Moist Deciduous Forest	1542	5	10788	5
Semi-evergneen Forest	0.1	0.1	1367	1
Mangrove	1571	5		3
Water	1247	4	4000	2
	34,007		1,07,189	Ι

Table 1. Land use and land cover types in the study area and the landscape.

primary and less disturbed forest between the study site and landscape, the increase is about seven fold for moist-deciduous forest, from 1542 ha to 10778 ha, and more than thousand fold for semi-evergreen forest, from 0.1 ha to 1367 ha. Therefore, priority should be given for the conservation of these last remaining primary and less disturbed forests at the study site as well as the landscape.

Unlike the primary and less disturbed forests, degraded forests occupy considerably large areas – for example 8140 ha in the study site and 78,372 ha in the landscape (Table 1). This degraded forest is a direct consequence of the clearing of the original moist-decidnous and semi-evergreen forests. Though these disturbed forests are in various stages of degradation and have lost their original diversity, we must consider their restoration in order to increase total forest cover and maintain integrity and connectivity among currently isolated patches of primary forests in the landscape. Based on the distribution of the primary forest cover, degraded forest cover, human habitation and terrain, we identified four key links and associated corridors which connect key species richness areas in this landscape (Map - 2).

67/183

Please refer section 2.1 in part Freport for more details of study site and landscape

The key links are the areas that have lost their primary forest and are generally covered with scrub, agriculture and human settlement. Their restoration will be crucial to maintain the functionality of the corridors. The corridors, on the other hand, are larger than the key links; they are mainly covered with a mosaic of primary and degraded forests, and they are generally small bill ranges or offshoots of a large hill range. In addition to the preservation of key links, the functionality of corridors will depend on the restoration of degraded forests and conservation of primary forests in the corridors.

1. Key Link 1: It would connects Karnala Bird Sanctuary (KBS) and Manikgad hill range (Map - 3). It is a narrow strip of about 1.5 km length and 0.5 km width, located on the west of Apta and north of Sarsai and Kaliwali villages. It is covered with scrub, almost no settlement and a small part is occupied by agricultural fields, mostly on the banks of the Patalganga River which passes through this link. In addition to this, the Savroli-Karpada road and a train track cross this link.

2. Key Link 2: It would connects Manikgad hills with a hill range which is has branched off from main ranges of the northern Western Ghats at Khandala and Lonavala (Map -4). It is narrow strip of about 800 m length and 350 m width, situated on the south of Karambeli Chattishi, north of Gagode Budruk and northwest of Shedashi villages. It is a highly disturbed area, devoid of forest cover, occupied with agriculture (mostly seasonal) and grassy patches, and flanked by settlements. Peu-Khopoli road and distributary of the Patalganga River pass through this link.

3. Key Link 3: It would connects KBS with Prabalgad–Matheran–Malanggad Hill Range (Map = 5). It is approximately spread across 2.35 km in length and 0.7 km in width, located between Bhinganwadi and Bhingar villages. This link is also disturbed and Shedung village situated in the link is covered largely with agricultural fields, followed by scrub and settlements. This link is traversed by two main highways – Mumbai–Pune expressway and NH 48 highway.

4. Key Link 4: It would connects Prabalgad--Matheran--Malanggad Hill Range with the main mountain ranges of the northern Western Ghats at Khandala and Lonavala (Map ~ 6). It is about 2.40 km in length and 0.7 km in width, situated on the west of Karjat and east of Pali Budruk. It is mainly covered with scrub and grasslands, and partly by agriculture. The Karjat-Murbad road passes through this link.

In addition to the key links and corridors, we also identified three key species-rich areas based on the predictions of the multi-species occupancy model using percentage of forest (primary and less disturbed) cover and elevation as predictors in 1 sq. km grid across the landscape (Report Part I – Chapter 1 to 6, Map – 7). Though we used mammals, birds, amphibians, reptiles and butterflies as representative taxa for determining these species-rich areas, other taxa such as plants, fishes and invertebrates are likely to show similar pattern of species richness distribution (Map – 8 to 12). In addition to this, a forth key area comprising marine fauna was determined based on qualitative and quantitative data collected in this study.

1. Prabalgad--Matheran--Malanggad Hill Range: This is the most species-rich area in this landscape. It is covered with semi-evergreen forest, hence endemic and evergreen forest specialist plants and animals of the Western Ghats are restricted to this area in the landscape. Among all, it is the highest priority area for conservation.

2. Karnala Bird Sanctuary: It is already a protected area and one of the very few remaining undisturbed forests in the Konkan region. Mainly it is covered with moist-deciduous forest but evergreen woody plants are found in the riparian zone. It is comparatively less species rich than Prabalgad—Matheran–Malanggad Hill Range.

3. Manikgad: It is a well-known fort, located on the south of KBS. Along with historical importance, it is also a species rich area of the landscape. The habitat and species richness of Manikgad is comparable with KBS.

4. Karanja-Boripakhadi-Panvel Creeks –These areas are degraded and have lost contiguity, especially of the mangroves, and are under tremendous pressure of urbanisation, even though scattered marine species-rich patches with low disturbances are recorded.

6 9/183

Apart from species richness, this landscape harbours many threatened and schedule species. In this study, about 32 Schedule 1 species were recorded, among which 23 were birds followed by 4 species of manimals, 4 species of insects and a species of reptile (Table 2). However among 14 species belonged to Schedule II, of which 11 were mammals. In addition to this, two Schedule III species were observed. A critically endangered plant and an endangered bird, amphibian and freshwater fish were also recorded. Apart from this, 14 vulnerable species were noted, among which 5 were birds and 4 were plants. Similarly, 13 species belonged to near threatened category, of which 9 were birds.

Table 2. Number of species (TNS), Wildlife (Protection) Act, 1972 (WPA) status, IUCN (International Union for Conservation of Nature) red list status of the species recorded in this study.

	TNS		WPA St	atus		IUCN Status			
	1	1	II	116	CR	É EN	VU VU	NT	
Mammals	26	4	111	2	•	-	2	1	
Bitds	280	23	-	•	··	1	5	9	
Amphibians	16		3 -	-	-	1	*	-	
Reptiles	36	: 1	1	-	-	-	-		
Insects	176	: 4	2	-		-	-	-	
Plants	241	: -	-] -	1	-	4	} -	
Freshwater Fishes	36	: "	-	·	-	3	1	3	
Marine Invertebrates	238	. •		•	•	•		-	
Total	[32	14	} 2	1	3	14	13	

4 - Schedule I; H - Schedule II; H - Schedule III; CR - Critically Endangered; EN - Endangered; VU - Vulnerable; NT - Near Threatened

Please refer annexares in part I of the report for more details

Though species rich and part of the Western Ghats, Mumbai Metropolitan Region (MMR) is one the highly developing regions in the World. Mumbai Metropolitan Region Development Authority (MMRDA), the planning authority for MMR, has predicted in their 40-year concept plan that the city would have 44 million (current population - 20.7 million) inhabitants by 2052, spread over 4050 sq. km, which is almost double the present area of 603 sq. km. This indicates that anthropogenic pressure on the natural habitats in the landscape, which are already under huge stress, would increase by manifolds in the near future and adversely affect many species. The findings of our study clearly suggested that a large number of species will be negatively impacted by the conversion of forest or degraded forest into anthropogenic habitat cover (settlement and agriculture). All species of mammals (25 species) and amphibians (16 species) showed negative impact of the anthropogenic habitat cover on their occupancies. Among them 52 % of the mammal species (13 of 25 species) and an amphibian species showed significant negative impact. They were followed by reptiles (35 of 36 species) and birds (115 of 135 species), which depieted negative impact of the anthropogenic habitat cover; 27.77% of the reptiles (10 of 36 species) and 7 % of the birds (9 of 135 species) showed significant negative impact. Among all these groups, butterflies appeared to be less impacted, with only 31 % (31 of 99 species) showing non-significant negative impact of the anthropogenic habitat cover. While looking at the current pace of urbanisation in this landscape and the future development plan of MMR, we suspect that a large number of species would become locally extinct from this landscape, nuless we take immediate strict conservation actions.

We recommend the following actions to conserve the biodiversity of Navi Mumbai International Airport (NMIA) area, and minimise damages to the wildlife found in the NMIA area in particular and the landscape in general.

1. The immediate concern related particularly to the NMIA project is the populations of waterbirds close to the airport site. These are six major sites - NRI (Nonresidential Indian) complex, Delhi Public School (DPS), Training Ship Chanakya (TSC), Panje, NSPS (Nava Sheva Police Station) and Jasai where large aggregations of birds are observed. NRI, TSC and DPS are very close to the airport site (6 km aerial distance) and though the birds inhabit these sites throughout the year, a large number of the individuals are seen in December and January; on the other hand, birds of Panje, NSPS and Jasai showed decline and these sites are comparatively at a longer distance from airport site (15 km), hence are of little concern.

Our study indicates that there is a high probability of bird movement between the study sites and it appears that fidal height and water depth in temporary water pools created by local fishermen govern this movement. The movement of fidal birds is very high during high fide and they congregate at these sites to feed and rest. During our study, apart from tidal birds, there were large populations of non-tidal birds, which moved less between the sites as they did not depend on the tide, at NRI and Panje.

In a single day, the average maximum numbers of birds counted (including all the sites) were about 10,861; therefore looking at this large numbers of birds and their local movement, we advise NM1A authority that they should be cautious during high tide and in December to February so as to avoid bird hit calamities (Please refer chapter 3 in part 1 of the report).

We recommend encouraging the local people to maintain existing and potential waterbird habitats close to the mudflats to the extent possible at a safe distance from the airport activity zone, preferably towards Uran and Nerul. Mangrove Foundation can also help local people in developing these habitats. Creation of such artificial habitats at multiple and evenly-distributed sites may reduce the large congregations and mass movements of the birds at particular sites, especially those close to the airport area. These sites can also be developed as bird tourism centres in cooperation with local villages for the long-term sustainability of this initiative. BNHS could play an important role in the development of habitats and in capacity-building among local people to act as guides. CIDCO could provide the financial support for this initiative for a long-term to promote sustainable conservation of waterbirds in the coastal region of this landscape.

 We strictly suggest that CIDCO should protect and conserve following biologically important habitats,

A. Wetland - NRI (Non-residential Indian) complex, Delhi Public School (DPS), Training Ship Chanakya (TSC), Panje, NSPS (Nava Sheva Police Station) and Jasai where large aggregations of birds are observed.

B. Key links and corridors in the landscape identified in this study,

C. Karnala Bird Sanctuary and notified Ecological Sensitive Zones.

Maintaining the current state of this landscape especially wetlands and Protected Areas is absolutely essential for the air safety of upcoming Navi Mumbai International Airport (NMIA). Any changes in the current state of these areas will

72/183

result into more creatic movement of the birds in the landscape between feeding and: mosting sites and will jeopardise the air safety of NMIA.

3. CIDCO should provide the financial support for building infrastructure in existing protected sites such as KBS and Matheran. Actions that can be taken up under this initiative are:

- Provide patrolling vehicle, advanced communication equipment, GPS, camera traps, binoculars, cameras, field guides, mobiles with wildlife monitoring apps and field accessory to guards.
- ii) Build capacity of the forest staff, local NGOs and wildlife enthusiasts for monitoring wildlife in this landscape.
- iii) Develop interactive and creative nature interpretation centres at KBS and Mutheran.

4. CIDCO should support the Forest Department of Maharashtra and BNHS financially to restore degraded habitats in the identified corridors, key links and species rich areas. Actions that can be taken up under this initiative are:

 Create awareness among people and policy makers about the importance of the natural habitats in this landscape and the need to conserve them.

ii) Reduce anthropogenic pressure on the existing habitats by providing alternatives for fuel wood and fodder.

- iii) Build capacity among the forest staff and local people to develop nurseries of native moist-deciduous or semi-evergreen trees for restoring the degraded habitats.
- iv) Encourage private land owners in areas of conservation importance to take up conservation, especially those with agricultural lands and wastelands and plant native trees grown in local nurseries (developed as part of this initiative); in

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addition, they could get incentives and conduct ecotourism activities.

- 5. While looking at the proposed plan of CIDCO and the pace of development in this region, we recommend that CIDCO should provide financial support to for continuation of the present research work, which would involve
- Rigorous assessment of the functionality of the proposed key links and corridors through advanced techniques such as camera trapping, DNA sequencing and GPS tracking.
- (i) Development of high resolution GIS maps and their integration with the data collected from advanced techniques, which can be used to construct robust and realistic biodiversity conservation models in this landscape.

Summary of CWPRS Report

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ANNEXUNE-4

Summary of CWPRS Report

Introduction:

Mumbai, being the financial and commercial capital of India, requires aviation facilities of highest order. Presently Mumbai airport is handling 45.87 MPPA (Million Passengers Per Annum) in FY 2019-20 and is experiencing severe constraints in augmenting the air, land and city side facilities to meet the future growth. Air Travel Demand for MMR is growing rapidly and the forecasted air Traffic is expected to be around 100 MPPA by 2034. To meet this anticipated air travel demand, the Ministry of Civil Aviation (MoCA) granted approval for the development of a Greenfield airport at Navi Mumbai in 2007. The Navi Mumbai International Airport is proposed to be developed through Public-Private Participation (PPP) by setting up a Special Purpose Vehicle (SPV) with equity contribution from CIDCO.

In July 2008, Government of Maharashtra granted approval for development of Navi Mumbai International Airport project (NMIA) on PPP basis and appointed CIDCO as the nodal agency for its implementation. The total land earmarked for the airport project is 2268 Ha. CIDCO has obtained clearances from various Govt. Statutory bodies such as, Ministry of Civil Aviation (MoCA), MoEF, Ministry of Defence, Wild Life Clearance, Bombay High Court permission for removal of Mangroves and Stage II Forest clearance. CIDCO has completed RFQ and bidding process for appointment of developer for NMIA. Navi Mumbai international Airport Private Limited (NMIAL) has been appointed by CIDCO as a Concessionaire for undertaking construction, operation, management and maintenance of Navi Mumbai international Airport (NMIA) on Design, Build, Finance, Operate and Transfer (DBFOT) basis pursuant to the concession agreement entered into between the CIDCO and the Concessionaire on January 8,2018. NMIAL has achieved the Appointed Date on 7 th July 2018 and the site was handed over to NMIAL who is supervising various land development works of the Airport.

Location:

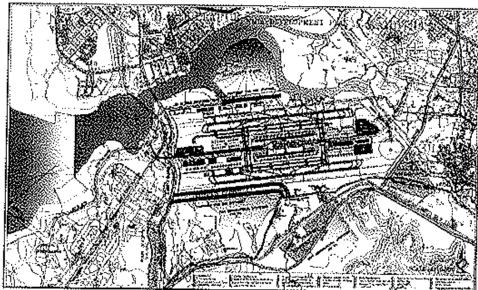
The Navi Mumbai International Airport (NMIA) is located between the existing National Highway No.4B (east side) and Amara marg (west side) at a distance of approx. 35 kms. from existing airport, near Ulwe, in the geographical centre of Navi Mumbai.

Salient Features:

The Navi Mumbai International Airport (NMIA) is located in a core area of 1160 ha. and is proposed to have two parallel and independent runways for simultaneous and independent operations along with full length taxiways on either side of runways.

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The airfield is designed to accommodate the new large aircraft (A-380/B-747-8 and equivalent) compatible to ICAO Standard of aerodrome 4-F. The ultimate capacity of airport will be 60 MPPA which will reach in four stages commencing from 10 MPPA in 2023 in in first phase and will be developed in four phases.



Location of Navi Mumbal Airport

Background:

Upon obtaining approval from MoCA and Govt. Of Maharashtra, CIDCO initiated process for obtaining Environment and CRZ clearance of NMIA. Accordingly The Environmental Impact Assessment (EIA) study of Navi Mumbai International Airport was prepared in accordance with the Terms of Reference (TOR) prescribed by the Ministry of Environment and Forest (MoEF) and submitted for appraisal to MoEF for granting Environmental & CRZ Clearance. Initial proposal having layout of 1640 ha involved diversion of Ulwe river and Training of Gadhi River including development of Non-Aeronautical activilies on Waghiwali Island.

The terms of reference for carrying out EIA study, given by the Ministry of Environment & Forest, has specified to carry the mathematical and physical model study by CWPRS (Central Water & Power Research Station) Pune to assess the impact of activities relating to project on hydrodynamics/flow in the river/backwater/creeks. Further, the examination in detail for the probability of flooding of agricultural land, residential area and other areas due to proposed development/construction of the airport is also to be studied considering the unprecedented rainfall event of 26th July 2005.

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Summary of CWPRS Report

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Accordingly CWPRS was entrusted to carry out the 1D & 2D Mathematical model study with fresh data for the entire Panvel Creek from the mouth of Panvel ,Thane Creek upto 12 kms. upstream from the reach of high tide of five (5) Rivers. The major findings of the study are as follows:

"These 1-D and 2-D studies have shown that the flood levels in these river channels except Ulwe and in the Panvel creek channel along north boundary of airport area were more or less unaffected. In the Panvel creek reach between Gadhi-Taloja confluence to Belapur-Ulwe bridge, a marginal rise in the flood levels of about 0.15 to 0.20 m was predicted for a very short duration at the time of high water. For remaining period, the water levels were more or less same or even slightly lower as a result of channelization of flow, reduced tidal prism and diversion of Ulwe River. Along Ulwe river, due to diversion of river the rise in water level at location of diversion (Panvel - Ulwe road bridge on SH54) will be about 1.6 m for 6 hour duration PMP rainfall and 120 m wide Ulwe diversion channel".

During the Environmental appraisal of Airport project in the EAC, the project underwent many changes such as retention of course of Gadhi river as it is , Shifting of Non-Aero activities to the south of airport, conversion of Vaghiwali lagoon into Mangrove park and provision of North channel. Due to the changed layout from 1640 ha area to 1160 ha, CWPRS was referred for various studies such as 1D, 2D Mathematical model and Physical model studies for studying the flow conditions around Airport area & to determine safe grade elevation for Airport area for various hydrodynamic conditions. 2D mathematical model studies were carried out using Telemac -2D software for various extreme Hydrodynamic events such as simultaneous occurrence of Highest Spring tide as a downstream condition coupled with peak flood discharges (100 Yr return period-6 Hour storm; PMP--6 Hour storm and 26th July ,2005 flooding event) from all 5 rivers.

The above study has been completed and the major findings are as follows:

"These studies have shown that the flood levels in these river channels except Ulive and in the Panvel creek channel along north boundary of airport area were more or less unaffected. In the Panvel creek reach between Gadhi-Taloja confluence to Belapur-Ulive bridge, a marginal rise in the flood levels of about 0.03 m was predicted for a very short duration at the time of high water. For remaining period, the water levels were more or less same or even slightly lower as

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a result of channelization of flow, reduced tidal prism and diversion of Ulwe River. Along Ulwe river, due to diversion of river the rise in water level at location of diversion (Panvel - Ulwe road bridge on SH54) will be about 1.14m for 6 hour duration PMP rainfall and 200m wide for 500 m length with 120 m wide for remaining length of Ulwe diversion channel".

The CWPRS was also entrusted the work of carrying out the physical model study by extending the existing Mumbai Port Model (scale of 1:400 H and 1/80 V) for accommodating the Panvel Creek. The study of diversion of Gadhi & Ulwe river is carried out from hydraulic point of view.

As per recommendations of CWPRS report, compliances are detailed below.

1) Safe Grade Elevation of NMIA shall be kept at 8 m Above Mean Sea Level (AMSL), for Airport complex, Airstrips ATC tower etc

Remaining area shall be reclaimed from 8 m to 7 m AMSL

The Safe Grade Elevation of airport is kept as 8m AMSL.

2) The Ulwe Diversion Channel having bottom width of 120 m-200 m (for a length of 500 m) with gradual transition from 200 m to 120 m with clear opening of 120 m at Amara Marg and clear opening of 80 m at SH-54 bridge on Ulwe river shall be kept including bank protection works for maximum velocities. Soffit levels of the bridges shall be kept considering sufficient freeboard.

Ulwe recourse channel as per CWPRS design has been completed and commissioned in June 2019.

Widening of bridge on Aamra Marg from 60 m to 120m through MJPRCL, has been completed.

Provision of linear waterway of 80 m at SH-54 bridge is being implemented, Removal of bund in Moha creek has been completed and desilting of Ulwe river on the upstream side of SH-54 is being carried out regularly. ٩,

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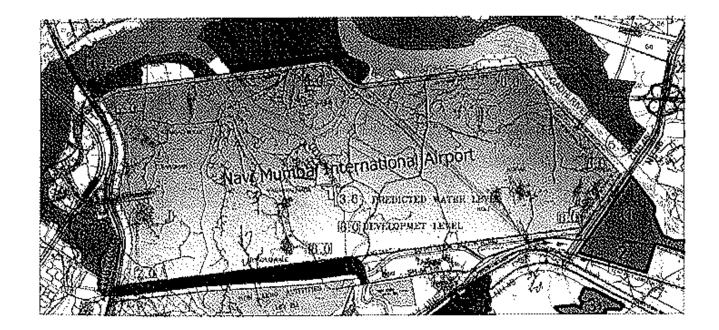
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3) All the rivers having low bank levels than predicted flood levels, suitable bank protection works considering HFL and sufficient freeboard shall be provided

Bunds are developed along Ulwe river upstream of SH-54 bridge upto NH-4B bridge as per recommendation of CWPRS report. For other rivers , similar bunds are being developed.

A) Studies carried out with 75 m Northern channel having bed levels of -2 m and -1 m revealed that there is no significant changes in Maxima flood levels predicted with that earlier studies as reported in CWPRS report.

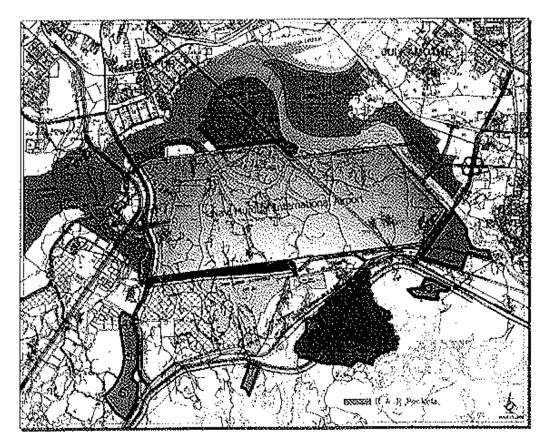




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5.0 Developments around Airport:

For development of NMIA, 10 settlements are required to be resettled. The sites for resettlement were identified nearby to the existing villages. 7 pockets were identified for resettlement of the villages. For acquisition of 700 ha, of private land, allotment of 22.5% developed plots for land being acquired , a township called Pushpnagar is being developed along NH-4B on south side of Panvel Uran Railway line. The area between NMIA boundary and Panvel Uran Railway line is reserved for commercial activities including Non Aero pockets. This area also includes the pockets already handed over to NMSEZ.



NMIA and surrounding development

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CWPRS, Pune has carried out mathematical model studies for predicting the flow patterns and maximum flood levels in and around Panvel creek due to development of proposed international airport. According to the studies the maximum water level in this stretch of various Rivers for 100 yr 6-hr storm is predicted at various locations. Keeping a freeboard of 1.50 m the development levels were decided and accordingly various pockets are being developed.

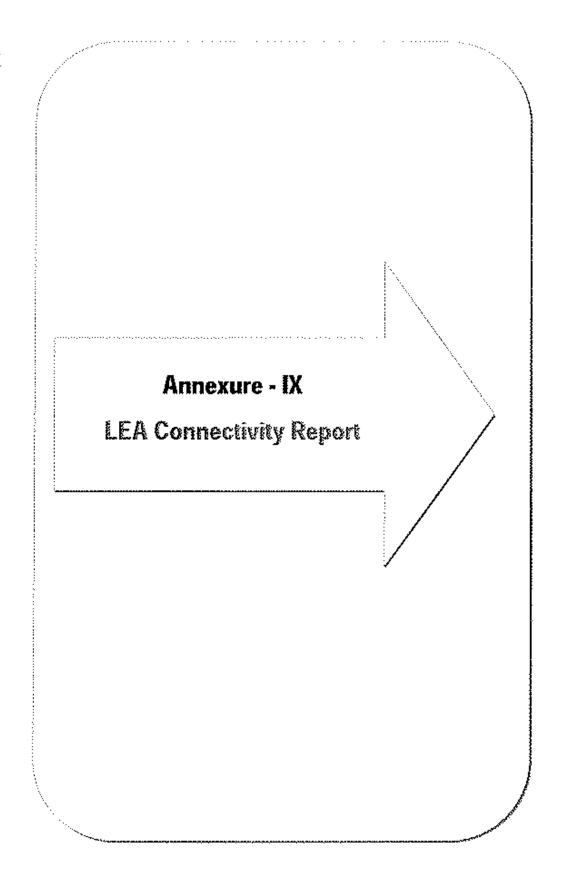
Storm water Drainage system for all pockets is designed based on CWPRS report and standard CIDCO Norms and being implemented.

Details of the above was submitted to MoEF in Master Drainage Plan in August 2017 as a part of Comprehensive EIA report

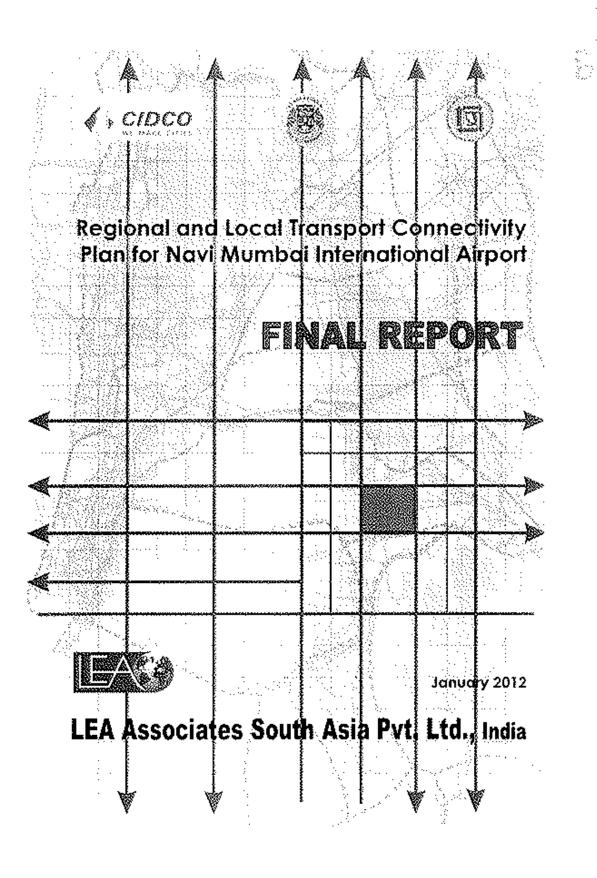
1

8****[83

ANNEXONE-5



82 /183



Contents

E.	EXEC	UTIVE SUMMARY	. E-1
	£.1	THE BACKGROUND	6.1
	E.2	THE MANDATE	E•1
	8.3	NAVI MUMBALAIRPORT	. E-1
	6.4	THE APPROACH	
	E.5	EXISTING TRANSPORT CONNECTIVITY	
	E.5	POSITIONING NMIA IN PRESENT AND COMMITTED NETWORK	
	E.7	CASE STUDIES - SOME HIGHLIGHTS.	
	E.8	TRANSPORT CONNECTIVITY OPTIONS	
	E.9	UPDATION OF PLANNING PARAMETERS	
		TRAVEL DEMAND ASSESSMENT OUE TO MMIA	
	E 10	E.10 1 INTRODUCTION	
		E.10 2 ASSESSMENT OF MMA AIR PASSENGER DEMAND	
		F 10.3 DISTRIBUTION OF NIMA AIR PASSENGER DEVAND	
		C 10.4 OVERALLINTCRNAL PASSENGER TRAVEL DEMAND ASSESSMENT	6.9
		E 10.5 PASSENGER/TRAFFIC LOADINGS ON MAJOR REGIONAL METRO AND HIGHWAY CORRIDORS	
	E.13	ENHANCED REGIONAL TRANSPORT CONNECTIVITY TO NMIA	
		E.11.1 ENHANCED METRO REGIONAL CONNECTIVITY BETWEEN SUBURBS OF GREATER MUMBALA	
		NAVI MUMBAL. E 31.7 – METRO CONNECTIVITY BETWEEN ISLAND CITY AND NAVI MUMBALAIRPORT	. 5-9
			E-13
		E 11.4 SION PANVEL HIGHWAY	
		E 11.5 MUMBALTRANS (VARBOUR LINK (MTR.)	
		E 11.6 VIRAR-ALIBAG MULTI MODAL CORRIDOR (MMC)	. 6-17
		E 11.7 MUMBALVAGODARA EXPRESSIVAY SPUR IN MMR - VIRAR TO PANVEL	
	<i>C</i>	E 11 # PASSENGER WATCH TRANSPORT CONNECTIVITY TO THE NMIA	£-20 0.44
	E 12	NMIA LOCAL ROAD CONNECTIVITY AND MAJOR TRANSPORT CORRIDORS	
		E 12.1 EXISTING ROAD CONNECTIVITY E.12.2 DENTIFICATION OF MAJOR TRANSPORT CORRECTORS AND INTERSECTIONS	
		E 12 3 CORRIDOR SPECIFIC FUNCTIONAL CONCEPT DESIGNS	
		E.124 CONCEPT PLAN	8.76
		E 12.5 WAY FORWARD	E_{-20}
	E. 83	ECONOMIC ANALYSIS	
			E-28 5 - 28
		E 13 2 LOCAL NETWORK CONNECTIVITY	E-30 E-30
		E 13.4 RESULT OF ECONOMIC EVALUATION-BASE CASE	
		E 13.5 RESULT OF SERISTIVELY AMILYSIS	6-31
	£.14	ASSESSEMNT OF EVOLVED CONNECTIVITY PLAN	E-32
	6.15	PROJECT IMPLEMENTATION - A PERSPECTIVE ON PHASING	E-39
	E.16	WAY FORWARD AND ACTION POINTS	
1.	INTRO	DUCTION	1-1
	11	BACKGROUND	1-1
	1.2	OBJECTIVES	1-2
	1.3	SCOPE OF SERVICES	
	14	STUDY PROCESS AND DELIVERABLES	. 1-3
	1.5	STRUCTURE OF THIS REPORT	
2.	NAVU	MUMBAI INTERNATIONAL AIRPORT AND REGIONAL SETTING	2-1
	2.1	INTRODUCTION	
	2.2	MACRO REGIONAL CONTEXT	2-1
11122	10 Ja		Ĕ
			E .

ઝોષ 183

cgio	nal and	Local Transport Connectivity Plan for Navi Mumbai International Airport	
		271 NAVEMUMBARINTERNATIONAL ARPORT IN MALRO REGIONAL CONTEXT	
		2.2.2 EMERGING MACRO REGIONAL SETTING	. 24
	2.3	84MEDAITE INFLOENCE REGION THE MMR	
	KEY C	ONISDERATIONS AND APPROACH	
	3.1	KEY CONSIDERATIONS	
		311 AIR PASSENGER AND CARGO DEMAND	
		317 ALTERNATIVE SCENARIOS	
		3 1 3 AREA CONSIDERED FOR LOCAL CONNECTIVITY	
		3 1 4 SERVICE LEVEL	
	3.2	APPROACH ADOPTED FOR TRANSPORT CONNECTIVITY	
	A) 760	MATINE DI AMO, COMCEDITE A NO TRANCDORT METWORK MODATION FOR A	VERABT
		RNATIVE PLANS, CONCEPTS AND TRANSPORT NETWORK UPDATION FOR /	
	4 1	INTRODUCTION	
	4.2	CONNECTIVITY TO NMA	
	9. Z.	4.2.1 EXISTING TRANSPORT CONNECTIVITY	
		42.2 PROJECTS UNDER IMPLEMENTATION	
		4.2.3 PROPOSED TRANSPORT CONNECTIVITY: CTS FOR MMR.	
		42.4 AREA LEVEL CONCEPT PLAN FOR CIDCOMAVI MUMBAINS/ZPANVEL-CTS FOR MMI	7 4-4
		4.2.5 MONORAIL MASTER FLAN FOR MMR	
		42.6 MOLTI MODAL CORRIDOR FROM VIRAR TO AUBAUG	
		4 2 7 MUMDAN VADODARA EXPRESSWAY SPUR IN MMR. VIRAR TO PANVEL	
		428 TRANSPORT NETWORK PROPOSALS IN NAVEMUMBALAREA BYCIDCO AND NMMC POSITIONING NMIA IN PRESENT AND COMMITTED NETWORK	4-1.
	4.3		
	4.4	CASE STUDIES ~ SOME HIGHLIGHTS	
	4.5	PRELIMINARY REGIONAL TRANSPORT CONNECTIVITY	
		4.5.1 CONCEPT REGIONAL THANSIT OPTIONS FOR OPTIMATIONS	
	4.6	4.5.2 MIXEDIATE AND MEDIUM TERM MEDIO PROPOSALS	
		MUMBAI	
	4.7	PASSENGER WATER TRANSPORT CONNECTIVITY	4-32
		47 I REVEW OF PAST STUDIES	
		477 STATUS OF PASSENGER WATER TRANSPORT PROJECTS.	
		4.7.3 CIDCO'S INITIATIVES ON PASSENGER WATER TRANSPORT	
	4.0	4.1.4 PASSENGER WATER TRANSPORT CONNECTIVITY TO THE NMIA	· · · · · · · · · · · · · · · · · · ·
	4.8	PRELIMINARY LOCAL TRANSPORT CONNECTIVITY, LONGEPT PLANS FOR INITIAL ASSESSMENT	
	4.9	UPDATING TRANSPORT NETWORK	4-41
	DEANN	ING PARAMETERS AND TRAVEL DEMAND ASSESSMENT	5.3
	5.1	INTRODUCTION	
	5.2	CLUSTER LEVEL PLANNING PARAMETERS AS PER CTS AND MODIFIED PLANNING	
		PARAMETERS	
		5.2.1 CLUSHER LEVEL FLANNING PARAMETERS AS PER CTS	
		572 NEED YOR MODIFIED ADJUSTED PLANNING PARAMETERS	h - na an a
		5.2.2 CUNSTER WISE MODIFIED PLANNING PARAMETERS, P3E3 SCENARIO FOR 1011 10 VIDALES, MINIMUM ACCESSIONENT PLASTIC MINIM	
	53	TRAVEC DEMAND ASSESSMENT DUE TO NMIA	
		53.1 INTRODUCTION	5 J 6.1
		A 3 2 ASSESSMENT OF MAN HIR PASSENGER DEMAND	
	5.6	OVERALL INTERNAC PASSENGER TRAVEL DEMAND ASSESSMENT.	
	5.5	INTERNAL GODDS DEMAND ASSESSMENT	
	5.5 5.6	EXTERNAL GOUDS DEMAND ASSESSMENT	
	REGIO	NAL TRANSPORT CONNECTIVITY AND ANALYSIS	
	6.1	INTRODUCTION	
	6.2	METRO CONNECTIVITY BETWEEN MUMBALAISPORT AND NAVEMUMBALAISPORT .	6-1
		METSO CONNECTIVITY BETWEEN ISLAND CITY AND NAVEMUMBAL AIRPORT	
	6.3	METRO COMACTIVET BETWEEN ISCANDIGET AND NAVENUMBALARR/ORT	

85/183

Reali	cust snu	d Local Transport Connectivity Plan for Navi Mumbai International Airport	Final Report
- Star			
	0.4	SUB-URBAN FAST RAIL CONNECTIVITY BETWEEN ISLAND CITY AND NAVI MUMB/	
	6.5	SION PANVER HIGHWAY	
	6.6	MUMBALTRANS HARBOUR LINK	
	67	VIRAR-ALIBAG MOLTI MODAL CORRIDOR	
	6.8	MUMBAFVADODARA EXPRESSWAY SPUR IN MMR - VIRAR TO PANVEL	
	G.9	REGIONAL PASSENGER WATER TRANSPORT CONNECTIVITY TO NMIA	-
	5 10	 PASSENGER/TRAFFIC LOADINGS ON THE NETWORK AND ASSESSMENT OF TRAIL ON MAJOR REGIONAL METRO AND HIGHWAY CORRIDORS RELEVANT FOR NMIA 	
	6.11	BROAD COST ESTIMATES: UNIT CAPITAL COSTS	
	0.11	6 11 1 UND CAFITAL COSTS	
		6 1/2 UNIT GEM COSTS	6.2)
7.		AL TRANSPORT CONNECTIVITY AND FUNCTIONAL CONCEPT DESIGNS	
	7.1	REQUIREMENT OF FUNCTIONAL CONCEPT DESIGNS	
	7.2	NMIA ROAD CONNECTIVITY AND MAJOR TRANSPORT CORRIDORS	
		7.2.1 ROAD CONNECTIVITY AND PROPOSALS	
		7.2.2 EXISTING ROAD CONNECTIVITY	
	7.3	IDENTIFICATION OF MAJOR TRANSPORT CORRIDORS AND INTERSECTIONS	
	7.4		
	7.4	REVIEW OF CORRIDORS' CHARACTERISTICS	
		7.4.7 PAUM BEAUTIMARDS	
		7.4.3 SION PANYEL INGRAMY FROM URAN PHATA TO KALAMBOH JUNCTION	
		7.4.4 NATIONAL RIGHWAY: 4 FROM KALAMBOLI JUNCTION TO PALASPE PHATA .	7-13
		7.4.5 NATIONAL RIGHWAY 40: FROM GAVHAN PHATA TO PALASPE PHATA	
		7.4.6 NATIONAL RIGHWAY 4B. FROM ROPAR JUNCTION TO KALAMBOU	. 7.14
	7.5	CORRIDOR DEVELOPMENT NEEDS AND OTHER PROJECT INTERVENTIONS	
		7.5.1 QUICK ACCESS TO AIRPORT	
		7.5.7 INTEGRATED DIVELOPMENT	7-16
		7.5.5 VIDDAL APPEAR	
	7.6	FUNCTIONAL CONCEPT DESIGNS	
	7.0	2.6.1 INTRODUCTION	
		7.6.2 MAJOR WIFKSFCTRINS CONCEPT PLANS	7-17
	7.7	CORRIDOR SPECIFIC FUNCTIONAL CONCEPTIDESIGNS	
	7.8	CONCEPT PLAN	
	7.9	BROAD COST ESTIMATES	
	7.10	IMPLEMENTATION SCHEME	
	7.11	GENERAL SUGGESTIONS	
	7 12	WAY FORWARD LOCAL TRANSPORT CONNECTIVITY	
8.	ECON	OMIC ANALYSIS	8-1
	8.5	INTRODUCTION	
	8.2	APPROACH ADOPTED	B-1
		823 REGONALCONNECTIVITY	8-1
			13-1
	8.3	ASSUMPTIONS AND INPUTS FOR ECONOMIC ANALYSIS	
	8.4	RESULT OF ECONOMIC EVALUATION-BASE CASE	8-8
	8 S 8.6	RESULT OF ECONOMIC EVALUATION: SENSITIVITY SCENARIO	
	0.0	CONCLUSION	
9.		MMENDATIONS AND WAY FORWARD	
	9.3	CONSULTATIONS TOWARDS FINALISATION OF EVOLVED PLAN	
	9.2	RECOMMENDED TRANSPORT CONNECTIVITY PLAN FOR NMIA	
	9.3	GROUND ACCESS TRAVEL TIMES TO AND FROM NMIA	
	9.4	PROJECT IMPLEMENTATION - A PERSPECTIVE ON PHASING	
	\$i.5	WAY FORWARD AND ACTION POINTS	
			10



86/183

Regional and Local Transport Connectivity Plan for Navi Mumbai International Airport	Final Report
LIST OF TABLES	v
LIST OF FIGURES	Vil

ANNEXURES

Armexute 4.1.	Case Studies, Major International Airports
Annexuse 4.2.	Passenger Water Transport-Review of Past Studies
Annexure 5 11	Planning Parameters for MMR. Year 2005 and Horizon Years 2016, 2021 and 2031 (P3E3 Scenario CTS for MMR and Modified P3E3)
Annexure 5/21	Planning Parameters for Navi Munibal Cluster, Year 2005 and Horizon Years 2016, 2021 and 2031 (P3I)3 Scenario CTS for MMR and Modified P3E3)
Annexare 5.3.	Insights to Air Travel Related Aspects of TRANSFORM
Annexore 7.1:	Proposed Road Connectivity
Annexore 7.2	MJPRCL's Proposals
Annexure 7.3	
Annexure 6.1	Mode Wise Travel Distance and Time in "With" and "Withoot" Project Scenario
Annexure 8.2.	Economic Analysis for Selective Regional Metro Courdors: Base Case
Annexule 8.3	Economic Analysis for Local Connectivity. Base Case
Annexure 9.1	Stakeholder's Views and Compliance

.....



.

ĺ¥

Regional and Local Transport Connectivity Plan for Navi Munibal International Airport



List of Tables

Table 2-4 Connected Transport Connects in MMS and Status	. 153
Table £ 2 Toyonant Statistics of Selected Alignets	. Ľ«
Table 6-3 Appeal Day An Passenger Movements- 2006 ICSIA	. 11-6
Table Er4 Morning Reak Hour PHPD and Trathe Velones in Major Public Transport Considers - 2031	. h-9
Table 8-5 Fast Rat Connectivity between Island City and Navi Monitohum	E-13
Table E-0. Suborham Passenger Graviti Orginates and Destand to Nav. Monthai	l > 13
Table C-7, Sub-eman Passenger Sector Luazings, Mankherd-Vashr Sectors	E-13
Table L-6. Brief Description of Atternative Algemental CSY-Parivet Fast Sub-orban Corrigon	C-14
Table E-9. Existing Read Connectivity vate Proposed NMA	6-92
Table E-10. Existing Road Condors. Lane Configuration	£-22
Trisle fi-111 leentified Mayor Transport Controors.	£-23
Table E-12 Identified Major Intersections	6-23
Table (E-15 Construction cost of project (Rs in Million at 2010-11 prices)	£-30
Table E-14: Operation and Mantenance rost of project (Rs in Métion at 2010-11 proces)	
Table E-15 Results of Dese Analysis for Regional constors and Local Network Connectivity	£-31
Table E-to: Results for Sensitivity Analysis	E-31
Table E-17 Average Travel Distance and Travel Times from various Clusters of MMR to proposed SMMA	65.565
Table [:-16 Implementation Organisations and Sources of Funds	E-40
Table 2-1, Arcraft Movement, Passenger and Cargo Trottle by various Amounts in Maharashtra	2-2
Table 4-1 Ideolised Constors for Metro Master Plan for Navi Numbar-CIDCO	
Table 4-2 Converted Transport Comdets in MMR and Status	.4-14
Table 4.3' Important Statistics of Selecter Asports	
Table 4-4. Details of Land Requirement for PWG. Learningly and Number of Bernis by 2031: PWG on West Coast	4.35
Table 5-1 Key Sprin-Economic Inductors of MMR for 2005 and 2031	5-1
Table 5-2 Population-Employment Distribution by Cluster	
Table 5-3 Peptington Distributionary Cluster (23E3 Scenario as per CTS for MMR (in millions)	5-3
Table 5-4. Employment Distribution by Cluster, CTS for MMR (in millions)	5-3
Table 6.5 Population and Employment Distribution by Cluster-CTS P3E3 and Modified P3E3 Scenaro- 2031 (mm8ko4s)	
Table 5-0. Population Distribution by Closter-Medified P31:3. Scenario (in not-ons)	
Table 5-7 Employment Distribution by Cluster-Mno/led P3E3 Scenario (in millions)	
Table 5-6 Typical Day Air Passenger Movemente-2006 CSIA	5-5
19020 5-9 All Passenger Encenastion file Honzon Yest 2031, Low	.5-11
Table 5-10 Ap Passenger Forecast for the Howzon Year 2031 High	
Table 5-51: Air Possenger Forecast for the Horizon Year 2031: Merkum	.6-11
Table 5-12 Air Passenger Forecast for the Hurzen Year 2021 Medium	5-11
Table 5-13 Assessment of Av Passenger Movements for the Horazon Year 2033 MMIA	.5-12
Table 5-14 Ground Movement Pattern of Air Passenger Yravel (Departure) - Air Passenger Survey 2006 (CTS) on Typical Day and	
Forecast for the Horizon Year 2631 for NM4A (Alternative 1)	.6-13
Table 5-15. All Passenger Estimation in the Honzen Year 2031 for NMA. Alternative 2 and Atemative 3	5-15
Table 5-16, 2031 Air Passinger Travel Based on Combined Apt. Population (Factored by Income, Indo.) + 10% Office Employment, (2	031
Modded P3(3) AllemAlay 4	5.16
Table 5-17, An Passenger Access More Estance for NMIA-Model 3	5-17
Topic 5-18: Air Passenger Access Mode Estimate for NMIA: Model 2	6-17
Table 6-19. Mode Cirolice of Auport Employment and Auport Related Englayment for the Honzon Year 2031 for the Murring Peak Pera	69
(G 00 lg 11 00 lgs),	5-18
- Table 5-20. Overa8 tablems I Travel Demand for the Herizon Years 2016, 2021 and 2031 (in million) for the Monning Poak Period (6.00 ti	U U
11:00 18:3	6-19
Table 5-21 External Travel Demond, Menning Peak Period (Vehicle Tups)	5-26
Table 6-5 Tast Rail Connectivity between Island City and Navi Mumba	. G-6
Table 6-2. Satvaction Passenger Growth Organsted and Oest-sud to NaveMonibus	6.4
	64
Table 6-4. Brief Descrution of Alternative Alignments, CST-Parive) Past Substration Compatitum,	
Table 6-5: Moning Pinas Baor PHPD and Traffic Volumes on Major Public Transport Considers - 2001	6-53
Table 7-1 Existing Ruad Connectivity web-Proposed NMIA	7.3
Table 7-2. Existing Read Conducts: Lane Configuration	7-0
Table 7-0. Identified Magin Transport Conscription and a second second second second second second second second	7-6
Table 7-4 Ideabled Major Intersections	.7-7
ry - Jacks.	
	۷



88/183

Regional and Local Transport Connectivity Plan for Navi Mumbai International Airport Final Seperation
Table 7-5 Samenay of Country Chanacheogues
Table 7-6 Trasling Rand Connectivity with Proposed MMA
Table 8-1 Travel Distance and Time by Project Coniders (for peek period)
Table 6.2. Mode wise VOC in Idlarg State
Table 8-3 Medo wise Volue of Tune
Table 6-41 Constantion cost of project (Rs in Million at 2010-11 prices)
Table 8-5. Peaking of project eventiement (in % of Sotal cost)
Table 6-6: Operation and Montenance cost of project (Rs in MAXon)
Table 5-7: Results of Base Analysis for Regional cohidors and Local Network Connectivity
Yabu 8-8 Results for Sensitivity Applysis
Table 9-1. Average Travel Distance and Travel Times from variess Clesters of MMR to proposed NMIA
Salike 9-2: Preliminary Pinasing of Committed and Proposal Transportation Projects
Table 0-3. Pretenziary Cost Estimates. Committed and Proposed Transportation Projects
Table 6-4 Implementation Organisations and Sources of Foxos



VÌ

Regional and Local Transport Connectivity Plan for Navi Mumbai International Airport

final Report

List of Figures

Figure E-4 Existing Regional and Local Yransoon Connectivity, NSNA
Fighte E-P Expersion of Argent Passenger Movement in a Typical Day, CSIA (Year 2006)
Figure E-3 Assessment of Airport Passenger Movement on a Typical Day (NMA (Year 2031)
Figure E-4. Graine Meximient Patient of An Passenger Travel (Departure) - An Passenger Sulvey 2006 (C15)
Figure E-5. Respender Tup Concerter NMIA and Mode Choice An posteriges. Amouth Employment and Amout Related
Engloy Let 1 Case again the Contractor and Annual Consection gets angles. Popular times you are the sector reases a E-6
Ingare f./6. Algoevent to: Motic Connear from Chatkepar to Parreel
Figure E-7 Metro Connectivity between Island City and Navi Mambail CTS for 894R
Figure E-9 Metro Connectivity between Island City and Navi Mambai
Figure E-9 Index Map shawing the Aligument of CST-Panyet Fast Sath-orban Consider.
Figure E-10, Algement of Sion-Parvel Highway from BASC Junction (Ch. 140/690 km) to Kolomboli (Ch. 119/505 km)
Figure E41: Alignment of Sion-Pasivel Highway on CTS for MMB Transport Network
Sigure E-12, Alignment of MTRL from Sown to Chide and Connectivity to NMIA
Engure Ex13: Alignment of Vivar Alitiag Multi Modal Conlidor and Monital-Vadodara Expressivaly Spin in MMR-Viral to Panvel E-19
Figure E-14: Regional PWG Routes from Island City to Navi Mumbal & Belapur
Figure E-15, Recrupted PWF Recruption (stand City to New Murster & Belapor, PWF Terminal Locations of NMIA and Belapor phown on
NMLA Master Pan
Figure 6-561 Ideolfied Maps Transport Contidors and Maps Intersections
Figure 6-17, Typical Cross Section - Palm Beach Marg to Seawaods to NMIA
Figure E-16, 1 ypical Cross Section - Asmra Marg from Bolapor Phata Ic Gavan Phata (Desicated to Procks)
Figure 6-19 Typical Cross Section - Aanna Marg from Belapia Phala to Gavan Phata (Dedicated to Airport)
Figure E-20 Functional Aspects of Comducts
Figure E-21 Location of Identified Regional Metro Corridors
Figure E-29. Schematic representation of Local network considered for Pronomic Analysis
Figure 6:23-Multi Model Regional and Local Yransport Connectivity Plan for NMIA3
Figure E-24 Average Travel Ostance and Vavel Timos from various Clusters of MMR to proposed NMRA
Figure E-25: Average Travel Time from vances TAZs of MMR to proposed NMIA by Trans4 Medes (Sub-urban-Monoral/Bus) 1, E-37
Figure E-20, Average Travel Time from various TAZs of MMR to proposod NMIA by Private Vehicles (Col/1960 Miceler)/ PD Modes
(Tasii Auto)
Figure E-27 Average Travel Time and % of Av Passenger Ocmand Covered
Figure 2-1. Potential Inducence: Regron of Proposed DMrC in Mahareshtra
Figure 2-2: Road Transport Connectivity to the Proposed Investment Regions & Nodes and DMIC Connect
Figure 2-3 Proposed Grawth Areas and SEZ within MMR
Figure 4-1 Existing Regional and Local Transport Connectivity, NMA
Figure 4-2 Widening of NIH-48, NIH-4, SH-54 and Aamra Marg in foe vicinity of NMIA
Figure 4-5 Eucation of Existing CSM and Proposed NMIA on Transport Network (Transit and Highway) proposed for the Horzon Year 2021
2021
2081
Figure 4-5, Cluster Mac-CIDCO/Naw Mumbar/SEZ/Parivel
Figure 4-6: Propried Monoral Network-2034
Figure 4-7 Alaponent of Mall-Margal Croader Intelling of during the Pre-Sinstability Study
Figure 4-6 Algoment of Mumba-Vadocana Expressival Spir in MMR. Viral to Panvol.
Figure 4-9. Metro Network Proposals shown in COP by NMMC
Figure 4-16 Reenthed Counters for Metin Master Plan for Navi Marsher- CIOCO
Figure 4-11 Pastaving of NMIA a Present and Controlled Transpoll Network
Figure 4-12 Ratio of Parking Spaces per Million Passengers at Deferent Airports
Figure 4-13 Model Splatet Angol Passingers between Bus anti Ral at Variaus Arports
Figure 4-14 Major Asport Connectivity Conndors Prior to MTHL
Ligare 4-15 Aspect Transi Option 1 Sub-uman Red + Express Bus
Figure 4-00. Express Bas Services non NMA to Island Cay. Eastern Solaritis & There using GMIR and Lastron Encoded & Eastern
lageess Highway
- Figure 4-37 Avpeil Transit Option 2: Sub-orban Roll AC Express 1(am
Figure 4-18 Trakey Map showing the Al-goment of CST-Pasivel Past Sub-urbas Corridor
Figure 4-19 Aspert Transit Option 3: Sub-arban Red AO Express Trave + Texpress Basis
Figure 4-20 Action Transc Option 4: Sub-orban Rail • Metro • Express Bus
Figure 4-21: Availed Transd Option 5: Sub-Julian Rok AC Cypress Train / Metro + Cypress Rus (1999) - 1999 - 1994
Figure 4-29. Autort Transt Option 6: Option 1 to 6 + Express Bas on MTHL



VÌÍ



Regional and Local Transport Connectivity Plan for Navi Mumbai International Airport	final Report
(span 4-22 Aspen Transferr Contretering From for Net Human Methodist Property (span 4-22 Aspen Transf Option 7 Option 1 to 1 + Express Put on MTRC	
Figure 4-24 Aspent Island Option 1 to 7 + Vept Aldeg Mola Motal Constant .	
Tigare 4-26 Haner Bider Ausset Transit Ister-Modal Connectority-Greater Membal	
Tiggre 4.96 Immediate Term Metre Proposals	
1 igue 4-27 Measure Terro Metro Proposale.	
Figure 4-56 Metro Constantion Anglien to Parvel on pasting CSIA and proposed NMA-koaleptive Alignment	
Figure 4-29 FWT floates and Terminals	
Figure 4-35, PW9 Alternative Royles, Neral and Lerry Wood,	
Figure 4-31: Dalanceitor Area for Local Transport Connectivity Analysis. On the Existing Transport Network	
Figure 4-32, Delineated Area for Codal Transport Connectivity Analysis. On the Updated Horizon Year 2031, Transport A	
Figure 4-33 NMA South/West Sector	
Figure 4-34 Alignment of Soultern permuter Read Providing Connectivity to MTHL and Montpai Perio Expressway fro	
Figure 4-35 Interchange Facility on Amra Marp, West of NMIA	
Figure 4-36 INMIA North Socior	
Figure 4-37 INMIA Last Sector	
Houre 4-38 Updated Transit Network for the Korizon Year 2031	
Fause 4-39 Updated Highway Network for the Honzos Year 2031	
Figure 4-40 - Updated Transport Network (Transit and Higtway) for the Horizon Year 2021	
Equire 5-1 Population Distribution for the Base Year 2005 and Horizon Year 2031 (P363 Sociario) as per CTS for MM	
Figure 5-2. Employment Distribution for the Base Year 2005 and Horizon Year 2031 (#353 Scenaro) as per CRS for Mi	
Figure 5-3. Population Excludion for the Honzon Year 2031 - P3E3 Scenaric as per C1S for MMR (in LaAhs)	
Figure 5-4. Employment Distribution for the Norizon Year 2004 - P3E3 Scenario as per CYS for MMR (in Lakins)	
Figure 5-5. Population Distribution for the Horizon Year 2031 - P3E3 Scenario as per C15 for MMR and Moethed (in ma	
Figure 5-6: Employment Distribution for the Horizon Year 2031 - P3E3 Spenario as per CTS for MMR and Modified (in m	
Figure 5-7 Assessment of Arport Postenger Movement in a Typical Day. USIA (Year 2006)	-
Eigere 5-8. Assessment of Papert Pastenger Movement on a Typical Day. NMA (Year 2031)	
Figure 5-9. Ground Movement Pattern of Air Passenger Travel (Departure) - Air Passenger Sulvey 2006 (CTG)	
Figure 6-10, 2001 Air Passenger Distribution Based on 2008 Passenger Origin & Desimation Distribution Patterns Adjus	
& Coordenate Of Council (1860-860)	6.56
& Exployment Growth (Modified PSE3) Figure 5-31, 2033 Air Bassenger Travel Sared on Combined Parallation 4, Exploring Distributor, Modified PSE3)	
Figure 5-51, 2031 Air Passenger Travel Based on Combined Population + Employment Distribution (Modified P3E3)	
Figure 5-11, 2031 Air Passenger Travel Based on Combined Population + Employment Distribution (Modified PSE3) Figure 5-12, 2031 Air Passenger Distribution Based on Combined Apt. Populations (Sationed By Jacome Motex) + 10% Of	
Figure 5-11, 2031 Air Passenger Travel Sased on Combined Population + Employment Distribution (Mnd-fied P3E3) Figure 5-12, 2031 Air Passenger Distribution Based on Combined ApJ, Population (Sastored by Income Index) + 10% O (2031 Modified P3E3)	
Figure 5-11, 2031 Air Passenger Travel Based on Combined Population + Employment Distribution (Mnd-fied P3E3) Figure 5-12, 2031 Air Passenger Distribution Based on Combined Apt. Population (Basered by Income Index) + 10% O (2031 Modified P3E3)	
Figure 5-31, 2031 Air Passenger Travel Based on Combined Population + Employment Distribution (Mnddied P3E3) Figure 5-32, 2031 Air Passenger Distribution Based on Combined Apt. Population (Salared by Income Index) + 10% Of (2031 Modified P3E3) Figure 5-13, Passenger The Generation from NMIA and Mode Choice-Air passengers, Aspon Compleyment and Asport i Fingshyment	
Figure 5.11, 2031 Air Passenger Travel Sased on Combined Population + Employment Distribution (Modified PSE3) Figure 5-12, 2031 Air Passenger Distribution Based on Combined Apt. Population (Passend By Income Index) + 10% Of (2031 Modified P3E3) Figure 5-13, Passenger Trip Generation from NMIA and Mode Choice-Air passengers, Argon (Impleyment and Argon) i Fingshyment Figure 5-14, Hourly Vavalian of Traffic Composition ~ Passenger and Gouds Vehicles (Base Year)	
Figure 5.11, 2031 Air Passenger Travel Sased on Combined Population + Employment Distribution (Modified PSE3) Figure 5-12, 2031 Air Passenger Distribution Based on Combined Apt. Population (Basered By Recome Index) + 10% Of (2031 Modified P3E3) Figure 5-13, Passenger Trip Generation from NMIA and Mode Choice-Air passengers, Argon (Impleyment and Argon) i Employment Figure 5-14, Hourly Vavalian of Traffic Composition ~ Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Vavalian of Traffic Composition ~ Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Vavalian of Traffic Composition ~ Passenger and Gouds Vehicles (Base Year)	
Figure 5-11, 2031 Air Passenger Travel Sased on Combined Population + Employment Distribution (Modifed PSE3) Figure 5-12, 2001 Air Passenger Distribution Based on Combined Apt. Population (Second By Income Index) + 10% Of (2031 Modified P3E3) Figure 5-13, Passenger Trip Generation from NM(A and Mode Choice-Air passengers, Argon (Employment and Argort) Figure 5-13, Passenger Trip Generation from NM(A and Mode Choice-Air passengers, Argon (Employment and Argort) Figure 5-14, Hourly Variation of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Variation of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Cardian of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Cardian of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Conster from Ghalkopar to Panyel via Mankhurd, Vashi and proposed NM(A	
Figure 5-11, 2031 Air Passenger Travel Sased on Combined Population + Employment Distribution (Modifed PSE3) Figure 5-12, 2001 Air Passenger Distribution Based on Combined Apt. Population (Second By Income Index) + 10% Of (2031 Modified P3E3) Figure 5-13, Passenger Trip Generation from NM(A and Mode Choice-Air passengers, Argon Compleyment and Argort I Employment Figure 5-14, Hourly Variation of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Variation of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Variation of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Cardian of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Cardian of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14 Motro Conster from Ghalkopar to Panyel via Mankhurd, Vashi and proposed NM(A Figure 5-3, Motro Connectivity between Island City and Navi Murdbai, CRS for MMR	5-15 Texe 4: mployment 5-16 Related 5-18 5-19 5-19 6-1 6-2 6-2 6-3
Figure 5-11, 2031 Air Passenger Travel Based on Combined Population + Employment Distribution (Modifed PSE3) Figure 5-12, 2031 Air Passenger Distribution Based on Combined Apt. Population, (Subored By Income Index) + 10% Of (2031 Modified P3E3)	5-15 Fixe 4:mployment 5-16 Related 5-18 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-2 5-3 0-2 5-3
Figure 5-11, 2031 Air Passenger Travel Sased on Combined Population + Employment Distribution (Modified PSE3) Figure 5-12, 2001 Air Passenger Distribution Based on Combined Apt. Population (Second By Income Index) + 10% Of (2031 Modified P3E3) Figure 5-13, Passenger Trip Generation from NM(A and Mode Choice-Air passengers, Argon Compleyment and Argort i Engine 5-14, Hourly Vanation of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Vanation of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Vanation of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Vanation of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14 Motio Connectivity between Island City and Navi Manibar. CTS for MMR Figure 5-3, Motio Connectivity between Island City and Navi Mumbar. Figure 6-4, Motio Connectivity between Island City and Navi Mumbar.	5-15 Fixe 4:mployment 5-16 Related 5-18 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-2 5-3 5-3 5-3 5-3 5-3 5-3 5-3 5-3
Figure 5-11, 2031 Air Passenger Travel Based on Combined Population + Employment Distribution (Modifed PSE3) Figure 5-12, 2031 Air Passenger Distribution Based on Combined Apt. Population (Subored by Income Index) + 10% Of (2031 Modifed P3E3) Figure 5-13, Passenger Trip Generation from NM(A and Mode Choice-Air passongers, Argon Employment and Argort i Engine 5-14, Hourly Variation of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Variation of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Variation of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Connecting from Ghalkopar to Panyol via Mankhurd, Vashi and proposed NMIA Figure 5-3, Motio Connectivity between Island City and Navi Mumbai. Figure 5-4 Motio Connectivity between Island City and Navi Mumbai. Figure 5-5, Index Map showing the Alignment of CST-Panyol Fast Sub-urban Convolution Figure 5-6, Index Map showing the Alignment of CST-Panyol Fast Sub-urban Convolution	5-15 Fixe 4:mployment 5-15 Related 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-15 5-19 5-5 5-10 5-5 5-5 5-5 5-5 5-5 5-5 5-5 5-
Figure 5-11, 2031 Air Passenger Travel Based on Combined Population + Employment Distribution (Modifed P3E3) Figure 5-12, 2031 Air Passenger Distribution Based on Combined Apt. Population (Subored by Income Index) + 10% Of (2031 Modifed P3E3) Figure 5-13, Passenger The Generation from NM(A and Mode Choice-Air passongers, Argen Employment and Argent i Engand 5-14, Hourly Variation of Traffic Composition - Passenger and Goods Vehicles (Baser Year) Figure 5-14, Hourly Variation of Traffic Composition - Passenger and Goods Vehicles (Baser Year) Figure 5-14, Hourly Variation of Traffic Composition - Passenger and Goods Vehicles (Baser Year) Figure 5-14, Hourly Variation of Traffic Composition - Passenger and Goods Vehicles (Baser Year) Figure 5-14, Hourly Connectivity between Island City and Navi Maribar. CTS for MMR Figure 5-3, Motio Connectivity between Island City and Navi Maribar. Figure 5-4 Motio Connectivity between Island City and Navi Maribar. Figure 5-5, Index Map showing the Alignment of CST-Panvel Fast Sub-urbar. Comdo Figure 5-6, Taker Map showing the Alignment of CST-Panvel Fast Sub-urbar. Condo Figure 5-7, Alignment of Sion-Panvel Highway from BARC Junction; (Ch. 140/600 key to Kalamber) (Ch. 115/600 key)	5-15 True 4:mployment 5-16 Relatod 5-19 5-19 6-5 6-7 6-3 6-5 6-5 6-7
Figure 5-11, 2031 Air Passenger Travel Based on Combined Population + Employment Distribution (Modifed P3E3) Figure 5-12, 2031 Air Passenger Distribution Based on Combined Apt. Population, (Subored By Income Index) + 10% Of (2031 Modifed P3E3) Figure 5-13, Passenger Trip Generation from NM(A and Mode Choice-Air passongers, Argon Employment and Argort i timpshyment Figure 5-14, Hourly Variation of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Variation of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Variation of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-2, Motro Corridor from Ghalkopar to Panvel via Mankhurd, Vashi and proposed NMIA Figure 5-3, Motro Connectivity between Island City and Navi Mumbai. Figure 5-4 Motro Connectivity between Island City and Navi Mumbai. Figure 5-5, Index Map showing the Alignment of CST-Panvel Fast Sub-urban Comdon Figure 5-6, Index Map showing the Alignment of CST-Panvel Fast Sub-urban Condon Figure 5-7, Alignment of Sion-Panvel Highway from BARC Janstion (Ch. 140/600 key to Ralambolt (Ch. 115/600 kes) Figure 6-8, Alignment of Sion-Panvel Highway from BARC Janstion (Ch. 140/600 key to Ralambolt (Ch. 115/600 kes)	5-15 True 4:mployment 5-15 Relatod 5-19 5-2 5-3 5-3 5-3 5-3 5-5 5-5 5-5 5-7 5-7 5-7 5-7 5-7
Figure 5-11, 2031 Air Passenger Travel Based on Combined Population + Employment Distribution (Modifed PSE3) Figure 5-12, 2031 Air Passenger Distribution Based on Combined Apt. Population, (Subored By Income Index) + 10% Of (2031 Modifed P3E3) Figure 5-13, Passenger Trip Generation from NM(A and Mode Choice-Air passongers, Argon Employment and Argort i timpshyment Figure 5-14, Hourly Variation of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Variation of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Variation of Traffic Composition Passenger and Gouds Vehicles (Base Year) Figure 5-3, Motro Corridor from Ghalkopar to Panvel via Mankhurd, Vashi and proposed NMIA Figure 5-3, Motro Connectivity between Island City and Navi Mumbai. Figure 5-4 Motro Connectivity between Island City and Navi Mumbai. Figure 5-5, Index Map showing the Alignment of CST-Panvel Fast Sub-urban Comdon Figure 5-6 Index Map showing the Alignment of CST-Panvel Fast Sub-urban Condon Figure 5-7, Alignment of Sion-Panvel Higtway from BARC Janstion (Ch. 140/600 key to Ralambolt (Ch. 115/600 kes) Figure 6-8 Alignment of Sion-Panvel Higtway from BARC Janstion (Ch. 140/600 key to Ralambolt (Ch. 115/600 kes) Figure 6-9, Alignment of Sion-Panvel Higtway from BARC Janstion (Ch. 140/600 key to Ralambolt (Ch. 115/600 kes) Figure 6-0, Alignment of MTHI, Irom Scwn to Conke and Connectivity to NMA.	5-15 True 4:mployment 5-16 Relatod 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-5 5-19 5-7 6-7 6-7 6-5
Figure 5-11 2031 Air Passenger Travel Based on Combined Population + Employment Distribution (Modified PSE3) Figure 5-12 2031 Air Passenger Distribution Based on Combined Apt. Population (Subored By Income Index) + 10% Of (2031 Modified P3E3) Figure 5-13 Passenger The Generation from NM(A and Mode Choice-Air passongers, Argen Employment and Argent i Employment Figure 5-14 Hourly Variation of Traffic Costposition ~ Passenger and Goods Vehicles (Base Year) Figure 5-14 Hourly Variation of Traffic Costposition ~ Passenger and Goods Vehicles (Base Year) Figure 5-14 Hourly Variation of Traffic Costposition ~ Passenger and Goods Vehicles (Base Year) Figure 5-14 Hourly Variation of Traffic Costposition ~ Passenger and Goods Vehicles (Base Year) Figure 5-14 Hourly Connectivity between Island City and Navi Markbar. Cash and proposed NMIA Figure 5-3 Motio Connectivity between Island City and Navi Markbar. C15 for MMR Figure 5-4 Motio Connectivity between Island City and Navi Markbar. Figure 5-5 Index Map showing the Alignment of CST-Panvel Fast Sub-urbar. Comdor Figure 5-6 Todex Map showing the Alignment of CST-Panvel Fast Sub-urbar. Comdor Figure 5-7 Alignment of Sion-Panvel Highway from BARC Jendion (Ch. 240/600 kee) to Relambels (Ch. 115/600 kee) Figure 6-7 Alignment of Sion-Panvel Highway from BARC Jendion (Ch. 240/600 kee) to Relambels (Ch. 115/600 kee) Figure 6-9 Alignment of MTHI. Iron Sewn to Chine and Connectivity to NMA. Figure 6-9 Alignment of MTHI. Iron Sewn to Chine and Connectivity to NMA. Figure 6-9 Alignment of WHR-Vear Io F	5-15 True 4:mployment 5-16 Relatod 5-18 5-19 5-19 6-3 6-3 6-3 6-3 6-3 6-3 6-5 6-5 6-5 6-7 6-8 6-8 6-8 6-9 2anvel
Figure 5-11, 2031 Air Passenger Travel Based on Combined Population + Employment Distribution (Modifed PSE3) Figure 5-12, 2031 Air Passenger Distribution Based on Combined Apt. Population, (Subored By Income Index) + 10% Of (2031 Modifed P3E3) Figure 5-13, Passenger The Generation from NM(A and Mode Choice-Air passongers, Argent Employment and Argent i Employment Figure 5-14, Hourly Vavation of Traffic Composition - Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Vavation of Traffic Composition - Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Vavation of Traffic Composition - Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Vavation of Traffic Composition - Passenger and Gouds Vehicles (Base Year) Figure 5-2, Motro Cornectivity between Island City and Navi Mambar. CTS for MMR Figure 5-3, Motro Connectivity between Island City and Navi Mambar. Figure 5-6, Index Map showing the Alignment of CST-Panvel Fast Sub-urbar. Comdo Figure 5-6, Index Map showing the Alignment of CST-Panvel Fast Sub-urbar. Comdo Figure 5-7, Alignment of Stor-Panvel Highway from BARC Jonation (Ch. 140/600 kep to Ralambola (Ch. 115/600 kep) Figure 6-7, Alignment of Stor-Panvel Highway from BARC Jonation (Ch. 140/600 kep to Ralambola (Ch. 115/600 kep) Figure 6-9, Alignment of Stor-Panvel Highway from BARC Jonation (Ch. 140/600 kep to Ralambola (Ch. 115/600 kep) Figure 6-9, Alignment of MTHL from Sewn to Chine and Connectivity to NMA. Figure 6-9, Alignment of MTHL from Sewn to Chine and Connectivity to NMA. Figure 6-9, Alignment of With Ashag Mulb Modal Connectivity to NMA. Figure 6-4, Chines Section of Proposed Multi-Modal Connectivity to NMA.	5-15 True 4:mployment 5-16 Relatod 5-19 5-19 5-19 6-3 6-3 6-3 6-3 6-3 6-5 6-5 6-5 6-7 6-8 6-8 6-9 2anvel
Figure 5-11 2031 Air Passenger Travel Based on Combined Population + Employment Distribution (Modified PSE3) Figure 5-12 2031 Air Passenger Distribution Based on Combined Apt. Population (Subored By Income Index) + 10% Of (2031 Modified P3E3) Figure 5-13 Passenger The Generation from NM(A and Mode Choice-Air passongers, Argon Employment and Arport i trigshyment Figure 5-14 Hourly Variation of Traffic Costposition - Passenger and Goods Vehicles (Base Year) Figure 5-14 Hourly Variation of Traffic Costposition - Passenger and Goods Vehicles (Base Year) Figure 5-14 Hourly Variation of Traffic Costposition - Passenger and Goods Vehicles (Base Year) Figure 5-14 Hourly Variation of Traffic Costposition - Passenger and Goods Vehicles (Base Year) Figure 5-2 Motro Connectivity between Island City and Navi Mambar. CTS for MMR Figure 5-3 Motro Connectivity between Island City and Navi Mambar. Figure 5-4 Motro Connectivity between Island City and Navi Mambar. Figure 5-5 Index Map showing the Aligoment of CST-Panvel Fast Sub-urbar. Comdor Figure 5-6 Index Map showing the Aligoment of CST-Panvel Fast Sub-urbar. Comdor Figure 5-6 Index Map showing the Aligoment of CST-Panvel Fast Sub-urbar. Comdor Figure 5-7 Alignment of Sion-Panvel Highway from BARC Jonation (Ch. 140/600 kep to Ralambe): (Ch. 115/600 kep) Figure 6-7 Alignment of Sion-Panvel Highway from BARC Jonator (Ch. 140/600 kep to Ralambe): (Ch. 115/600 kep) Figure 6-9 Alignment of MTHI, Iron Sewn to Chine and Connectivity to NMA. Figure 6-9 Alignment of Wirat Alabag Multi Model Connectivity to NMA. Figure 6-14 Cross Section of Proposed Model Connectivity to NMA. Figure 6-14 Cross Section of Proposed Model Connectivity to NMA. Figure 6-14 Cross Section of Proposed Model Connectivity to NMA. Figure 6-14 Cross Section of Proposed Model Connectivity to NMA. Figure 6-14 Cross Section of Proposed Model Connectivity to NMA.	5-15 True 4:mployment 5-16 Relatod 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-19 5-3 5-3 5-3 5-3 5-3 5-3 5-3 5-3
Figure 5-11. 2031 Air Passenger Travel Based on Combined Population + Employment Distribution (Modifed P3E3) Figure 5-12. 2031 Air Passenger Distribution Based on Combined Apt. Population (Subored By Reporte Index) + 10% Of (2031 Modifed P3E3) Figure 5-13. Passenger The Generation from NM(A and Mode Choice-Air passongers, Argon Employment and Arport i Employment Figure 5-14. Hourly Vavation of Traffic Costposition - Passenger and Gouds Vehicles (Base Year) Figure 5-14. Hourly Vavation of Traffic Costposition - Passenger and Gouds Vehicles (Base Year) Figure 5-14. Hourly Vavation of Traffic Costposition - Passenger and Gouds Vehicles (Base Year) Figure 5-14. Hourly Vavation of Traffic Costposition - Passenger and Gouds Vehicles (Base Year) Figure 5-2. Motro Corrector from Ghalkopar to Panvel via Mankhurd, Vashi and proposed NMIA Figure 5-3. Motro Connectivity between Island City and Navi Mumbar. C15 for MMR Figure 5-4. Motro Connectivity between Island City and Navi Mumbar. Figure 5-5. Index Map showing the Aligoment of CST-Panvel Fast Sub-urbar. Comdou Figure 5-6. Index Map showing the Aligoment of CST-Panvel Fast Sub-urbar. Comdou Figure 5-6. Index Map showing the Aligoment of CST-Panvel Fast Sub-urbar. Comdou Figure 6-7. Alignment of Sion-Panvel Highway from BARC Jonation (Ch. 240/600 kep to Ralambola (Ch. 115/600 kep) Figure 6-9. Alignment of Sion-Panvel Highway from BARC Jonator (Ch. 240/600 kep to Ralambola (Ch. 115/600 kep) Figure 6-0. Alignment of MTHL from Server to Crine and Connectivity to NMA. Figure 6-10. Alignment of MTHL from Server to Crine and Connectivity to NMA. Figure 6-11. Cross Soution of Proposed Mole Medial Connection Figure 6-11. Cross Soution of Proposed Mole Medial Connectivity to NMA. Figure 6-13. Regional PWF Reutes from Island City to Navi Mumbar & Botaput. PWF Termord Locations at NMA and B	5.15 Fixe 4:mployment 5.16 Relatod 5.18 5.19 5.19 5.19 5.19 5.19 5.19 5.19 5.3 5.45 5.3 6.4 5.3 6.3 5.3 6.4 5.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6
Figure 5-11, 2031 Air Passenger Travel Based on Combined Population + Employment Distribution (Andriked P3E3) Figure 5-12, 2031 Air Passenger Distribution Based on Combined Apt. Population (Subored By Income Index) + 10% Of (2031 Modified P3E3) Figure 5-13, Passenger The Generation from NM(A and Mode Choice-Air passongers, Argon Employment and Arport i Employment Figure 5-14, Hourly Vavation of Traffic Costposition - Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Vavation of Traffic Costposition - Passenger and Gouds Vehicles (Base Year) Figure 5-14, Hourly Vavation of Traffic Costposition - Passenger and Gouds Vehicles (Base Year) Figure 5-2, Motro Corrector from Ghalkopar to Panvel via Mankhurd, Vashi and proposed NMIA Figure 5-3, Motro Connectivity between Island City and Navi Mumbar. C15 for MMR Figure 5-4 Motro Connectivity between Island City and Navi Mumbar. Figure 5-5, Index Map showing the Aligoment of CST-Panvel Fast Sub-urbar. Comdou Figure 5-6, Index Map showing the Aligoment of CST-Panvel Fast Sub-urbar. Comdou Figure 5-7, Alignment of Sion-Panvel Highway from BARC Jondition (Ch. 140/600 kep to Ralambola (Ch. 115/600 kep) Figure 6-9, Alignment of Gion-Panvel Highway from BARC Jondition (Ch. 140/600 kep to Ralambola (Ch. 115/600 kep) Figure 6-0, Alignment of MTHL from Sewn to Crine and Connectivity to NMA. Figure 6-10, Alignment of MTHL from Sewn to Crine and Connectivity to NMA. Figure 6-10, Alignment of MtHL from Sewn to Crine and Connectivity to NMA. Figure 6-11, Crines Soution of Proposed Mid-Modal Comdor Figure 6-11, Crines Soution of Proposed Mid-Modal Comdor Figure 6-13, Regional PWF Reites from Island City to Navi Mumbar & Botapur PWF Terminal Locations at NMA and B NMA Master Plan	5.15 Fixe 4:mployment 5.16 Relatod 5.18 5.19 5.2 5.2 5.19 5.2 5.2 5.2 5.2 5.2 5.2 5.2 5.2
Figure 5-11 2031 Air Passenger Travel Based on Combined Population + Employment Distribution (Mindifed P6E3) Figure 5-12 2031 Air Passenger Distribution Based on Combined Apt. Population (Basered By Income Index) + 10% Of (2031 Modified P3E3)	5.15 Fixe 3:mployment 5.16 Fixe 3:mployment 5.16 Fixelated 5.18 5.19 6.1 6.1 6.2 6.3 6.3 6.3 6.3 6.3 6.3 6.3 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4
Figure 5.11. 2031 Air Passenger Travel Based on Combined Population + Employment Distribution (Mindried PSE3) Figure 5-12. 2031 Air Passenger Distribution Based on Combined Apt. Population (Sasterio By Intome Index) + 10% Of (2031 Modified P3E3)	5.15 Fixe 3: mployment 5.16 Fixe 3: mployment 5.16 5.18 5.19 6.1 6.1 6.2 6.3 6.3 6.3 6.3 6.3 6.3 6.3 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4
Figure 5-31. 2031 Air Passenger Travel Sased on Combined Population + Employment Distribution (Mindiled P3E3) Figure 5-12. 2031 Air Passenger Distribution Based on Combined Apt. Population (Subored By Asome Index) + 10% Of (2031 Modified P3E3) Figure 5-13. Passenger The Generation from NMIA and Mode Choice-Air passengers, Astron Employment and Astron I Figure 5-14. Houry Variation of Traffic Composition - Passenger and Gouds Vehicles (Base Year) Figure 5-14. Houry Variation of Traffic Composition - Passenger and Gouds Vehicles (Base Year) Figure 5-14. Houry Variation of Traffic Composition - Passenger and Gouds Vehicles (Base Year) Figure 5-14. Houry Variation of Traffic Composition - Passenger and Gouds Vehicles (Base Year) Figure 5-3. Motro Corridor from Ghalkopar to Parvel via Mankhurd. Vashi and proposed NMIA Figure 5-3. Motro Connectivity between Island City and Navi Kurakos. CTS for MMR Figure 5-4. Motro Connectivity between Island City and Navi Kurakos. CTS for MMR Figure 5-5. Index Map showing the Alignment of CST-Parvel Fast Sub-urban Connectivity Figure 5-6. Index Map showing the Alignment of CST-Parvel Fast Sub-urban Connect Figure 5-7. Alignment of Siot-Parvel Highway from BARC Jonations (Ch. 240/600 km) to Kalambok (Ch. 115/600 km) Figure 5-9. Alignment of Siot-Parvel Highway from BARC Jonations (Ch. 240/600 km) to Kalambok (Ch. 115/600 km) Figure 5-9. Alignment of Wirat Ashag Mulo Modal Connectoraly to NMM. Figure 5-13. Regional th Virat Ashag Mulo Modal Connectoraly to NMMA. Figure 5-14. Loss Gention of Proposed Molin-Medal Connectoraly to NMMA. Figure 5-14. Loss Gention of Proposed Molin-Medal Connectoral Statestave Exceptions at NMA and B VMIA Master Plan Figure 5-14. Loss Figure 1997. Routes from Island City to Navi Mulotave & Bolapat Figure 5-14. Loss Figure 1997. Routes from Island City to Navi Mulotave & Bolapat Figure 5-14. Loss Figure 1997. Routes from Island City to Navi Mulotave & Bolapat Figure 5-14. Los	5.15 Fixe 4:mployment 5.16 Related 5.18 5.19 5.2 5.2 5.19 5.2 5.2 5.2 5.2 5.2 5.2 5.2 5.2
Figure 5.11, 2031 Air Passenger Travel Based on Combined Population + Employment Distribution (Mindiked PSE3) Figure 5-12, 2031 Air Passenger Debitivition Based on Combined Apt. Population (Subored By Interne Index) + 10% Of (2031 Modified P3E3)	5.15 Fixe 4:mployment 5.46 Related 5.48 5.48 5.48 5.48 5.48 5.48 6.4 6.4 6.4 6.2 6.3 6.3 6.3 6.3 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4
Figure 5-11. 2631 AV Passenger Travel Based on Combined Population + Employment Distribution (Mindsfed PSE3) Figure 5-12. 2631 A+ Passenger Distribution Based on Combined Apt. Population (Busicient By Interme Index) + 10% Of (2831 Mooner P3E3) . Figure 5-13. Passenger The Generation from NMIA and Mode Choice-Air passengers, Articin Employment and Articol 1 Employment . Figure 5-14. Hourly Variation of Traffic Composition - Passenger and Gouds Vehicles (Base Year)	5.15 Fixe 4:mployment 5.16 Related 5.18 5.19 6.1 6.1 6.2 6.3 6.3 6.3 6.3 6.3 6.3 6.3 6.4 6.5 6.5 6.7 6.5 6.7 6.5 6.1 6.1 6.11 6.11 6.11 6.12 6.14 6.11 6.12 6.14 6.14 6.15 6.11 6.11 6.11 6.11 6.11 6.15 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.
Figure 5-11. 2031 Air Passenger Travel Based on Combined Population + Employment Distributors (Modified P3E3) Figure 5-12. 2031 Air Passenger Distribution Based on Combined Apt. Population (Basered By Interne Index) + 10% Of (2031 Modified P3E3) Figure 5-13. Passenger Trip Generation from NMtA and Mode Choice-Air passengers, Arpon Employment and Arport i Employment Figure 5-14. Hourly Variation of Traffic Composition ~ Passenger and Gouds Vehicles (Base Year) Figure 5-14. Hourly Variation of Traffic Composition ~ Passenger and Gouds Vehicles (Base Year) Figure 5-14. Moto Corridor from Ghalkopar to Panvel via Mankhurd. Vashi and proposel NMtA Figure 5-2. Moto Corridor from Ghalkopar to Panvel via Mankhurd. Vashi and proposel NMtA Figure 5-3. Motio Connectivity between Island City and Navi Murator. C15 for MMR Figure 6-4. Metric Connectivity between Island City and Navi Murator. C15 for MMR Figure 6-5. Index Map showing fre Alignment of C51-Panvel Fast Sala-Intran Cornect Figure 6-6. Index Map showing fre Alignment of C51-Panvel Fast Sala-Intran Cornect Figure 6-7. Alignment of Sion-Panvel Higbway from BARC Jancier (Ch. 240/000 kep to Ralandos) (Ch. 115/600 kep) Figure 6-6. Index Map showing fre Alignment of C51-Panvel Fast Sala-Intran Cornect Figure 6-7. Alignment of Sion-Panvel Higbway from BARC Jancier (Ch. 240/000 kep to Ralandos) (Ch. 115/600 kep) Figure 6-7. Alignment of Visit Akbag Multi Medal Cornear Figure 6-10. Alignment of Visit Akbag Multi Medal Cornear Figure 6-10. Alignment ft Visit Akbag Multi Medal Cornear Figure 6-11. Cruss Section of Proposed Multi Medal Cornear Figure 6-13. Regional PWF Reades from Island City to Navi Muraton & Botiput Terminal Locations at NMA and B NMLA Master Plan Figure 6-14. Figure/Fi	5.15 Fixe 4:mployment 5.16 Related 5.18 5.19 6.1 6.1 6.2 6.2 6.3 6.3 6.3 6.3 6.3 6.3 6.3 6.4 6.4 6.4 6.4 6.5 6.7 6.5 6.7 6.5 6.7 6.4 6.5 6.7 6.4 6.5 6.7 6.4 6.5 6.7 6.5 6.7 6.5 6.7 6.5 6.7 6.5 6.7 6.5 6.7 6.5 6.7 6.5 6.7 6.5 6.7 6.5 6.7 6.7 6.5 6.7 6.7 6.5 6.7 6.7 6.5 6.7 6.7 6.5 6.7 6.7 6.7 6.7 6.7 6.5 6.7 6.7 6.7 6.5 6.7 6.7 6.7 6.7 6.7 6.7 6.7 6.7
Figure 5-11. 2031 Air Passenger Travel Based on Combined Population + Employment Distributors (Modified PSE3) Figure 5-12. 2031 Air Passenger Distribution Based on Combined Apt. Population (Sudared By Intonie Index) + 10% Of (2031 Modified PSE3) Figure 5-13. Passenger The Generation from NMIA and Mode Choice Air passengets, Aspen (Impleyment and Arnort I Employment Figure 5-14. Hourly Vavation of Traffic Composition - Passenger and Gouds Vehicles (Base Year) Figure 5-14. Hourly Vavation of Traffic Composition - Passenger and Gouds Vehicles (Base Year) Figure 5-14. Hourly Vavation of Traffic Composition - Passenger and Gouds Vehicles (Base Year) Figure 5-14. Hourly Vavation of Traffic Composition - Passenger and Gouds Vehicles (Base Year) Figure 5-14. Moto Connectivity between Island City and Navi Mumba. CItS for MMR. Figure 5-3. Motio Connectivity between Island City and Navi Mumba. CItS for MMR. Figure 5-4. Motio Connectivity between Island City and Navi Mumba. Figure 5-6. Index Map showing file Alignment of CST-Panvel Fast Sub-urbas Connect Figure 5-7. Alignment of Sion-Panvel Higtway from BARC Janction (Ch. 140/600 kes) to falambolic (Ch. 115/600 kes) Figure 5-7. Alignment of Sion-Panvel Higtway from BARC Janction (Ch. 140/600 kes) to falambolic (Ch. 115/600 kes) Figure 5-10. Alignment of Sion-Panvel Higtway from BARC Janction (Ch. 140/600 kes) to falambolic (Ch. 115/600 kes) Figure 5-11. Cross Gettion of Proposed Multi-Modal Connectivity to NMA. Figure 5-12. Regional PWF Reutes from Island City to Navi Mumba- & Botaput Terminal Locations at NMA and B NMIA Master Plan. Figure 5-13. Regional PWF Reutes from Island City to Navi Mumba- & Botaput Terminal Locations at NMA and B NMIA Master Plan. Figure 5-14. Francel Locations from Island City to Navi Mumba- & Botaput Terminal Locations at NMA and B NMIA Master Plan. Figure 5-14. Hourton Year 2031 Moring Peak Hour Section Loadings on Metro. Glabelague-MawReute/Vash-Elelague-N Figure 5-17. Ho	5.15 Fixe 4:mployment 5.16 Related 5.18 5.19 6.1 6.1 6.2 6.3 6.3 6.3 6.3 6.3 6.3 6.4 6.5 6.5 6.5 6.10 6.11 503pt: strews en 6.11 503pt: strews en 6.12 6.14 6.15 MDA-Partvel 6.50 (NM6A 8.17 6.50 0.51 0.51 0.51 0.50 0.51 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.55
Figure 5-11 2031 Air Passenger Travel Based on Combined Population - Employment Distribution (Middled PSE3) Figure 5-12 2031 Air Passenger Distribution Based on Combined Apt. Population (Factored by Intome Index) - 10% Of (2031 Moonlee P3E3) Figure 5-13 Passenger Trip Generation from NMtA and Mode Choice-Air passengers, Arnen Employment and Arnet I Employment Figure 5-14 Hourly Vavation of Traffic Composition - Passenger and Gouds Vehicles (Baser Year) Figure 5-14 Hourly Vavation of Traffic Composition - Passenger and Gouds Vehicles (Baser Year) Figure 5-14 Hourly Vavation of Traffic Composition - Passenger and Gouds Vehicles (Baser Year) Figure 5-14 Motro Corridor from Ghalkopar to Panvel via Mankhurd. Vashi and proposed NMLA Figure 5-3 Motro Corridor from Ghalkopar to Panvel via Mankhurd. Vashi and proposed NMLA Figure 5-4 Motro Corridor from Ghalkopar to Panvel via Mankhurd. Vashi and proposed NMLA Figure 5-5 Index Gonsoctivity between Island City and Navi Mumbar. C15 for MMR Figure 5-6 Index Map streaming the Alignment of CST-Panvel Fast Sub-urban Corridor Figure 5-6 Index Map streaming the Alignment of CST-Panvel Fast Sub-urban Corridor Figure 5-7 Alignment of Sion-Panvel Highway from BARC Jancillos (Ch. 140/0506 Key to Relambolt (Ch. 115/600 ke) Figure 5-7 Alignment of Sion-Panvel Highway from BARC Jancillos (Ch. 140/0506 Key to Relambolt (Ch. 115/600 ke) Figure 5-10 Alignment of Witth I Irom Stewn to Chinke and Connectivity to NMA. Figure 5-11 Cruss Soction of Proposed Molit Model Common - Figure 5-13 Regional PWF Relates from Island City to Navi Mumbala & Botapia - Expressival Sport in MMR-Vivar Io F Figure 5-14 Regional PWF Relates from Island City to Navi Mumbala & Botapia - PWF Teerangl Locations at NMA and 4 NMIA Master Plan - Figure 5-14 Regional PWF Relates from Island City to Navi Mumbala & Botapia - PWF Teerangl Locations at NMA and 4 NMIA Master Plan - Figure 5-14 Regional PWF Relates from Island City to Navi Mumbala & Botapia - PWF	5.15 Fixe 4:mployment 5.16 Related 5.18 5.19 6.1 6.1 6.2 6.2 6.3 6.3 6.3 6.3 6.3 6.3 6.3 6.4 6.4 6.4 6.4 6.5 6.5 6.7 6.4 6.5 6.7 6.4 6.5 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1
Figure 5-11 2031 Air Passenger Travel Based on Combined Population - Employment Distribution (Middled PSE3) Figure 5-12 2031 Air Passenger Distribution Based on Combined Apt. Population (Sadored By Sacred By Sac	5.15 Fixe 4:mployment 5.16 Related 5.18 5.19 6.1 6.1 6.2 6.2 6.3 6.2 6.3 6.3 6.3 6.3 6.4 6.3 6.4 6.4 6.5 6.4 6.5 6.1 6.1 6.11 502pt: blows en 6.12 6.14 6.15 MDA-Parwel 6.50 6.50 6.16 6.12 6.15 6.12 6.15 6.12 6.15 6.12 6.15 6.12 6.15 6.15 6.15 6.15 6.12 6.15 6.50
Figure 5-11 2031 Air Passenger Travel Based on Combined Population + Employment Distribution (Modified P3E3) Figure 5-12 2001 Air Passenger Distribution Based on Combined Apl. Population (Basered by Income Index) + 10% Of (2031 Modified P3E3) Figure 5-13 Passenger The Generation from NMtA and Mode Choice-Air passengers, Argen Employment and Arjort 1 Fingengenet Figure 5-14 Hourly Vanation of Traffic Composition - Passenger and Gouds Vehicles (Base Year) Figure 5-14 Hourly Vanation of Traffic Composition - Passenger and Gouds Vehicles (Base Year) Figure 5-14 Hourly Vanation of Traffic Composition - Passenger and Gouds Vehicles (Base Year) Figure 5-14 Hourly Vanation of Traffic Composition - Passenger and Gouds Vehicles (Base Year) Figure 5-14 Hourly Vanation of Traffic Composition - Passenger and Gouds Vehicles (Base Year) Figure 5-14 Hourly Connectivity between Island City and Navi Mundba. C15 for MMR Figure 5-4 Moto Connectivity between Island City and Navi Mundba. C15 for MMR Figure 6-5 Index Map showing the Alignment of CST-Panvel Fast Sub-urban Contour Figure 6-6 Index Map showing the Alignment of CST-Panvel Fast Sub-urban Contour Figure 6-7 Alignment of Sion-Panvel Highway from BARC Junction (Ch. 240600 key to Relambe): (Ch. 115/600 ke) Figure 6-10 Alignment of MTHL from Stein to Contour and Contour and Mumba-Vacobara Extremative Index Figure 6-14 Loss Scellun of Plopped Modified Comport Figure 6-14 Regional PWF Routes from Island Comport and Mumba-& Botaput Figure 6-14 Regional PWF Routes from Island Contour and Mumba-& Botaput Figure 6-14 Regional PWF Routes from Island Contour and Mumba-Vacobara Extremative Locations at NMA and 4 NMIN Motified Plan Figure 6-14 RosePLightway/Fueway Loadings for Nov Mumba-& Botaput Figure 6-14 RosePLightway/Fueway Loadings for Mumba-& Botaput Figure 6-14 RosePLightway/Fueway Loadings for Mumba Path Row Section Loadings on Metric Chatastan Avash-Fielapu-N (Figure 6-14 RosePLight	5.15 Fixe 4:mployment 5.16 Related 5.18 5.19 6.1 6.1 6.2 6.2 6.3 6.2 6.3 6.2 6.3 6.3 6.4 6.3 6.4 6.5 6.5 6.7 6.4 6.5 6.10 6.11 5.15 6.11 5.15 6.11 5.15 6.12 6.15 6.12 6.12 6.12 6.15 6.12 6.15 6.12 6.12 6.15 6.15 6.12 6.15 6.12 6.15 6.15 6.12 6.15 6.15 6.12 6.15 6.15 6.15 6.15 6.12 6.15 6.25
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viii

SV/183

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Regional and Local Transport Connectivity Plan for Navi Mumbai International Airport	Final Benort
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Figure 7-13 Typical Cross Section - Aamra Marg from Delapor Phala to Gavan Phala (Dedicated to Trucks)	
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Figure 6-1. Exception of Reinfolder Regional Metro Commans	
(gate 6-7) Schemistic representation of Local network consistened for Economic Analysis	
Tigure 6-3. Entorsection improvement at Betapor Panata	
rgore 6-4. Intersection improvement al Gavae Pinala	
igare 8-5. Kalonauch Interchange Improventent	
igure 5-6 Dedicated Link connecting Belapur Phata and Gavan Phata	
Igure 9-1. Multi-Medial Regroupt and Local Transport Connectivity Plas for NMIAL	
Igare 9-2. Avarage Travel Distance and Travel Times from various Closters of MMR to proposed NMIA.	
Igue 6/2. Average Travel Distance and Travel Times How values Cresters of Main to proposed Minik 1	
Igure 9-3. Average Traver rule non-various TAXs in MMICIS proposed MMIA by Proset Needs (double and were in Figure 9-4. Average Traver Time Rinn various TAXs of MMR to proposed NMIA by Private Vehicles. (Car/ Two Weegle	
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92/183

Regional and Local Transport Connectivity Plan for Navi Mumhai International Aliport

Final Report

Acronyms	
AASHLO	Ammoan Association of State Highway and Transportation Officials
ANLSG	All India Institute of Local Self Government
AUM	Advanced Locatity Management
AM	Ante Mendian
AMC	Ambamath Municipal Corporation
ATC	Azeo Traffic Control
ATL	Average Ydn Length
BEST	Brhanmimbal Electric Supply & Transport
BKC	Bandra Kuda Complex
BMC	Bombay Municipal Corporation
BMC, MCGM	Brinanmunibal Municipal Corporation, Municipal Corporation of Greater Mumbas, (different names for same body)
SNMC	Bhiwandi Nizampur Musicipat Corporation
SOT	Build Operate Transfer
80081	Build Operate Own Share and Transfer
BRTS	Bus Rapid Transit System
BTHL	Bombay Trans Harbour Link (now MTHL)
BWSL	Bandra Work Sea Link
CAD	Computer Anded Design
CAGR	Compound annual growth rate
CBD	Control Business District
CES	Consulting Engineering Services
GFS	Container Freight Station
CIDCO	City and Industrial Development Corporation of Maharashtra
CAR	Central Railway
CRRI	Central Road Research Institute
CRZ	Coastal Regulation Zone
CSDA -	Cibhatrapati Shivaji Domestic Airport
CSIA	Chhatrapati Shivay International Asport
CS1	Chhatrapati Shivaji Terminus (formerly known as VT)
CYS	Comprehensive Transport Study (known as TranSfoRM)
DCR .	Development Control Regulation
DEA	Department of Economic Affairs
8MRC	Della Metro Rad Corporation
OP	Development Pfan
DPR	Detailed Project Report
681.	Exclusive Bus Lane
EBZ	Employment by Zone
FCS	Equivalent Car Spaces
EEH	Eastern Express Highway
6M	Environmental Impact Assessment
EIRR	Economic Internal Rate of Roturn
EMME	Equilaxe Multimedal Equitorium
65	Environmental Status
FOB	Fool Over Bridge
FOP	Financial Operating Plan
FSI	Goor Space ledex
FTA	Federal Transit Administration (U.S. Department of Pransportation)
éY opp	Chancel Year
GDP	Gross Doniestic Product Gross Estatemic Content Instan
GFCE	Giobal Financial Centres Index
GIS	Geographic Information System Countrel on for Authority
GLA	Greater London Authority
GMCB Coul	Goregaan Molund Link Road Concernent of Ind 6
Gol	Government of India



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93/183

Regional and Local Transport Connectivity Plan for Naví Mumbai International Airport

	Regional and Local	Transport Connectivity Plan for Navi Mumbai International Airport Stilland
	GoM	Government of Maharashtra
	GPS	Global Positioning System
	lia -	Hectare
	HBE	Home to School or college
	HBindW	Home to industry work
	HBO	Nome to shop, social recreational etc.
	HBoffW	Home to office work
	i Histolov	Home to Other employment centers
	HIS	Home Interview Sarvey
	4C	Inner Cordon
	(CD	Inland Contoiner Depoi
	я́С	International Financial Centre
	SEM.	Indian Institute of Management
	HET .	Indian Institute of Technology
	1.1	Industry Johns or Industry Employment by zone
	ILUTM	Integrated Land Use Transportation Model
	191	Intermediate Public Transport
	IRC	Indian Roads Congress
	ISBT	Inter State Bus Terminal
	רן	Information Technology
	ITS	Intelligent Transport System
	ITES	Information Technology Enabled Sources
	BNICT	Jawaharlat Nebru International Container Temunat
	JNNURM	Jawaharlat Nehru National Urtian Renewal Mission
	JNPT	Jawaharlal Nebru Port Trost
	JV	Joint Versture
	JVLR	Jogeshwari-Vikroli Cink Road
	KCNA	Kalyan Complex Notified Area
	KOMC	Kalyan Dombiyli Municipal Corporation
	KOMT	Kalyan Dombivh Municipal Transport
	1.67	Lorsen and Toubro
	LASA	LEA Associates South Asia
	LCV	Light Commercial Vehicle
		Lane Divided Carriageways
	LOS	Level of Service
	LRT	Light Rail Transit
	(1) Serminus 170	Lokmanya Tilak Terminus Loop Jam Taapandatas Chutani
		Long term Transportation Strategy
	MAV	Muši Axle Vetade Med Black
	MB MBMC	Mid Block Mile Russender Municipal Corporation
	M8MT	Mita Bhayander Municipal Corporation Mita Bhayander Municipal Transport
	MD97	Mumbar Port Trast
	MCGM	Municipal Corporation Greater Mumbar
		Maharashtra Industral Development Corporation
		Management Information System
		Numbai Integrated Special Economic Zone
	MJPRCC	Mumbai JNPT Port Road Company Limited
	Mid Mid	Million Citres/day
		Moharushtra Maritime Boord
		Million Passengers Per Annum
		Manibai Metropolitan Region
		Numbal Metropolitan Regional Development Authority
		Membai Metropolitan Regional Development Automity Act. 1974
		Mumbai Metro Study
		Multi National Company
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9H/183

final Report

Regional and Local Transport Connectivity Plan for Navi Mumbai International Airport

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MoEF	Meastry of Euveronment and Forests
MPCB	Maharoshira Poliution Confrol Reard
MPPA	Million Passengers Per Annom
MR879 Act	Maharashtra Regional and Yowa Planning Act, 1966
MR3 S	Mass Rapid Transport System
MRVC	Mumbai Raitway Vélas Corporation
MSROC	Maharashtia State Road Development Corporation Limited
MSRTC	Maharashtra State Road Transport Corporation
MIA	Metropolitan Transportation Authority
MTHL	Mumbai Trans Harboi Link
MISU	Murabai Transformation Support Unit (under AllLSG)
MUD	Ministry of Urban Development
MUIF	Maharashira Urban Infrastructure Fund
MUAP	Mumba: Urban Infrastructure Project
nunicipality	municipal corporation or municipal council
MUTP	Membai Urban Transport Project
NH	National Highway
NH8	Non Home Based
NMIA	Navi Mumbai International Airport
NMMC	Navi Mumbai Municipal Cosporation
NMMT	Navi Mumbai Municipal Transport
NMSEZ	Navi Mumbai Special Economic Zone
NMT	Non Motorised Transport
NSE	National Stock Exchange
NSICT	Nhava Sheva International Container Tenninal Utd
NSSÓ	National Survey Sample Organisation
NTDA	New Yown Development Authority
NUTP	National Urban Transport Policy
O&M	Operations and Maintenance
Octro:	a tax on goads brought into a town or district
OD	Origin Destination
1.0	Office Jobs or Office Employment by zone
013	Other Jobs or Othice Employment by zone
PCU	Passenger Car Unit
PK	Physically Handicapped
PHPOT	Peak Hour Peak Direction Traffic
Pil.	Public Interest Crigation
POP	Population
ppp	Public Private Partnership
PSO	Public Sector Units
PV	Private Veliscles
(F)/\{D	Public Works Department
PWI	Passenger Water Transport
GeL	Quality of Life
86R	Resettionum & Rehatilitation
801A	Research and Innovative Technology Administration (RITA), US Department of Transportation
RUES	Rail India Techno Economic Services
SOB	Road Over Bridge
RoR	Rest of the Region
ROW	Right of Way
SP	Regional Plan
85	Resident Students
RSI	Road Side Interview
RIA	Road Transport Authority
811	Siglit to Mormation Act
RTS	Rapid Transit System

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Regional and Local Transport Connectivity Plan for Navi Mumbai International Airport

RUS	Road Under Breige
18VVF	Resident Workers – Working in Office Category jobs
RW	Resident Workers Working in Industry Calogory jobs
RMAD	Resident Workers – Working in Other Catogory jobs
SCLR	Santa Cruz Chembur Link Road
SDP	Sanctioned Development Plan
SEEPZ	Santacruz Electronics Expert Processing Zone
SEZ	Special Economic Zone
SH	State Highway
SPA	Special Planning Authority
SPIE	State Pooled Finance Entity
SPV	Special Purpose Vehicle
sq ft	square foot, fl2
sq m	square metre, m2
SRC	Sub-Regional Cordon
TAC	Technical Advisory Committee
TAZ.	Traffic Analysis Zonos
TCRP	Transit Cooperative Research Program
TOM	Travel Demond Management
TDR	Transferable Development Rights
TEU	Twenty-Foot Equivalent Units
Tfl.	Transport for Condex
ĩG	Trip Generation
13	Total Jobs or Employment by zone
TLED	Trip Length Frequency Distribution
тмс	Thane Municipal Corporation
TMG	Tokyo Metropolitan Government
年初主	Thane Municipal Transport
ToR	Terms of Reference
332	Lown Planning Scheme
TPD	Tomes per day
7 6 8	Transport Board
Transtink	Name of unified regional transportation organization in Vancouver, North America
тe	Trans Thane Creek Industrial Area
UK .	United Kingdom
QLB	Urban Local Body
UMTA	Unified Metropolitan Transport Authority
UMMATA	Unified Mumbai Metropolitan Transport Authority
UN	United Nations
us	United States
USAÐ	United States Agency for International Development
USD	United States Dollar
VDF	Volume Dolay Function
Vac	Vehicle Operating Cost
VQT	Value Of Time
VI.	Vatoria Tornánus (now called as CST)
VA/NA	Vasai-Virar Notified Area
WASH	Westein Express Highway
WERR	Work Force Participation Ratio
WESI.	Westom Freeway Sea Unk
WR	Western Railway
WS C	World Trade Organization



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Final Report





E.1 THE BACKGROUND

Membal Metropolitan Region (MMR) is one of the biggest and important metropolitan regions of India, Amongst number of transport infrastructural requirements to be developed in MMR new airport to meet air travel needs is an important one. City and Industrial Development Corporation of Maharashtra Lumited (CIDCO), as part of its' efforts towards planned development of Navi Mumbai and to meet air travel needs of MMR and also that of larger region has evolved a plan to develop a major state-of-the-art international airport in Navi Mumbai.

CIDCO desires that committed efforts are required to be made, by all concerned within MMR, to develop efficient connectivity to the proposed airport both at local and regional level towards ensuring high accessibility to the potential users. This study focuses and finally recommends the corridors that are needed to be developed and improved towards enhancing the Regional and Local Transport Connectivity for the proposed Navi Mumbai International Air Port (NMIA).

E.2 THE MANDATE

Environment clearance for NMIA was given by MnEF in the month of November, 2010 which also emphasized the improvement of transport connectivity at regional as well local in view of the new Airport development. (vide specific condition 7.1.xviii, xix, xx).

The main objective of this assignment is to visualize the requirements of and plan for enhanced regional transport connectivity to the proposed Navi Mumbai International Airport. In addition, within the immediate Navi Mumbai area, local level assessment of transport network requirements is to be done for smooth traffic concentration and dispersal. With this backdrop, the objectives of the consultancy services are:

- Prepare enhanced regional transport connectivity in terms of roads, rail and water transport to Navi Mumbar. Airport from other major strategic locations and transport coniders, and
- Review of various transportation projects planned by CIDCO and/or NMMC within Navi Mumbai and identification and analysis of public transport connectivity (metro/ mono rail/sub-urban rail/ BRTS) to the Navi Mumbai Auport from strategic locations within the Navi Mumbai area and integration with regional transport corridors.

The scope of services included the following two major aspects:

- Phase I: Enhanced Regional Transport Connectivity to Navi Mumbai International Auport.
- Phase B' Enhanced Local Transport Connectivity within Navi Mumbar Area

E.3 NAVI MUMBALAIRPORT

MMR is massive in terms of its size with population exceeding 24 million (Year 2011). It is tikely to be in the order of 34 million by 2031. It is also expected that workforce participation rate will go up and could reach 40-45% by 2031. This would mean the economic base with experience major transformation.

The existing airport (CSIA) accommodated about 29 MPPA (Million Passengers Per Annum) in 2010-11. For Mumbai, airport passenger projections are expected to reach 40 MPPA by 2035 and to about 80



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MPPA by 2026. CTS recommended a second airport to meet the increasing demand. The Master Plan consultants of the NMIA have torecasted the annual passenger and cargo demand for MMR using various sources/methods. The forecasted total passenger demand for MIA and NMIA for the horizon year 2031-32 is about 40 MPPA and 63.74 MPPA respectively. In all the most immediate influence region and potential users that would and/or tikely to use will be from MMR.

The forecasts give indication of the scale and size of demand that need to be met by the two airports in MMR in the years to come. The split of demand for the operations of air ports will be taken as given in reports prepared by other detailed studies.

E.4 THE APPROACH

In undertaking this assignment, approach followed, in brief is given as under:

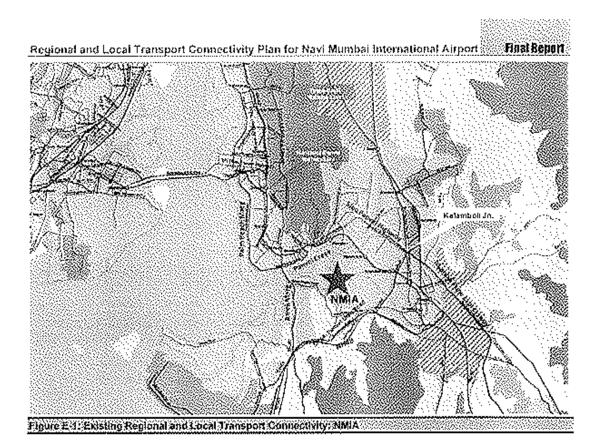
- Review of Regional and Local Transportation Projects (sub-suban red, metro, monorail, road, passenger water transport) as planned by MMRDA, MSRDC, CIDCO, MRVC, MTSU, NMMC, etc. in MMR in general and near Navi Member International Airport (NMIA) in specific;
- Review of Amport Connectivity based on some International and National Case Studies;
- Preparation of Transport Networks for Horizon Years 2016, 2021 and 2031 based on CTS for MMR, Strategic Monorali Master Plan for MMR, DPRs for metro corridors, projects identified by various organisations, etc.;
- Assessment of Travel Demand for the horizon years 2016, 2024 and 2034;
- Evaluation and identification of alternative afignments for direct metro connectivity to Navi Mumbai Airport from the Island city as well as the existing Mumbai Airport. followed by assessment of Travel Demand on some of the select metro alignments for the horizon years 2016, 2021 and 2031;
- Identification of sub-tuban fast rait connectivity between Island City and Navi Mumbai and odership estimates for the notizon years 2016, 2021 and 2031;
- Assessment of traffic toading on the major regional road connects providing connectivity to the NMIA including MMC for the horizon years 2016, 2021 and 2031,
- Identification of water transport route at regional and city level for NMIA, including recommendation of institutional anangements for water transport.
- Assessment of passenger leading and traffic loading on the public transport corridors and highway/road corridors within 26 km radius from NMIA for the horizon years 2016, 2021 and 2031;
- Based on the loadings, evolve proposals for improvements/up-gradations to the existing facility, for improving travet efficiency of passengers and goods;
- Identification of bottlenecks in and around NMIA on the existing National/ State/ City/ Municipal roads followed by proposals on Traffic Management Measures for reducing the time taken for traffic dispersal at intersections. This includes suggesting grade separated intersections, as well as sogregating the aligned bound traffic from the rest.
- Assessment of broad cost estimates and testing economic viability of the improvements; and
- Phasing of local sampost coundors/ improvements and evolving a Multi-modal regional and local sampoit
 connectivity plan for NMIA including evolving plan that is shared view of all the stakeholders.

E.5 EXISTING TRANSPORT CONNECTIVITY

The existing regional transport connectivity (both road and sub-orban rail) to the proposed NMIA is presented in Figure E-1.



98/183



E.6 POSITIONING NMIA IN PRESENT AND COMMITTED NETWORK

A fairly large number of proposals have been made by different implementing agencies towards improving the transport in MMR. The likelihood of them coming through is not known. A number of proposals have been taken up more seriously by the implementing agencies, and the merit in having these projects in reality has found ground. Therefore these projects have been taken up for implementation with commitment from the government in terms of budget allocatron or otherwise. The first of committed transport connectivity to the NMIA to quite an extent. However, much has to be still done, to further improve the transport corridors leading to the proposed airport, both at the regional and local level.

Corridor Description	Status Status
M1: Versova Andimi-Ghatkopar Metro Corridor	Under Construction
M2: Crarkope-Bandra Mankhurd Metro Corritor	Under Construction
M3: Colaba-Mahim/Dandra Metro Corrigo:	Under Planning
Retapor-Faloja-Kalamboti-Khandrishwar Meteo Corridor	Under Construction
Nerol-Seawoods-Oran Sob-orban Railway Leic	Under Construction
MR: Sant Gadge Maharaj Chowk Wadala Chevobar Monorañ	Under Construction
Siph-Panyel Highway http://www.enaul. BARC 19, 30 Kalamboli	Under Construction
Aamra Marg, NH4B, NH4. Improvements along with Interchanges	Under Planning
Coastal Road: MERCINMIA	Order Planning
Eastern Freeway	Under Construction
Western Freeway, World to Noriman Point	Under Planning
MTHE: Sewei to Chine on NH40	Under Nanning
Mombai-Vadodara Spor in MM8: Vicar to Panyel	Uniter Censtruction

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99/163

Regional and Local Transport Connectivity Plan for Navi Mumbai International Airport Fig2l Beilert E.7 CASE STUDIES – SOME HIGHLIGHTS

Quality of transport connectivity to airports with the parent city and the other nearby urban centres is a key to its success. All major airports have paid special attention to this aspect of local and regional transport connectivity at the planning stage. To appreciate this several major airports were screened and toally following cases are studied:

- 1. Beijing Capital International Airport, China;
- 2. Suvarnabhumi International Airport, Bangkok, Thailand;
- 3. Hong Kong International Airport;
- 4. Heathrow Airport, London, UK;
- 5. Frankfurt Airport, Frankfurt, Germany;
- 6. Los Angeles International Airport (LAX), Los Angeles, USA:
- 7. John F. Kennedy International Airport, New York;
- 8. Indira Gandhi International Airport, New Delhi, India;
- 9. Bangatore International Airport, Bangalore, India; and
- 10. Rajiv Gandhi International Airport, Hyderabad.

These cases provide insights to the best practices from the perspective of easy accessibility for residents and visitors. Major highlights of these airports are given below in Table E-2, providing important statistics of the selected airports.

Airport	Number of Ronways	Site Area (Hectares)	Passengers {millions}	Direct Employment	Indirect Employment	Parking Spaces
Beijing (PEK)	3	2400	74,00	3200	500,600	11512
Hong Kong (HKG)	2	1255	56.90	60,000	N/A	3201
Bangkok (BKK)	2	3100 \$	40.59	N/A	340,000	5001
Frankfurt (FRA)	3	2000 }	50,93	12081	N/A	1586!
London (LHR)	2	1227	66.03	77000	170,000 (across UK)	34901
Los Angeles (LAX)	2	1386	61.00	59000	158,000	26000
JEK, NYC	4	1996	45.91	35000	230.000	7800(
Gi, New Delhi	3	N%A	25.01	N/A	N/A	430
Bangalore	1 }	N/A	N/A	N/A	N/A (N//
RGI, Kydorabad	1+1	2186	N/A	N/A	N/A	NØ

Among all international examples, lowest passenger domand is at Bangkok's International Airport and highest is at Boijing. Most of the airports, except for the one at Frankfurt, create high employment opportunities ~ in excess of 50,000 in most cases. London's Heathrow has the smallest site area among all the airports, but is amongst one of the busiest airports.

E.8 TRANSPORT CONNECTIVITYOPTIONS

Discussion on the existing regional transport connectivity, metro corridors planned in Navi Mumbai, metro condors under construction and projects under active consideration for implementation (like MTHL) as presented in the earlier sections and review of the case studies led to conceptualisation of preliminary regional transport connectivity for the proposed NMIA. With completion of Metro Line 1: Verseva-Andhen-Ghalkepar and Metro Line 2: Charkope-Bandra-Mankhurd, combination of usage of metro and sub-urban ratiway system would provide fast transit connectivity from different parts of the region to proposed NMIA. This is illustrated in Table E-2. Development of airport and regional scale transport infrastructure takes time as they need huge capital investments. Hence, preliminary transit options have been developed which may be implemented incrementally.

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Regional and Local Transport Connectivity Plan for Navi Mumbai International Airport

Final Report

For encire level assessment of capacity enhancements to the existing road network, additional links, traffic management measures, etc., an area surrounding the NMIA location within a radius of about 8 kms along the roads has been delineated. This area has been divided into the following sectors for preparation of the local transportation connectivity concept plans:

- NMIA SouthWest Sector.
- NMA North Sector
- NMIA East Sector

E.9 UPDATION OF PLANNING PARAMETERS

Travel demand assessment is done by updating the planning parameters established for CTS. This has formed input in establishing the need and then planning of enhanced regional and local transport connectivity. Planning parameters and travel demand are assessed for the horizon period 2031.

E.10 TRAVEL DEMAND ASSESSMENT DUE TO NMIA

E.10.1 INTRODUCTION

In CTS, assessment of internal passenger travel demand for the horizon period was carried out using travel demand models. Although CTS models did not consider the travel demand due to special generators like airports, hotels, inter-city bus terminals, rail terminals etc. explicitly, they have been calibrated and validated using the ground counts (which includes all kinds of traffic).

Generally, the travel demand due to special generators would be insignificant as compared to the internal travel demand. It is expected that, about 0.45 million trips/day will be generated from the proposed NMIA due to air passengers (estimated based on 60 MPPA by 2031), arport related employment and nonairport related employment (assessed in the present study). The details are presented in the following sections. During morning peak period (6:00 to 11:00 hrs) this translates to about 0.15 million trips. The internal passenger travel demand estimated for the horizon year 2031 during the morning peak period (MPP) is about 10.08 million. The generated passenger trips during MPP in the year 2031 is about 1.5% of the total internal passenger travel demand. However, in the present study, an attempt is made for assessment of travel demand that is generated due to the proposed NMIA for following reasons:

- air passenger movement,
- airport related employment, and
- non airgort related employment

In addition, the mode-choice of the air passengers would be very different from these of others. Attempt also has been made with respect to assessment of mode choice of the air passengers. The approach adopted for this is as follows:

- Assessment of the air passenger trips based on L8G study on Master Plan for NMIA and distribution of the trips at cluster level and then at TAZ level including by mode based on the population, employment distributions, travel patterns of an passengers observed in the year 2006.
- · Assessment of the accord corployment and airport related employment separately, and
- Estimation of the trip productions and attractions due to airport employment and airport related employment using trip generation equations developed in CTS for MMR and appropriately adding to trip ends. The EMME modelling process takes care of distribution, mode-choice and assignment stages of horizon year modelling exercise.



E-5

101/183

Regional and Local Transport Connectivity Plan for Navi Mumbai International Airport Final Report E.10.2 ASSESSMENT OF NMIA AIR PASSENGER DEMAND

On a typical day, air passenger movements at CSIA as observed in 2006 is presented in Table E-3. Currently the total passenger movement per day is about 50,000. The ground side number of passenger movement which matter for transport network analysis is about 30,600 passengers per day. This is illustrated in Figure 6-2.

Airport	Arrivals	Departures	Total Passonger Movements	Total Passengers	Groundside
Domestic			-		
Mumba:	8.800	8,800	17,600	17,600	17,660
Transfer					
Domestic	3,500	3,500	7,000	3,500	
Transfer					
Int	2,700	2,900	5,600	2,700	
Sub-Total	15,000	15,200	30,200	23,800	
Internationa	Î				
Mumba:	6,500	6,560	13,000	13,000	13,000
า๊าอกรโยก					
Domestic	2.960	2,700	5,600	2,900	
Transfer					
Int.	600	660	1,200	600	
Sub-Total	10,000	9,800	19,600	16,500	
Total	25,000	25,000	50,000	40,300	30,600

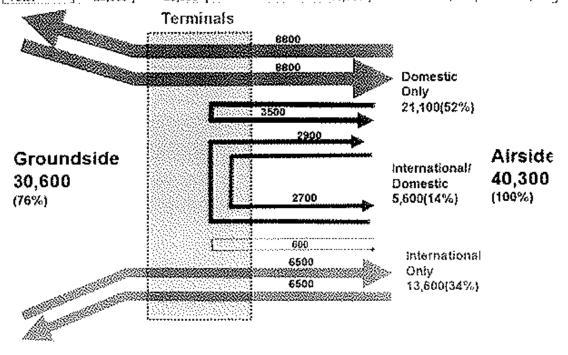


Figure E-2: Assessment of Airport Passenger Movement in a Typical Day, CSIA (Year 2005)

Air passenger forecast for the horizon year 2031 for entry/exit to/from the terminals of NMtA is assessed at three levels i.e.w. High and Medium, based on level of transfer passenger from International to Domestic terminal and vice versa (as the transfer passengers do not come outside terminal areas) and these figures are 98,053 passengers/day. 124,078 passengers/day and 110,555 passengers/day, respectively (Figure E-3).



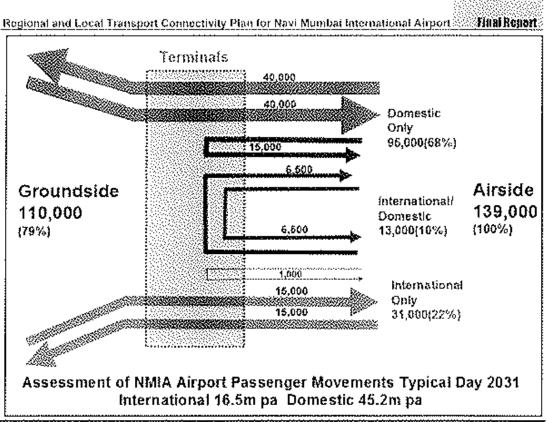


Figure E-3; Assessment of Airport Passenger Movement on a Typical Day, NMIA (Year 2031)

E.10.3 DISTRIBUTION OF NMIA AIR PASSENGER DEMAND

Ground side air passenger demand, as assessed, is distributed across different clusters of the region. In doing so the following alternative options are studied:

- Alternative 1: Ground Movement of Air Passenger Travel Pattern (Departure) based on Air Passenger Survey 2006 (CTS for MMR).
- Alternative 2: 2031 passenger distribution based on existing passenger origin and destination patterns adjusted for population and employment growth (Modified P3E3).
- Alternative 3: 2031 air passenger kavel, based on combined population + employment distribution (Modified P3E3), and
- Alternative 4: 2031 air passenger travel, based on combined apartment population (factored by income index) + 10% office employment (Modified P3E3)

Ground Movement pattern of A# Passenger Travel (Departure) based on A# Passenger Survey 2006 (CTS for MMR) is presented in Figure E-4 to understand the travel pattern.

After having arrived at the outputs of the above alternatives, the patterns emerging from them are studied and compared, it is observed that, the Alternatives 1 and 2 heavily represent the existing air passenger pattern (2006), whereas, Alternative 3 represents future population+ envolvment disbibution. Alternative 4, however, falls more or less in between the other alternatives, as a relies on population living in apartments and some weight is applied to the office employment (these factors generally are the variables which may decide the air passenger travel origins/ destinations). All of these four alternative 3 should be adopted for further analysis.



103/183

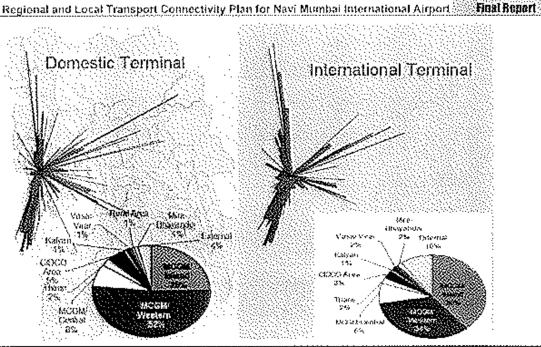


Figure E-4: Ground Movement Pattern of Air Passenger (Travel (Departure) - Air Passenger Survey 2006 (CTS)

Passenger Trip Generation from NMIA and Mode Choice for air passengers, airport employment and airport related employment is presented in Figure E-5. It can be seen that the trips generated/day from air passengers is about 24% and passenger trips/day generated from airport employment and airport related employment is about 76%. Estimated air passenger two way trips during morning peak period is assessed to be 40,000. The estimated airport employment and airport related employment (assessed based on similar size of international airports handling similar capacities) is expected to be about 71,000 and 1,00,000 by 2031 respectively. Approximate number of motorised trips generated due to this employment per day will be about 3,42,000 per day. The estimated morning peak period trips will be about 1,20,400 i.e. 0.12 million.

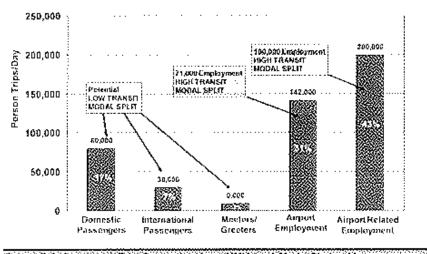


Figure E-6: Passenger Trip Generation from NMIA and Mode Choice-Air passengers, Airport Employment and Airport Related Employment



Regional and Local Transport Connectivity Plan for Navi Mumbai International Airport Fillal Report

E.10.4 OVERALL INTERNAL PASSENGER TRAVEL DEMAND ASSESSMENT

Overall travel demand assessed as per the modified P3E3 scenario, for the Morning Peak Period i.e. 6:00 to 11:00 his for the year 2031, for air passenger, airport employment and airport related employment, as explained in the above sections is assessed to be about 0.16 million which is about 1.6% of the total travel demand.

E.10.5 PASSENGER/TRAFFIC LOADINGS ON MAJOR REGIONAL METRO AND HIGHWAY CORRIDORS

Analysis has been undertaken for route wise passenger section loadings for assessment of transit corridor requirements/ atternative mass transportation technologies (metro/monorail/BRTS/EBL), improvement proposals in case of highway corridors, inputs for economic analysis of the corridors, etc. Morning peak hour PHPOs on major public transport corridors (sub-urban, metro and monorail cerridors) and major regional highways for the horizon year 2031 is presented in Table E-4.

\$f.	Mode	Corridor	PHPD or I	PCUs/ht
No.	mooe	Gorrador	2021	2031
4	M	Ghatkopar-Mankhurd-Vashi-NMIA-Panvel	22,100 {	25,900
2	M	Colaba-Siddhivinayak-Sewri-Kharkopar-NMIA	19,300	29.15
3	S	CST-Panvet Harbour Line	30,900	32.70
4	Η	Sion-Panvel Highway	4,890 {	6,66
5	11	Mumber Trans Harbour Link (Road)	2,935	5,70
6	H	Eastern Freeway	6.950	7.90
7	11	Virar-Alibaug MMC: Road	3,050	5,48
8	M	Visar-Alibaug MMC: Metro	7.300 }	15.40
Ş (<u> </u>	Mumbei-Vadodara Expressway Spur in MMR: Virar-Panvel	2 180	3.02
10	M	Thane-Belapur Phata	13,100	18,20
11	MR	Kalyan-Mhape	18,700 }	22.60
2	MR	Mhape-Vashi	4.100	
13	S	Thane-Vashi	29.000	30.00
ŝ4	S	Vasal-Diva	21.800	22,30
15	S	Diva-Panvel	21,300	21.50
16	S	Panyel-Uran	25,800	15,40
17	S	Panvel-Karjat	10,790	14.18

S: Sub-urban, M: Metro, MR: Monorail, H: Highway

Prima facie, the proposed transit network and highway network have got reasonable loadings which tationalise the proposed systems (metro/ monorail), widening of existing roads, grade separation of major intersections, etc. However, it is pertinent to mention here that, all the proposed transport corridors may not come-up simultaneously as authorities may generally take implementation of few corridors at a time depending on the requirements, availability of funds, obtaining the necessary clearances, etc. The section loadings on transit corridors and traffic loadings on road/ highway corridors depends on demand (assessed based on forecasted population and employment and their distribution) and supply (transport network and their charactenstics). Hence, for relatively accurate results, specific DPRs should be carried out by each proposed project.

E.11 ENHANCED REGIONAL TRANSPORT CONNECTIVITY TO NMIA

E.11.1 ENHANCED METRO REGIONAL CONNECTIVITY BETWEEN SUBURBS OF GREATER MUMBALAND NAVI MUMBAL

To enhance the regional connectivity by metre, additional metro corrider between Mankhurd and Ghatkopar has been proposed and this corridor will be extended upto Parivel via NMIA, thus providing a fast metro connectivity between eastern suburbs of Greater Mumbai and Parivel. Versova-Andheri-Ghatkopar metro corridor and Charkope-Bandra-Mankhurd metro corridors which are under



105/183

implementation would further provide connectivity to western suburbs of Greater Mumbai. This alignment with one transit transfer, commuters/ air passengers from eastern suburbs of Greater Mumbai and Thate can access the proposed NMIA and with two transfers (DN Nagar or WEH and Ghatkopar), the commuters from western suburbs can access the proposed NMIA. The metro connor from Ghatkopar to Parvel via Mankhurd, Vashi and proposed NMIA is shown in Figure E-6. It is petinent to mention here that, the commuters/ air passengers coming from western suburbs of Greater Mumbai as alignment transfer for the commuters/ air passengers coming from western suburbs of Greater Mumbai using the metro line Andheri-Dahisar planned along the Western Express Highway.

The Ghatkopar-Panvel metro corridor is proposed to be implemented in phases considering the need, ongoing implementation of two metro corridors, starting of NMIA operations, planning jurisdictions, etc. and the details are as follows:

- Phase 1 (2012-2015): Mankhurd to Panvel providing connectivity to Vashi, Belapur, NMAI and Panvel. This will be an extension of M2: Charkope-Bandra-Mankhurd metro corridor;
- Phase (I (2013-2015): Ghatkopar to Mankhurd providing connectivity between M1: Versova-Andheri-Ghatkopar and M2: Charkope-Bandra-Mankhurd; and

The metro corridor from Ghatkopar to Panvel via Mankhurd, Vashi and proposed NMIA is shown in Figure E-6. Overall length of the proposed metro corridor between Ghatkopar and Panvel is about 36.4 km. Alignment description is as follows:

- Chatkopar to Mankhurd: Longth: 6.65 km (Underground: 2.55 km and Elevated: 4.1 km).
- Mapkhurd-Panvel: Length: 29.75 km (Efevated: 25.75 km and Sea Link, 4.0 km).

Ghatkopar to Mankhurd is a new alignment, which is not proposed in CTS and from Mankhurd to Panvet the alignment of metro is more or less as per CTS. The description of the alignment is as follows:

The alignment starts from Ghatkopar metro station of M1⁺ Versova-Andheri-Ghatkopar Metro Corridor and runs as underground section upto the intersection of Easter Express Highway (EEH) and Ghatkopar-Mankhurd Link Road (GMLR). The total length of Underground section is expected to be about 2.55 km. From the intersection of EEH and GMLR to Mankhurd it will be an elevated section and length is about 4.1 km. From Mankhurd to Vashi, the alignment will run across Thane creek, south of existing Mankhurd-Vashi railway bridge. From Vashi to NMIA, the alignment will run along the Palm Beach Marg and Amra Marg as an elevated section. From NMIA to Panvel the alignment will be parallel to the Vashi-Panvel sub-urban railway line and this section is proposed partially elevated and partially at-grade. The overall length of elevated, creek bridge and at-grade sections would be about 36.40 km.

With one transit transfer, the enhanced regional connectivity will be as follows:

- Commuters/ air passengers originating from western suburbs located west of western railway line can catch M2 and get bansfer at Mankhurd to reach NMIA/ Parivel.
- Commuterst air passengers originating from Thane and using Teenhath Naka-Wadata metro can get transfer at Chibeda Nagar to reach NMIA/Panvet.

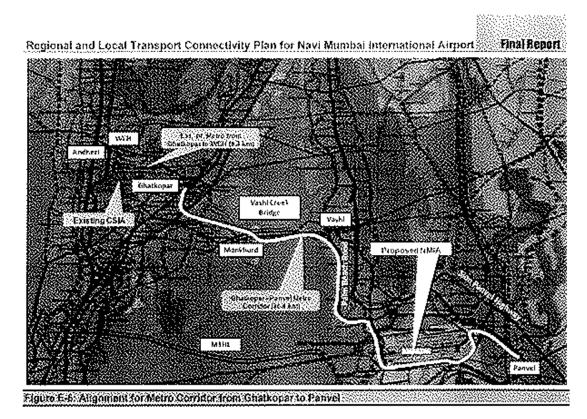
With two transfers, the enhanced regional connectivity will be as follows:

- Commuters/ all passengers originating from western suburbs located east of western taikway line can catch M7 Andhen-Dahisar and get transfer at WEH and catch Varsova-Andhen-Ghatkopar metro corridor and transfer at Ghatkopar to reach NMIA/ Penvol.
- Sob-urban commuters/ an passengers originating from western suborbs can take transfer at Andheri and catch Verseva-Andheri-Ghatkopar metro consider and transfer at Ghatkopar to reach NMAA Partves.





106/183



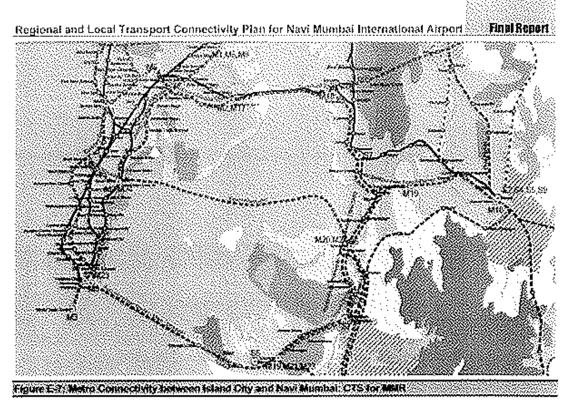
E.11.2 METRO CONNECTIVITY BETWEEN ISLAND CITY AND NAVI MUMBAI AIRPORT

It is pertinent to mention here that, the metro corridors identified as part of Mumbai Metro Master Plan for Greater Mumbai have been considered in CTS for the analysis. Further metro extensions into the regions have been proposed as part of CTS based on the existing and proposed land uses. Hence, the previous transportation plans including CTS did not propose any direct metro connectivity from different sub-regions of MMR to proposed NMIA. However, CTS proposed metre transport network provides metro connectivity between Island city and NMIA and Panvel through a combination of the following corridors and these are shown in Figure £-7.

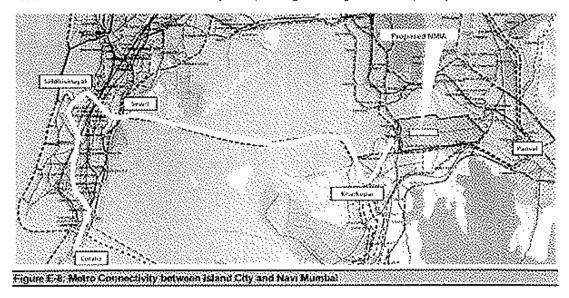
- M3: Colaba-Mahim/Bandra
- M9: Sidohivinayak-Sewn
- M24: Sewri-Kharkopar (along MTHL)
- M19: Targhar-Kharkopai-Nhava Sheva-Dronogini
- M18: Vashi-NMIA-Panyot



107/183



The above mentioned corridor will require about 2 to 3 transfers to reach from the Island City to NMIA depending on metro route operations from different places. For direct connectivity i.e. without transfers, there should be a feasibility of metro intersecting other metro lines at different levels, while at the same time integrating with each other. This can be studied while undertaking DPR of metro corridors. If this is feasible, direct connectivity from Island to NMIA and further to Panvel is shown in Figure E-8. This metro route has been coded in EMME for analysis of passenger loading and ridership analysis.





Regional and Local Transport Connectivity Plan for Navi Mombai International Airport



E.11.3 SUB-URBAN FAST RAIL CONNECTIVITY BETWEEN ISLAND CITY AND NAVI MUMBAI

Central Railway provides sub-urban services between Island city and Navi Mombai Brough harbour line. Section wise capacity and present utilisation during peak hour of CST-Wadala and Wadala-Vashi-Panvel are presented in Table E-5. It can be inferred that, spare capacity is available only on Wadala-Vashi-Panvel section i.e. additional 6 trains can be operated at 3.5 minutes interval between Wadala to Panvel within available capacity.

Table E-5: Fast Rall Connectivit	y between Island	l City and Navi Mumbal		
Section	Sectional Capacity		Present Utilization peak hr	
	Trains per br	Passenger Capacity PHPD	Trains per hr	Passenger Capacity PHPD
CST to Wadala	17	60,000 to 78,000*	17	60,000
Wadala – Vash: - Panvel	17	60,000 to 78,000	11	42,000

** Present normal carrying capacity is 33,000 PHP(). With signal re-spacing, the capacity can be increased to 60,000 PHPD and with operation of 12 coach takes, the capacity can be further enhanced to 78,000 PHPD.

Sub-urban passenger growth originating from and destined to Navi Mumbai during the period 2003-2008 is presented in Table E-6. The CAGR observed during 2003-2008 is about 6.5%.

Үсаг	Passengers in Lakh	% growth
2003-04	5827 .	
2004-05	£(%5	4.08
2005-06	6318 4.1	
2006-07	7531	19.21
2007-08	7976	5.91

Table 6-6: Sub-urban Passenger Growth Originated and Destined to Navi Mumbai

Sub-urban passenger section loadings along Mankhurd-Vashi assessed by MRVC is presented in Table E-7. It can be inferred that, the passenger demand on Mankhurd-Vashi section will cross its capacity (78,000 PHPD) between 2016 and 2021 which necessitates capacity augmentation. It is pertinent to mention here that, with GTS proposed metre corridors the sub-urban loadings will gets distributed. CTS has proposed Mankhurd-Vashi-Panvel, Vashi-Narthengaon metro corridors. The metro corridor would provide an addition capacity of 40,000 PHPD. Thus, the sub-urban and metro corridors together would be able to provide a capacity of about 1,00,000 PHPD (60,000 PHPD by sub-urban and 40,000 PHPD by metro). Implementation of metro corridors generally takes considerable time. Hence, capacity augmentation by providing additional sub-urban tracks would be relatively better option to begin with and metro corridor would further enhance the capacity. The additional pair of sub-urban railway line can be shared with inter-city trains.

Year		2016	2021	2031
Daily passengers	UP	7,20.507	7,96,445	9,05,167
	DN	7.15.450	7.96,028	9,08,477
% in a peak Hour to da	nily	93%	9.3%	9.3%
PHPDT		67,000	82,600	89,780



Regional and Local Transport Connectivity Plan for Navi Mumbai International Airport

Final Report

Anticipating bage population and employment growth in Navi Mumbai and surrounding areas and upcoming NMIA, MRVC is planning a fast sub-urban railway corridor from CST to Panvel (tength about 49 kms), ladex Map showing the alignment of CST-Panvel fast Sub-tuban Conditor is shown in Figure E-9. This corridor being proposed as a fast corridor, will be able to reduce the travel time between Island oity and Navi Mumbai is addition to providing additional capacity. In addition, the same lines can be shared by inter-city trains.

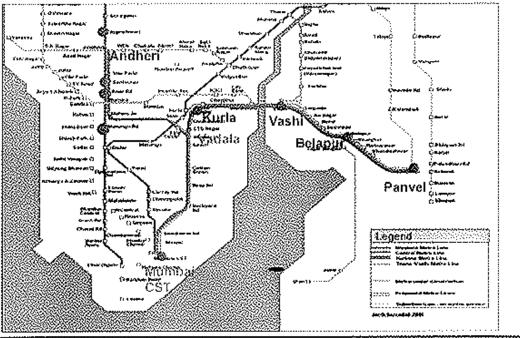


Figure E.S. Index Map showing the Alignment of CST-Panvel Fast Sub-orthan Corridor.

MRVC has carried out in-house meliminary feasibility studies for the proposed fast corridor between CST and Panvel and identified the following alternative alignments considering RoW availability, connectivity to the existing sub-urban stations, existing landuse, and evaluation is under progress.

- Ait 1: Throughout elevated along the Herbour line from CST to Mankhurd and thereafter at surface up to Panvel
- Ait 2: Underground along the Hartiour line from CST to Mankhord and thereafter at surface up to Panyel
- Ait 3: Upderground wa Harbour line from CS1 to Conton Depot area in MuPT and thereafter at surface up to Panvel
- Att 4: Underground via P D Metto Road from CST to Cotton Depot and Anther at grade
- Alt 5: Elevated along P D Mello Road from CST to Colton Depot and than at Surface up to Panvel
- Alt 6: Elevated along Port Road from CS3 to cotton Depot and further Surface up to Panvel ÷

Brief description in terms of teasibility/ constrains are presented in Table E-8.

Description	Feasibility/ Constraints
Att 1: Throughout elevated along the Harbout late from CST In Markhind and thereafter at surface up to Panvet	 Difficulty of approach at weik location. Difficult to find location for electing Piers between CST to SNRO. No space for stabling construction equipment & instension the ROW between CST to SNRD. Difficult to get Power (O) (E)/ traffic blocks for execution. Erection difficulties due to OHE Web, specially between CST to SNRD.
Alt 2: Underground along the Harboar kno from CST to Mankhurd and thoreafter at surface up to Panvel	 Vacant land is available at CS1M and after Mankhurd station, for lonching, et 3BM Land available for rainp to come at grade from Underground after Mankhurd, station No trigh rise buildings and towers at Underground portion.



Regional and Local Transport Connectivity Plan for Navi Mumbai International Airport September Final Report

Description	Feasibility/ Constraints		
Alt 3: Underground vis Harbour line from CS3 to Cuttur Depot orea in MbPT and thereafter at surface up to Panvel	 Vacant isnd is available at CSTM and Cotton Depot area for 16M kinching Land available for ramp to come all grade from Underground in BPT area nose Cotton Depot No high rise buildings and towers at Underground portion Cost of construction is high & Land issue with EP3 		
Alt 4: Underground via P D MeBo Read from CST 16 Collon Depet and for the at grade	 Vacant land is available at CSTM and Coltins Deput area for TBM kinching Land available for ramp to come elevated from Underground in BPT area near Cetter Deput No high rise buildings and towers at Underground porker. Cost of construction is high & Land Issue with BPT. 		
Att 5: Elevated along P D Mollo Read from CST to Cellon Depot and than at Surface up to Parvet	 One of the trest possible altomative Land issue in BPT area for elevated portion 		
Ait 6: Elevated along Peri Road from CST to cotton Depot and further Surface up to Pairvel	One of the best possible alternative Land issue in BPT area for elevated perion		

The evaluation of alternative alignment lead to picking Alternative 5 as the best option for implementation.

Proposed halt station on the identified fast track corridor is as follows:

•	CST	:	Starting station
•	Vadala	:	Integration with Western Railway Line
•	Kurla	:	Integration with Central Railway & Metro II line
٠	Vashi	:	Important Station in Navi Mumbai
•	Sanpada	:	Intigration with Parivel-Thane fine
٠	Nerul	:	Integration with Ners8-Uran suburban line
•	Belapur	:	Important station & CBD
•	Khandesbwar	:	International Exhibition Centre
	Panyel	:	Terminal Station

The halt stations for the CSTM-Panvel fast sub-orban corridor need to be finalised during the preparation of DPR study. In addition, feasibility of sharing the corridor for intercity/ long distance trains need to be studied in DPR stage.

The estimated cost for the corridor range from Rs. 1.300 crores to Rs. 7,050 crores @ 2006-09 prices (Alternative 5 and Alternative 2 respectively). MRVC has suggested a cost of about Rs. 4,200 crores @ 2010-11. As these figures are based on preliminary analysis, the actual cost may vary. However, for the analysis purpose, the overall cost that could be considered is about 3,000 crores @ 2010-11 prices considering the possibility of underground sections.

The way forward for early implementation of the project is as follows:

- Coordinate with the Ministry of Railways and State Government to include Rils project in Phase III of MUTP Plan, and
- To prepare DPR for the proposed Fast Track conder.

E,11.4 SION PANVEL BIGHWAY

Sion-Panvel highway is one of the basiest and most important roads in the Mumbai Metropoldan Region and connects the city with NH4. Sion Panvel highway from BARC Junction (Km. 140 / 690) to Katamboli Junction (Km. 115/800) is about 25 km in length and the alignment is shown in Figure E-10. MSRDC/



111/183



Regional and Local Transport Connectivity Plan for Navi Mumbai International Airport **Final Report** PWD have carried out the necessary studies for improvement of the corridor. CTS also has proposed Sion-Panvel Highway from the intersection of Eastern Freeway x. VN Purav Marg to Kalambeli (Figure E-11) as higher order access controlled teghway.

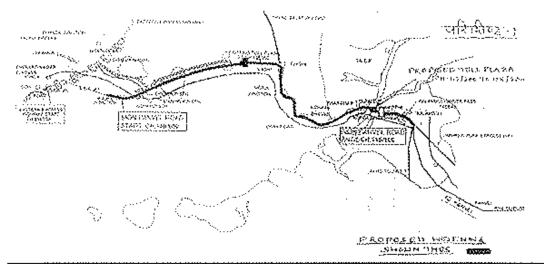
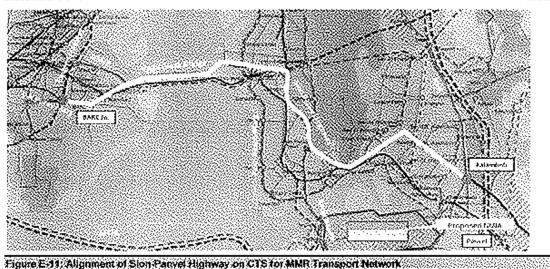


Figure E-10: Alignment of Sion-Parivel Highway from BARC Junction (Ch. 140(690 km) to Kalamboli (Ch. 115/800 km)



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As per MSRDC/ PWD sources, the satient features of the project (Widening and Improvement of Sion-Panvel Highway) are as follows:

- The project consists of widening of existing bifummous road to 5+5 lane with concrete pavement and Central 3+3 lanes to be access controlled. The Service Roads (2+2 lanes) to be provided whenever required for about 6.29 Km length;
- Three new flyovers. Uran Junction, Sanpada Junction & Kamothe Junction;
- Duplication of flyevers at Taloja and CMLR (unctions);
- Pedestrian crossing Underpasses at 10 locations and Foot over Bridges at 3 locations.
- Geometric and Junction improvements as per standards,



- Tell plaza at Vasix to be upgraded to 8+8 lanes;
- Toll plaza at Kamothe
- Landscaping / Beautification of entire project comdor;
- Renovation / upgradation of existing systems, structures, and
- Electrification of entire project consider.

Following an international competitive bidding by the state government, the consortium of IVRCL and Kakade Intrastructure Pvt Ltd. (KIPL) was awarded the project. IVRCL, through its asset holding subsidiary company IVRCL Assets & Holdings Ltd and KIPL, incorporated Sion Panvel Totlways Pvt. Ltd (SPTPL), a special purpose vehicle, to implement the project. SPTPL has executed the concession agreement with the Maharashtra government for a concession period of 17 years 5 months, which is inclusive of the construction period. The project, being taken up with an outlay of INR17,060 million, would be funded through a senior debt of INR 12,990 million while the batance would come in through a combination of equity and internal accruals. IVRCL has achieved financial closure for the project in May, 2011.

E.11.5 MUMBAI TRANS HARBOUR LINK (MTHL)

The proposed Mumbai Trans Harbour Link ('MTHL') which connects Sewri (in Island city of Mumbai) to Nhava Sheva (Main land) has been planned with the basic objective of (a) Development of Maintand and reducing pressure on Mumbai City; b) Facilitate decongestion efforts by Improving connectivity between Island city and main land. The alignment of MTHL is presented in Figure E-12. The project consists of construction of a bridge across the Mumbai Harbour connecting interchanges at both ends. The total length of the link will be 22 km and will consist of approach roads, viaducts on inter-tidal zone, bridge across the harbour and interchanges at Sewri and Chirle. There were altempts in the past to mvite the bids in 2004 on BOT basis and in 2008 on a design build contract basis. In 2009, it was decided to implement the project on a PPP basis under VGF scheme of Government of India (GOI) for which giprinciple approval from GOI was received in April, 2009.

MMRDA envisages a Road – cum – Metro Bridge comprising of 6 lane of Road Bridge with provision for a twin track Metro. Separate Feasibility Studies/ DPRs for a 6 lane of Road Bridge, road dispersal system and Metro bave already been prepared. Now, the present assignment envisages providing holistic and integrated planning for MTHL road cum metro bridge and dispersal system on both island and main land sides. MMRDA had invited bids for consultancy services from consultancy firms having international experience and competence in May, 2011. The objective of this assignment is to update the techno-economic feasibility carried out carlier, assist MMRDA in bid process management and provision of complete transaction advisory services for the proposed Mumbai Trans Harbour Link (MTHL) on a suitable PPP structure. The study is expected to be completed by end of 2012. MTHL along with Eastern Freeway (which is under construction) on Island city side and existing & planned new roads (ex. Coastal road) on Main land side would provide fast connectivity to proposed NMIA. This corridor has been coded in EMME for analysis of the traffic leadings and analysis.

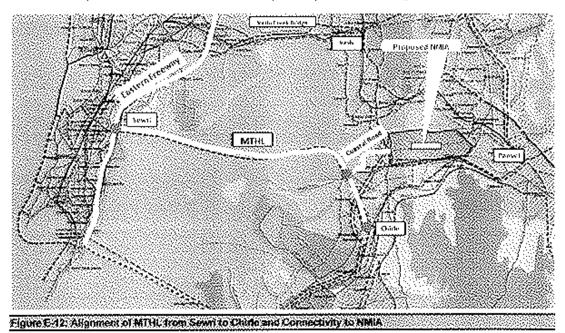
E.11.6 VIRAR-ALIBAG MULTI MODAL CORRIDOR (MMC)

One of the major recommendations of CTS was the concept of development of Multi-Modal Coniders (MMC) in MMR. MMRDA has planned Multi-Modal Corridor from Virar to Alibag (about 140 km) following the existing as well as the proposed highway corridors to provide a faster connectivity with the ULBs located outside Greater Mumbal and increase the faster accessibility to inter-citly freight traffic. MMRDA initiated the detailed feasibility study for the MMC corridor and the study is in progress. Metro route has been coded in EMME for analysis of section loadings, ridership estimates, etc.



Regional and Local Transport Connectivity Plan for Navi Mumbai International Airport Final Regieri E.11.7 Mumbai-vadooara expressway spur in MMR - VIRAR TO PANVEL

The alignment of Mumbal-Vadodara Spurim MMR planned by NHAI which starts in Viral and ends in Panvel. This consider has been planned for fast movement of port telated inter-city traffic (JNPT). NHAE initiated the DPR for this consider and the study is in progress. The alignment of Virar-Alibao MMC and Virar-Panvel Spurim MMR of Mumba Vadodara expressway are shown in Figure E-13.





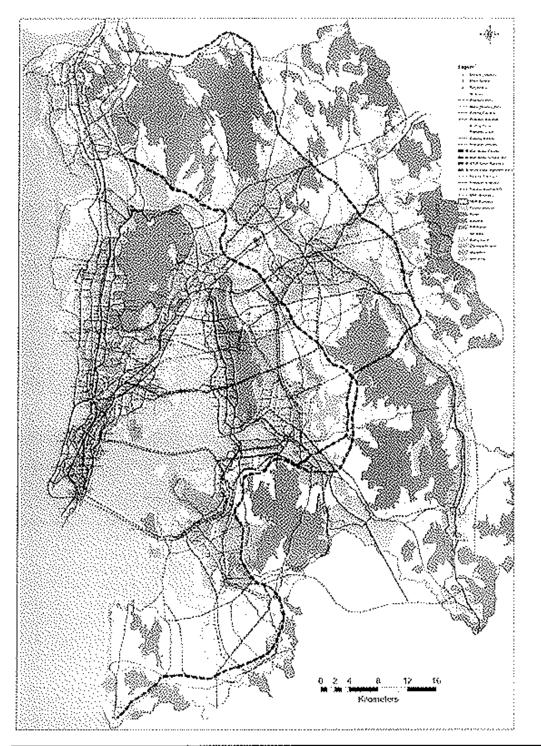


Figure E-13: Alignment of Virar Albag Multi Medal Corridor and Mumbal-Vadodara Expressway Spur in MMR-Virar to Panyel



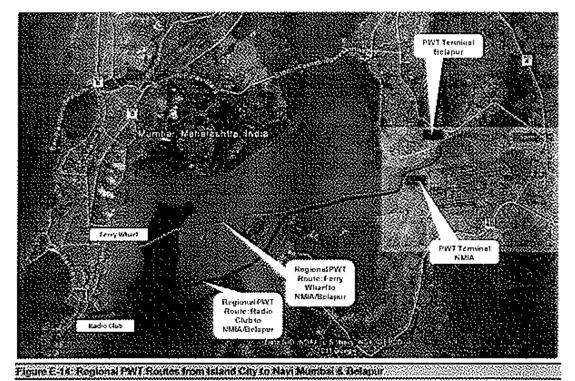
E-19

115/183

Regional and Local Transport Connectivity Plan for Navl Mumbal International Airport Final Report E.11.8 PASSENGER WATER TRANSPORT CONNECTIVITY TO THE NMIA

The PWT terminal on Navi Monhai side is planned very near to the proposed NMIA (Utwe). Air passengers using PWT (from Island city to Nav: Mumbai) can access the NMIA very easily using road based modes from the PWT terminal to NMIA. The possible regional PWT routes from Island city to the NMIA and Belapur, as already discussed, are as follows and shown in Figure E-14.

- Ferry Wearf to NMIA and Betaper (Blue line).
- Radio Club to NMIA and Belapur (Park line)



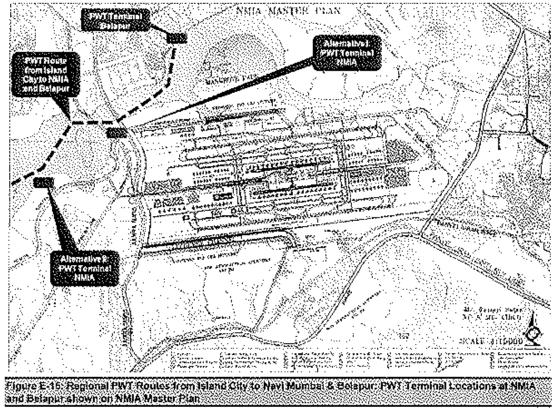
The PWT terminal locations in NMIA and at Belapur on NMIA Master Plan are presented in Figure E-15. Two atternative PWT terminals have been identified for providing connectivity to NMIA. Air passengers using the PWT mode (from Island city to Navi Mumbai) can access NMIA very easily using road based mode from the PWT terminal to NMIA or by using combination of travelators and escalators depending on the distance between the PWT location and terminals of NMIA. The PWT terminals should be well equipped with sufficient parking area. Prima facie the PWT routes and terminal locations are feasible. However, further detailed studies need to be undertaken.

PWT at city level i.e. from different places within Navi Mumbai area like from Vashi, Nerul, Nhava, Uran, etc. to MMIA may not be as attractive as compared to the road/ rail based modes as these modes provide overall faster and single mode connectivity.

The estimated potential for Passenger Water Transport system between Island city and Navi Mumbai is between 32,000 to 36,000 passenger trips/day for the horizon year 2031 with MTHL read and metro. Assuming two routes operated between Island city and Navi Mumbai i.e. Ferry Wharf-NMIA/Belapur and Radio Clob-NMIA/Belapur with 90% and 10% demand split (NMIA Air passengers) respectively, the potential passenger trips on Radio Club-NMIA/Belapur route in each direction during peak hour is about 180 passengers/hr. The frequency of operation of Hovercraft with 100 passenger capacity is



about 30 minutes (capacity provided would be 2.00 passengers/br). The number of hovercraft movements per hour in each direction is about 2. To cater for the increase in demand, higher capacity hovercraft could be used.



E.12 NMIA LOCAL ROAD CONNECTIVITY AND MAJOR TRANSPORT CORRIDORS

The location of proposed new green field NMIA is near Panvel close to NH-46. The existing road connectivity for NMIA is described in ensuing sub-section followed by the proposals for future.

E.12.1 EXISTING ROAD CONNECTIVITY

Presently, the proposed location for NMIA is connected with a good road network of regional and locat level. They offer varied level of service. Proposed NMIA, which is one of its own kind and scale, certainly needs capacity augmentation and also re-defining blerarchy of the road connectivity, with focus on the airport. Nevertheless, understanding of present major connections to proposed NMIA becomes more than contextual.

The existing road connectivity is presented with the perspective of catchment they serve. It can be seen from the Table E-9 that North-westerly connection with respect to proposed airport location is more than prominent in present context.



14/183

Catchment	Directions w.r.t NMIA	Major Connectivity Corridors
Mumbai	North-West	Sion-Panvel Highway through Thane Creek Bridge nea: Vashi, Palm-Beach Marg and Aamra Marg
Vasai-Virar, Thane- Nasik, Gujarat	North (Belapur Node)	Thane-Belapur Road along with inter urban connections, Sion- Panvel and Aamra Marg
Thane-Nasik, Kalyan- Dombivli, Vasal-Vitar, Nagpur-MP	North (Kalanicol- Node)	NH4 Kalamboli - Thane section further linkage with NH3 and Ghodbunder
Pune-Solapur, Andhra- Kamataka	South-East	Mumbai-Pune Expressway (MPEW) taking off from Kalamboli bypassing Panvel Existing NH4, Kalamboli - Palaspe Phata - Pune through Panvel
Raigad-Ratnagiri, Goa	South	NH17 Mumbal-Goa, taking off at Palaspe Phata on NH4B
JNPT Uran Panvel	South and East- West	Aamra Marg (Uran Phota to Gavan Phata NH4B), NH4B Palaspe Poata-JNPT (with Link to Kalamboli) SH54 Panvel Uran State Highway

Existing Lane Configuration along with classification of all these contidors are summarized in Table E-10.

Road Corridor	Lane Configuration	Classification
Paim Beach Marg	Six Lane Divided Carriageway	Urban Arterial
amra Marg	Four Lane Divided Carriageway	Urban Arterial
VH4B	Four Lane Divided Carriageway	Regional Highway Comdor
1H4	Four Lone Divided Carsageway	Regional Highway Comdor
Sion- Panvel Highway	Six Lane Divided Camageway	Regional Conidor
hane-Belapur SH	Six Lane Divided Cantageway	U/ban Artenal
anvel-Uran SH	Two Lane Carriagoway	Local Consider

E.12.2 IDENTIFICATION OF MAJOR TRANSPORT CORRIDORS AND INTERSECTIONS

Identification of major transport corridors is aimed exclusively to take it further for developing the concept options. The selected corridors which will play important role in establishing connectivity with NMIA and its future interventions are going to be critical in immediate to medium term, with the opening of the new avport. The objective of the effort is to see them as transport corridors duly integrated with other modes. Looking at the future needs, corridor is planned for development keeping in mind its functionality, major transport corridors and major intersections, as identified and presented in Table E-14 and Table E-12 and Figure E-16.



E-22

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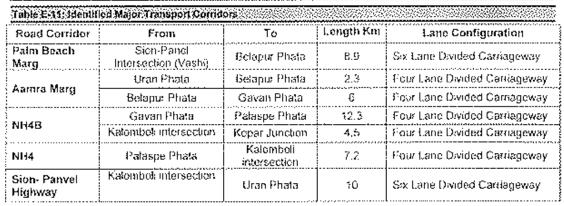


Table E-12: Identified Major Intersections

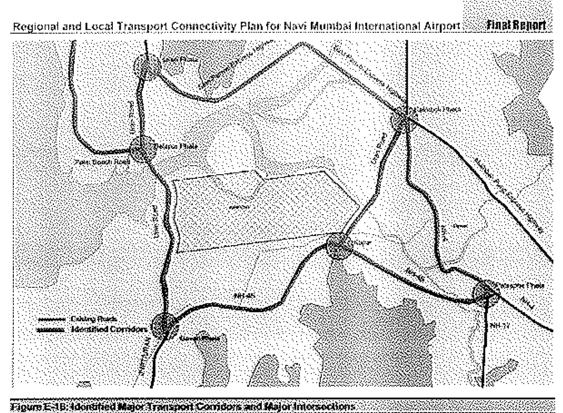
Name of Intersection	No. of Arms	Leading to
		North Amra Marg/ Turbhe/ Vashi
Polonus Photo	4	South Anira Marg/ NMI Airport/ JNPT
Belapur Phata	-	East ~ Sakai Bhavan marg/ Belapur
		West Palm Beach Road/ Vashi
		North – Amra Marg/ Airport/ Belapur
Gayan Phata	5	South-East – JMPT (NH-4B)
Gavan Filata		North-East – Kepar/ Panvel (SH-54)
		South – SH-81
		North Amra Marg/ Arport/ Belapor
Kopar Junction	3	East Palaspe village/ Pune
		West – JNPT (NB-48)
		Nort-West Mumbal-Pune Road (NH-4)
Palaspe Phata	4	South-East - NH-4 to Pune
i biaspe i natu		South ~ NH-17 to Goa
		South-West - to JNPT (NH-48)
		North – Mumbai-Pune Road (NH-4)
		Nort-West – Sion-Panvel Expressway/ Uran Phata
K-b	F	South-East – Son-Panvel Expressway to Pune
Kalamboli Intersection	5	South-West – NMIA / JNPT Road
		South-East – Momba⊩Pupe Road (NH-4)
		North - AMRA MARG/ Turbhe/ Vashi
Uran Phata		North East- MIDC Service Road
oran mata	4	South-West – Bolapur
		South – Sion-Panvel Expressway/ SH-42



E-23

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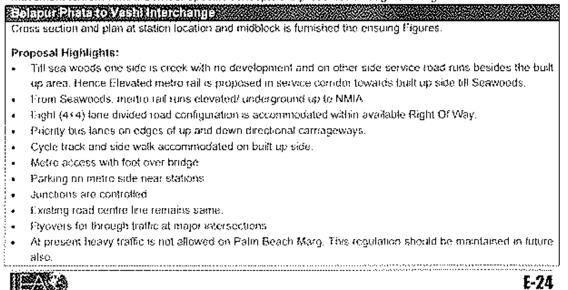
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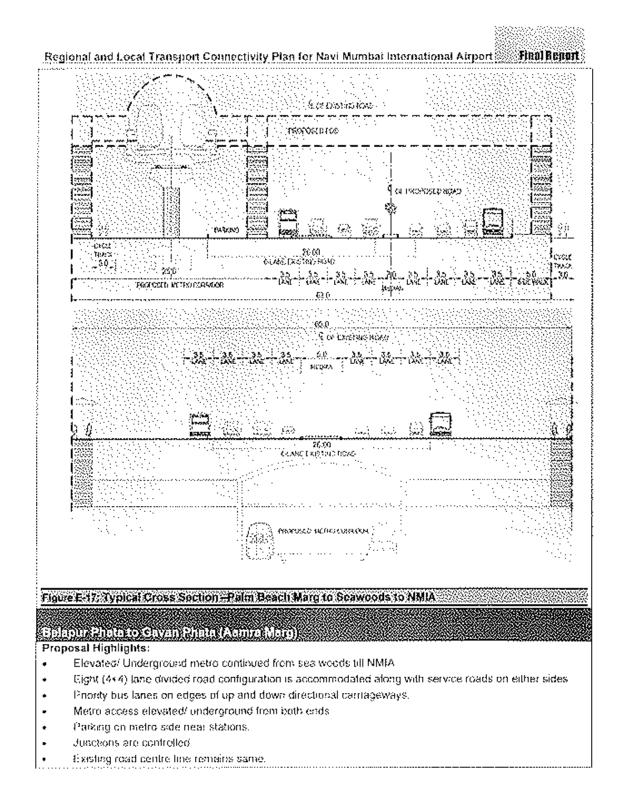


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#### E.12.3 CORRIDOR SPECIFIC FUNCTIONAL CONCEPT DESIGNS

The identified conidors along with their proposed interventions for road and transit are taken into consideration in evolving specific concept designs. These are done by considering right of way availability, horizontal placement for supplementing enhanced connectivity to airport, accommodating metro/transit system through vertical segregation concepts --such as at-grade/elevated/underground depending upon corridor specific conditions. Careful assessment is made in finally arriving at intersection concepts. While firming up concepts at major intersections, priority consideration is given to for the traffic movement to/from NMIA. Corridor specific concepts are presented through ensuing sub-sections.

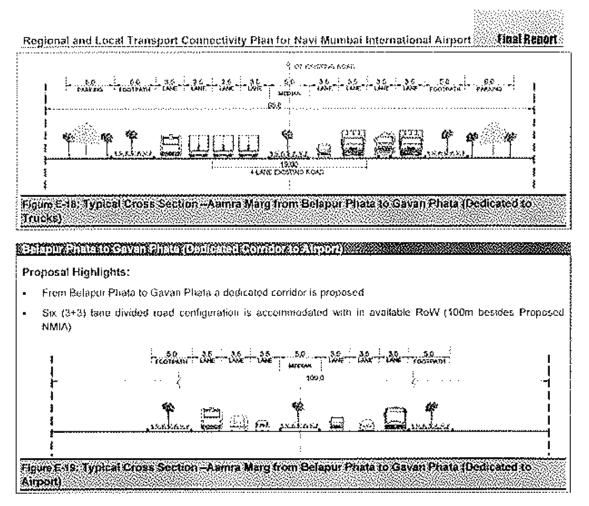






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#### E.12.4 CONCEPT PLAN

Concept plans are prepared in order to visualise the corridor and arrangement with respect to metro alignment. Concept plans are prepared for Vashi Interchange to Betapur Phata, Belapur Phata to Gavan Phata with Options I as with only Right Turn at Belapur Phata, and Option II as with both Left and Right Turn at Belapur Phata, and Option II as with both Left and Right Turn at Belapur Phata, and dedicated corridor to Airport.

#### E.12.5 WAY FORWARD

Based on efforts towards conceptual functional designs for identified corridors and intersections, following are the major findings:

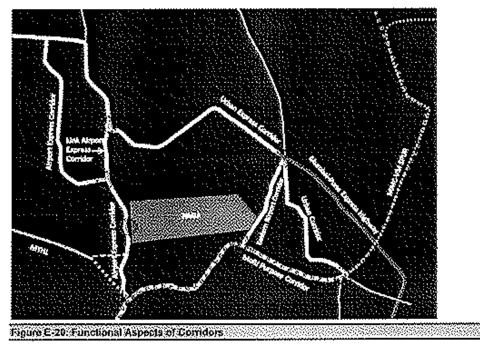
- Proposed NMIA has good existing as well proposed transport connectivity. As far as major corridors of
  movements are concorned, so major conflicts are observed. Palm Beach and Aama Marg having Metro
  intervention in same corridor can be addressed delicately. Rest of the condors are more like road transport
  contributs wherein sub-urban rail or other transit interventions are fairly independent and distant.
- Identified major intersection concepts can be dealt further for detailed feasibility and engineering designs. Similarly entry/exit from NMA need to be dealt as integrated aspect along with erport detailed plan and design.
- MMC and Sportroad of Vadodara-Mumbal Expressway combining together to link Parvet near Palaspe Phata need to be explored. Similarly rationalisation of various proposed interventions between Palaspe Phata to Gavan Phata (i.e. MMC, NH48) calls for integrated conder, the same concept shall go for due diligence. This also facilitates and is likely to confirm advantageous connectivity of M31H, with MPEW and MMC too. This concept of Vasai-Virar to MTHL sing connection seems to be certainly workle explaining.





 Major transport counders as identified should go for preparatory works towards implementation. All these considers should have technology infervention of advanced TTS. Beyond functional aspects of each conduct following role is proposed (Figure 2-20):

| Sr. No. | Corridor                                                                 | Proposed Role                                                                                                                                                                 |
|---------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Plam Beach Marg (Vashi)-Aamra<br>Marg(Belapur Phata)-NMIA-Gavan<br>Phata | Principal Arport Express Comdon: No Heavy Commercial<br>Traffic Movements, Partially Access Controlled Corridor<br>with priority bus lanes.                                   |
| 2       | Asmra Marg (Uran Phata)-Bolapui<br>Phata                                 | Tink Airport Express Corridor. No Commercial Traffic, major<br>urban task with limited access to sides with priority bus<br>lanes.                                            |
| 3       | Gavan Phata-Palaspe Phata (NH4B)                                         | Multi-Purpose Corridor, Heavy Commercial, Passenger and<br>physically segregated Mass Public Transportation corridor,<br>Serving as MTHL dispersal to MPEW and MMC+Spur read. |
| 4       | Uran Phata to Kafamboli (Sion Panvel<br>Higtway)                         | Urban Express Corndor, Controlled commercial movements<br>and regional high speed consider. Alternative link to NMIA<br>Eastern Entry/Exit.                                   |
| 5       | Palaspe Phata to Kalamboli (NH-4<br>through Panyel city)                 | Exclusive Urban corndor with essential amenities.                                                                                                                             |
| 6       | Kopar to Kalambok (NH4B Westerly<br>Bypass (or Panvel)                   | Eastern Airport Look, Barring of heavy commercial traffic,<br>like freeway standard corridor.                                                                                 |



#### E.13 ECONOMIC ANALYSIS

In order to improve the regional and local convectivity to the NMIA, improvements/enhancements to a number of corridors have been proposed, in terms of extending the alignment to cate: to the airport bound traffic. However, to reduce the travel time of the airport bound traffic, a number of intersections have also been improved to segregate the airport bound traffic from the others, as much as possible. The improvement proposals/concepts, both at Regional and Local level, are already discussed in the eadier chapters. This is examined from the perspective of the society.



N2.95/183

## Regional and Local Transport Connectivity Plan for Navi Mumbai International Airport Final Report E.13.1 REGIONAL CONNECTIVITY

Improvements to a number of regional corridors have been proposed. However, for undertaking the oconomic analysis, two metro corridors have been considered (shown in Fig 0-12):

- Ghatkopar-Mankhurd-NMA-Panvel metro Corrector and
- Siddhiwnayak-Sewri-Kharkopar NMA Corridor

It has been assumed that the transport network as proposed in the CTS for MMR, for the horizon years 2016, 2021 and 2031 gets implemented as per the plan. In addition, the committed projects, for which decisions have been taken for implementation, are also assumed to be part of the full network. This is considered the base network. However, when both the above stated corridors are included in the network, a becomes the 'project case'.

For the assessment of the benefits, "without project" case, is represented by taking out the respective metro corridor from the network. Inclusion of the corridor, however, which is the "with project" case, results in shift of passengers to more efficient mode of transport, which, in turn, results in reduction in travel distance or time. In the two cases, 'with' and 'without', the total passenger kilometres travelled and passenger hour spent in travel, by mode, is recorded for assessment of benefit in terms of operational costs of vehicles and value of travel time. The outputs from EMME-3 provided the inputs for the economic analysis. These outputs are in terms of vehicle km, passenger km and vehicle hours and passenger hours.

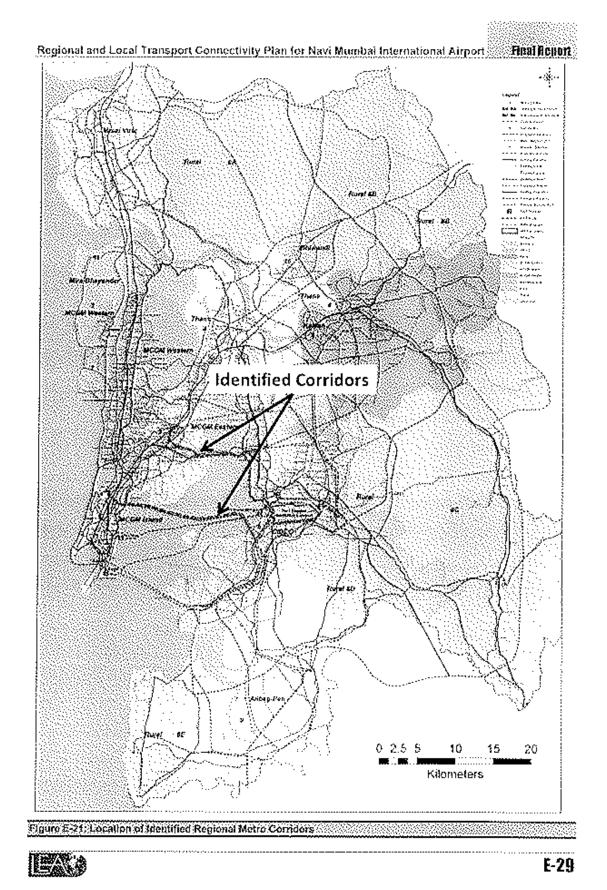
#### E.13.2 LOCAL NETWORK CONNECTIVITY

As part of improvement to local network connectivity, three intersections, i.e. Belapur Phata, Gavan Phata and Katamboli junction, along with the dedicated airport link Belapur Phata to Gavan Phata are proposed. The benefits due to such improvements have been assessed, in order to explain the process adopted for assessment of benefit to traffic, a schematic representation of "without project" and "with project" case considered for local connectivity network is presented in Figure E-21.

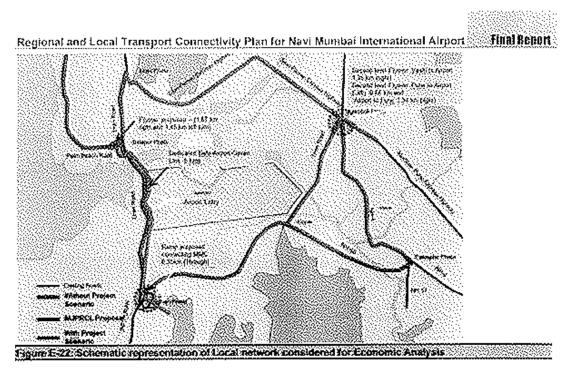
<sup>1</sup> Without project' case can be considered to be same as the 'do minimum' case



124/183



125/183



The "without project" case comprises, full network as per the CTS recommendation in place along with the addition of Mumbai JNPT Port Road connectivity Limited (MJPRCL) improvement proposals. For the "with project" case the improvement proposed as part of the study are considered.

#### E.13.3 PROJECT COST

#### E.13.3.1 Capital cost

The capital cost of the projects are assessed based on the block cost estimates. A summary of the cost, by each of the identified corridor/local network connectivity, is given in Table E-13.

| र लग      | e E-18: Construction cost of project (Rs in A | Aillion at 20  | 10-11 prices)                 |                   |                        |                   |  |
|-----------|-----------------------------------------------|----------------|-------------------------------|-------------------|------------------------|-------------------|--|
| St<br>No. | Name of Corridor                              | Length<br>(km) | Year of<br>Project<br>Opening | Financial<br>Cost | Construction<br>Period | E.conomic<br>Cost |  |
|           | Regional Corridors                            |                |                               | ŀ                 |                        |                   |  |
| 1         | Chatkopar-Mankhurd-NM8A-Paovel Comdor         | 36.4           | 2021                          | 100.070           | ß                      | 90,063            |  |
| 2         | Siddhivinayak-Sewri Kharkopar - NMIA Conidor  | 26.5           | 2021                          | 96.259            | 5                      | 85.625            |  |
|           | Local Network Connectivity                    | 11.5           | 2016                          | 3,600             | ] 1                    | 3.240             |  |

The above stated cost includes the land acquisition and rehabilitation and resettlement costs. The year of opening of the project is stated in the above table. Based on the year of opening and also the number of years required for construction, the first year of project implementation is fixed.

#### E 13.3.2 Operation and Maintenance cost

There is a cost attached to the operation and maintenance of metro system. These include the foel cost, salaries of staff, maintenance of coeches and tracks, continuous inspection of tracks and signalling system, etc. Similarly for local roads, maintenance works comprise routine and periodic maintenance in terms of patching, crack sealing, edge repairs and overlay for the roads. The O&M cost, as estimated, is given in Table E-14.



| Si<br>Na. | Name of Corridor                                 | Maintenance towards              | Financial Cost | Economic<br>Cost |  |
|-----------|--------------------------------------------------|----------------------------------|----------------|------------------|--|
| Reg       | onal Conidors                                    |                                  |                |                  |  |
| 1         | Ghatkopar-Maakhurd-MMIA-Panvel Corridor          | Operation and Maintenance cost   | 5,060          | 4,554            |  |
| 2         | Siddhivinayak-Sewri-Kharkepar - NMIA Contidor    | (Milt Rs/asnum)                  | 5,210          | 4,689            |  |
| ec.       | I Network Connectivity                           |                                  |                | S42.8408         |  |
|           |                                                  | Routine Maintenance (Rs millions | 0.02           | 0.045            |  |
|           | For Road maintenance to Airport (including       | Aane Amijevery year              | 0.02           | 0.018            |  |
| 2         | maintenance of structures at intersections also) | Periodic Maintenance(Rs millions | 3.2            | 0.04             |  |
|           |                                                  | Itane (km) every 5th year        | 3.2            | 2.88             |  |

#### E.13.4 RESULT OF ECONOMIC EVALUATION- BASE CASE

The economic analysis is undertaken for a period of 35 years. The results of the analysis are given in Table E-15.

| Table E-15: Rosults of Base Analysis for Regional | conidors | and Loc | al Notwor | k Connei | ctivity          |         |  |
|---------------------------------------------------|----------|---------|-----------|----------|------------------|---------|--|
| Regional Corridor                                 | EIRR (%) |         |           |          | NPV(Rs millions) |         |  |
| Regional Corridor                                 | 25 yrs   | 30 yrs  | 35 yrs    | 25 yrs   | 30 yrs           | 35 yrs  |  |
| Ghatkopar-Mankhurd-NMIA-Fanvel Corridor           | 19.1%    | 19.7%   | 19.9%     | 38524    | 474:0            | 52813   |  |
| Siddhivmayak-Sewri-Kharkopar- NMIA Corridor       | 22.9%    | 23.1%   | 23.2%     | 72933    | 62134            | 67989   |  |
| Local Network Connectivity                        | 9.7%     | 10.9%   | 11.7%     | -500.26  | -277.72          | · 86 02 |  |

The results indicate that the metro corridors are economically viable, with an EIRR greater than 12% and a positive NPV at a discount rate of 12% pa. The investment made on the improvement of local connectivity is also viable at just about 12% EIRR. It needs to be emphasised here that the benefits considered in the above analysis are just direct benefits.

#### E.13.5 RESULT OF SENSITIVITY ANALYSIS

The results of the sensitivity analysis are presented in Table E-16. Under the case of sensitivity with 5% change in benefits and costs, the corridor is found to be economically viable, however, in the worst case of both increase in cost and reduction in benefit simultaneously, the EIRR goes down marginally below 12%.

| Table E-16: Results for Sonsitivity Analysis    |           |           |            |                  |                 |        |  |
|-------------------------------------------------|-----------|-----------|------------|------------------|-----------------|--------|--|
| Sensitivity 1: Increase in Base cost by 5%      |           |           |            |                  |                 |        |  |
| Regional Corridor                               | [         | EIRR (%   | )          | NP NP            | V(Rs milla      | ons)   |  |
| regional control                                | 25 yrs    | 30 yrs    | 35 yrs     | 3 25 yrs         | 30 yrs          | 35 yrs |  |
| Ghatkopar Mankhurd-NMIA-Pasvel Corridor         | 18.5%     | 19.0%     | 19.3%      | 36423            | 44909           | 50312  |  |
| Siddhivibayak-Sewa-Kharkopar- NMIA Corridor     | 22.1%     | 22.4%     | 22.5%      | 69859            | 79060           | 54915  |  |
| Local Network Connectivity                      | 9.3%      | 10.5%     | 11.3%      | -615.6           | -393.0          | -203.3 |  |
| Sensitivity 2: Reduction in Base Benefits by 5% |           |           |            |                  |                 |        |  |
| Regional Corridor                               | EIRR (%)  |           |            | NPV(Rs millions) |                 |        |  |
| regional contrast                               | 25 yrs    | 30 yrs    | 35 yrs     | 25 yrs           | 30 yrs          | 35 yrs |  |
| Ghaikepar-Mankhu/d-NMIA-Panvel Comdo:           | 17.6%     | 18,2%     | 18 4%      | 28975            | 36540           | 41362  |  |
| Siddhivinayak-Sewri-Kharkopar- NMA Corridor     | 21.9%     | 22.2%     | 22.3%      | 65219            | 73910           | 79444  |  |
| Local Network Connectivity                      | 9.2%      | 10.5%     | 11.3%      | -595.6           | -384.4          | -204 3 |  |
| Sensitivity 3: Increase in Base Costs by 5% and | Reduction | in Base I | Benetits b | ny 5%            |                 |        |  |
| Regional Corridor                               |           | EIRR (%)  |            |                  | NPV(Rs netkons) |        |  |
| Regional Contdor                                | 25 yrs    | 30 yrs    | 35 yrs     | 25 yrs           | 30 yrs          | 35 yrs |  |
| Ghatkopar-Mankhurd-NMIA-Panyel Coundor          | 46.9%     | 17,6%     | 17.8%      | 26474            | 34039           | 3586?  |  |
| Siddhivinayak-Sewri-Kharkopar- NMIA Corridor    | 21.2%     | 21 5%     | 21.6%      | 62145            | 70837           | 76370  |  |
| Local Network Connectivity                      | 8,8%      | 10 1%     | 11.0%      | -710.9           | -499.7          | +319.6 |  |

To sum up, the metro conidors and local network connectivity to NMIA is **desirable from the society's point of view**. ERR is greater than 12% in all the cases for regional corridors, thus reflecting the viability

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E-31

07/183



of the project from the society's perspective. However for the local connectivity improvements, the viability is there in the base case. With consideration of the inducet benefits, as stated earlier, the sensitivity analysis shall also become robust, as the improvements are expected to improve air quality in the vicinity of the intersections as well as increase safety to the vehicles by segregating airport bound traffic for JNPT baffic. With inclusion of such intengible benefits, the project is very much desirable from the point of view of the society.

#### E.14 ASSESSEMNT OF EVOLVED CONNECTIVITY PLAN

The recommended (regional and local) transport connectivity plan is presented in Figure E-23. It is important to note that the comprehensive transportation plan for MMR - 2031 includes sub-taban rait corridors, metro corridors, monorail corridors and highway/expressway corridors, which provide both regional as well as local transport connectivity to the NMIA. In the present study, specific efforts have been made towards enhancing the regional and local transport connectivity to the proposed NMIA.

Further, it is important to note that the projects planned by various planning authorities/agencies in MMR (MMRDA, MSRDC, CIDCO, PWD, Municipal Corporations, Municipal Councils, etc.) have been incorporated in the connectivity plan appropriately by integrating and ensuring continuity of the conidors. In addition to the land based transport modes, Passenger Water Transport routes between Island city and NMIA/ Belaput are also included in the overall plan to enhance the regional transport connectivity to NMIA.

Towards improving the local transport connectivity, improvements to the roads and grade separation facilities at major intersections in the vicinity of the airport, is adopted to improve the traffic operating service levels on the road network. The proposed enhanced transport connectivity will provide faster access/egress to/from the proposed NMIA as well as additional transport intrastructure for the other road or public transport users. Concerted efforts should be made, to develop the identified local and regional connectivity corridors, particularly the road corridors, as **Green Corridors**, to enhance the image of MMR and NMIA.

Time taken to travel between two points is considered as a good determinant of level of service any facility provides. This is true in case of transport connectivity to NMIA also. Travel time is estimated for the horizon year 2031, for the proposed network, by taking into account factors such as mode of transport, transport network connectivity, traffic levels on road system, public transport system characteristics (frequency, capacity, speed, etc.) and time and day of travel.

Assessment of travel times by various major modes, from different TAZs, to the NMIA is done considering the proposed transport network and travel demand assessed (using EMME software) for the horizon year 2031. Average travel distance and travel times from various clusters of MMR to NMIA are presented in Figure E-24 and Table E-17. Travel time in 20 minutes bands using transit modes (sub-urban/ metro/ monorall/ bus) and by road using private vehicles (car/ two wheeler) or IPT modes (Taxi/ Auto) from various TAZs to proposed NMIA (considering the proposed transport network for the horizon year 2031 and travel demand) are presented in Figure E-25 and Figure E-26, respectively. Following are the inferences of the above analysis.

- Metro is a preferred mode as compared to others, for travel from Island city, Western suburbs, Thane and Kalyan to NMIA. The average travel time is #kely to be about 65 mmutes;
- Average travel time between Bhiwandi and NMIA is about 70 minutes by Sub-urban rail as well as by car/ taxi;
- Average travel time between Pen-SEZ and NMIA is about 40 minutes by Sub-urbae rait as well as by car/ taxi;
- Carl Taxi mode offers relatively lower travel time between NMIA and Eastern suburbs (40 minutes), Vasai-Varat (95 minutes), Mira-Bhayantler (85 minutes) and Rurat areas of MMR (95 minutes);



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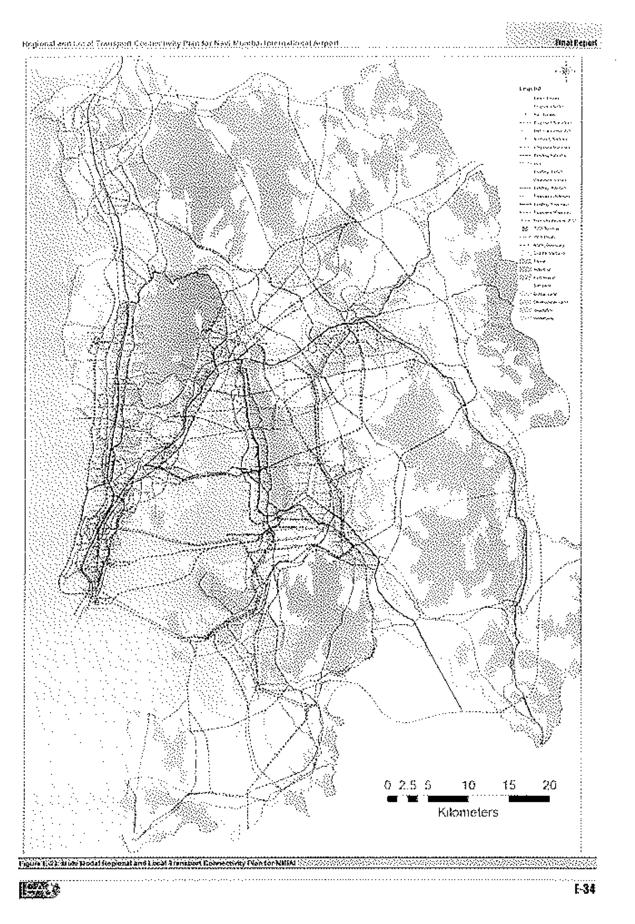
#### Regional and Local Transport Connectivity Plan for Navi Mumbai International Airport 3002 Filal Report

- Average travel times by bus mode from various clusters to NMIA is higher as compared to all other modes;
- 6) The average travel tanes from various clasters to NMIA by sub-orban/metro/ monorail, Bos and Car/Taxi is about 60 minutes, 90 minutes and 70 minutes respectively.
- The range of travel time from the remetest places of MMR to NMIA by different modes is 60 to 90 minutes;
- 8) The travel time from CSIA to NMIA by metro mode is about 45 minutes;
- Average travel time by PWT mode from Island city (Radio Club/ Ferry Wharf terminals) to NMIA is about 40 minutes, which includes waiting time at the terminals(by Bovereraft);
- Travel time increases in case of travelling by car/taxi/bus from the Island city to NMIA. This is due to the congestion on the roads, and
- PWI' take less time to reach NMIA from Island city by Hovercraft and it would greatly supplement with other modes.

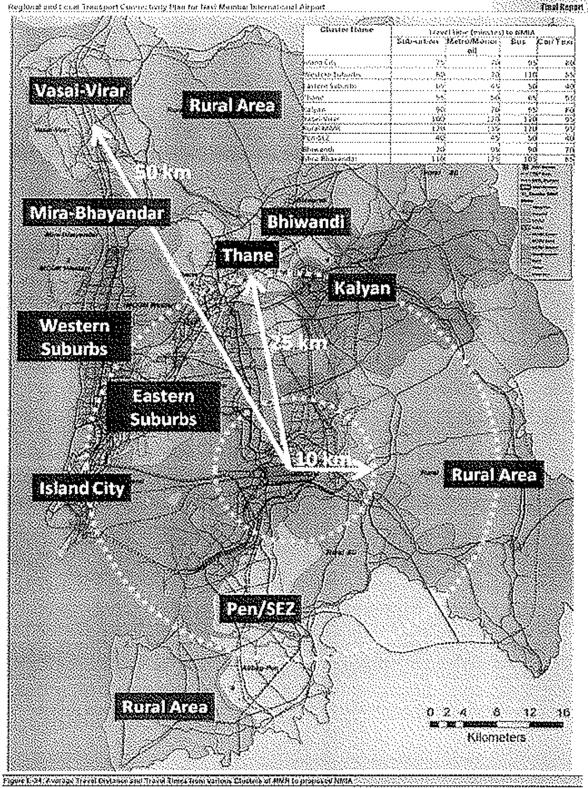


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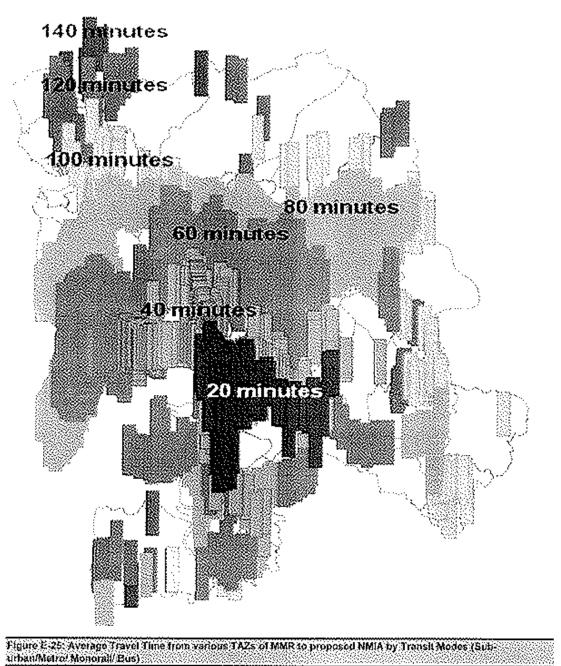
131/183

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|                           | Hus .                      | NHX, MMC, War-Admaug                                                                                     |                            |                                       | 43                        | 175                                  |                                            |
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132/183

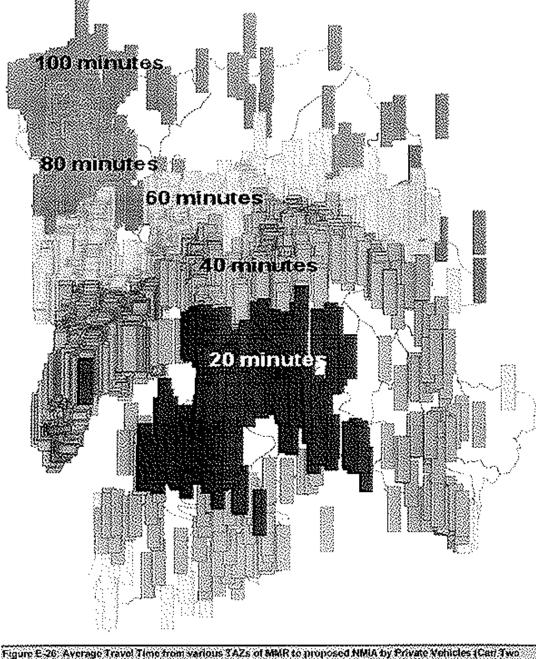






135/183



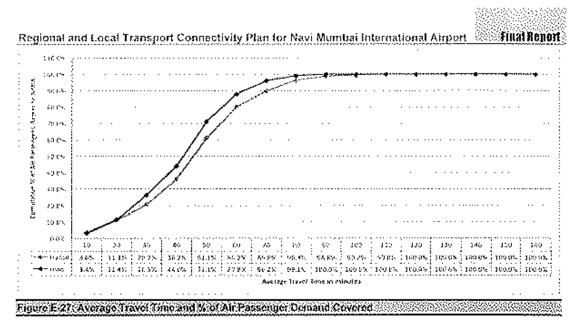


Wheeler)/IPT-Modes (Taxi/Auto)

It can be seen that, the travel time from the remotest places of MMR by transit modes is about 140 minutes and by private vehicle/ IPT modes is about 100 minutes. However, substantial air travel demand to the proposed NMA is located within travel time of about 80 minutes. Further analysis has been carried out in terms of % air travel demand (i.e. 110,000 air passengers/day) in terms of access/ egress travel times from different parts of MMR to/ from NMIA. The details are shown in Figure E-27.



1<sup>31-1</sup>/183



### E.15 PROJECT IMPLEMENTATION - A PERSPECTIVE ON PHASING

The multi-modal enhanced regional transport connectivity and local transport connectivity presented in this chapter and described in previous chapters include some of the committed projects and some of the proposed projects. Phasing of projects is done considering the ongoing implementation of some projects, projects' preparatory works carried out by various planning and implementing organisations, etc. and specifically based on following assumptions:

- 1) Stage 1 of NMIA will be operational end of 2015 and will facilitate 30 MPPA;
- 2) Stage 2 of NMIA with a Capacity of 25 MPPA will be completed by 2020,
- Stage 3 and Stage 4 of NMIA with estimated passenger capacity of 45 MPPA by 2025 and 61 MPPA by 2030 respectively will be opened for use;
- Metro line from Mankhurd-Panvel is proposed to target for providing the connectivity to NMIA, by catering to the Stage 2 estimated NMIA air passengers and other commuters;
- Metro connectivity between Ghatkopar and Mankhurd is proposed to match with operations of M2: Charkope-Bandra-Mankhurd,
- 6) Widening and improvement proposals of Aamra Marg. NH-4B, SH-54 and NH-4 along with interchanges at major focations are to be clubbed with proposed enhancements to NMM local connectivity at major interchange locations and
- Metro corridor from Mankhord to Panvel is considered as elevated. However, only at the DPR stage the grade will be finalized considering the site constraints and other requirements.

Although it is difficult to specifically suggest which agencies will take up what projects, at this stage, an attempt is made based on our understanding of MMR, potential agencies and the level of resources to be invested by each, as given in Table E-18.





## Final Report

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Yable E-18 Implementation Organisations and Sources of Funds

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136/183



#### E.16 WAY FORWARD AND ACTION POINTS

Planning and implementation of capital intensive projects like the regional and local transport connectivity needs urgency, significant co-ordination with other organisations for ensuring effective operation of airport by providing efficient ground transport access by various modes of transport from and to various parts of MMR as well as from/to outside of MMR. Below, in brief, are some of the action points. These are not exhaustive. This is for consideration of CIDCO and GoM for deemed necessary action. :

- High Level Committee should be setup for implementation of the proposed transport infrastructure for enhancing the transport connectivity to NMIA;
- Coordination with NHAI/ MJPRCL/ MSRDC for implementation of proposed widening of Aanva Marg, NH-48, SH-54 and NH4 including interchanges;
- 5) Coordination with PWD, GoM for implementation of Sign-Panyel Highway widening.
- 4) Coordination with MMRDA for providing read connectivity to NMIA from MTHL landing on Main land side at Shivaji Nagar;
- Prepare Detailed Feasibility Study/ Detailed Project Report as appropriate for metro connectivity from Ghatkopar to Panvel via Mankhurd, Vashi, Belapux and NMIA in coordination with MMRDA on priority basis;
- Coordination with MMRDA for integrated design of metro contidors M3: Cotaba-Siddhivinayak-Mahim, Siddhivinayak-Sewri, Sewri-Kharkopar (along MTHL) and Kharkopar-NMIA to facilitate operation of metro services from Cotaba to NMIA and vice versa;
- Prepare Detailed Feasibility Study/ Detailed Project Report as appropriate for implementation of CST-Parvel fast sub-urban rail corridor atong harbour line in coordination with MRVC/ IR;
- Coordination with MMRDA for implementation of Virar-Al-baug Multi-Modal Corridor, as well as hold discussions with MMRDA to integrate the spir (from MMC) proposed under this study with the MMC alignment;
- 9) Prepare Corridor Development Plans as Green Considers, as feasible, for all the identified Local Connectivity and some Regional Corridors and then preparing DPRs for implementation, to enhance the image of MMR and NMIA;
- 10) Prepare Detailed Feasibility Study/ Detailed Project Report as appropriate for implementation of regional Passenger Water Transport (PWT) routes providing connectivity from Island city to NMIA in coordination with MSRDC, MbPT and MMRDA;
- 11) Coordination with Indian Railways for development of Panvel as major Inter-City Rail Terminal and Doubling of Tracks on Panvel-Karjat for running sub-urban operations (CTS for MMR proposals);
- 12) Involvement of Navi Mumbai Traffic Police at all stages i.e. from Planning stage to Execution stage for effective coordination:
- 13) Initiate delogue with NMMT, BEST, TMT, KDMT, MSRTC etc. when implementation of NMIA has reached near completion, for operation of bus routes providing connectivity to NMIA from various parts of MMR;
- 14) Secure encreachment removal along major transportation corridors and restore capacities to safely and effectively move people and vehicles.
- Implement measures to protect long term transportation corridors (protection of Right of Way);
- (56) Development of land parcels around the NMIA periphery will have to be strictly controlled to avoid unauthorised occupation or wrongful land use that may cause congestion and obstruction in construction of approach reads towards the NMIA.
- Identified major intersection concepts can be dealt forther for detailed feasibility and engineering designs. Similarly entry/exit from NMIA need to be dealt as integrated aspect along with airport detailed plan and design;
- Land required to develop the proposed interchanges (especially under local connectivity) need to be blocked for future use;
- 19) Implement policies to promote transit oriented development;
- 20) As the NMIA project nears completion, coordinate w/9) MRVC/ IR for increasing the frequency of sub-urban trains and operation of 12 coach rakes on CST-Panvel section of harbour line; and
- 21) Coordination with MRVC/ IR for sub-urbanizati operations on Vasal-Diva and Diva-Panvel sections.



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ANNEXUME 1

# GOVERNMENT OF MAHARASHTRA URBAN DEVELOPMENT DEPARTMENT

Df. 21st March,2012

## NOTIFICATION

Maharashtra Regional And Town Planning Act, 1966.

## No. TPS-1711/2495/C.R.202/11/UD-12

Whereas, the Government of Maharashtra has in exercise of the powers conferred by sub-section (1) of the section 113 of the Maharashtra Regional And Town Planning Act, 1966 (Mah. Act No.XXXVII of 1966) (hereinafter referred to as "the said Act") designated by Notification, Urban Development, Public Health and Housing Department No.RPB-1171/ 18124/113/IW, dated the 20<sup>th</sup> March, 1971, as amended by Notification No.1173/IRPC, dated 16<sup>th</sup> August, 1973, the area specified therein as the site for a new town of Navi-Mumbai;

And whereas, the Government of Maharashtra has in exercise of the powers conferred by sub-section (3A) of the section 113 of the said Act declared by Notification, Urban Development, Public Health and Housing Department No.RPB-1171/18124/113/II-W, dated the 20<sup>th</sup> March, 1971, as amended by Notification No.1173/RPC, dated 16<sup>th</sup> August, 1973, <u>City</u> and Industrial Development Corporation of Maharashtra Limited (hereinafter referred to as "the said Corporation") as the New Town Development Authority for the said area comprised in the site of Navi Mumbai (hereinafter referred to as "the said Authority");

And whereas, the Government of Maharashtra has in exercise of the powers conferred by sub-section (1) of the section 31 of the said Act, by Notification, Urban Development, Public Health Department No.RPB-1175/635/UD-5, dated the 18<sup>th</sup> August, 1979 read with the Notification, Urban Development, Public Health Department No.RPB-1175/635/UD-5, dated the 18<sup>th</sup> January, 1980, sanctioned the Draft Development Plan together with Development Control Regulations submitted by the said Corporation for the said area comprised in the site for the New Town of Navi Mumbai and

138/187

| Schedule-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| Statement of proposed modifications in Navi Mumbai Development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| The second s |

| Man<br>Deve<br>the s<br>Regu            | sanctioned Development Plan<br>ch, 1980 as stated in the forege<br>elopment Plan" within the mea<br>aid Act (hereinafter referred to<br>tlations");<br>And whereas, the said Corpor<br>ance granted by Ministry of I        | oing No<br>aning of<br>as "the<br>ration, in                              | tification and is c<br>sub-section (6) o<br>said Development<br>n view of Enviror                    | alled "the Final"<br>of section 31 of<br>at Plan and said<br>amental & CRZ                                       |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| vide<br>Airpa<br>Airps<br>said<br>(here | letter dated 22.11.2010 for esta<br>ort, initiated a modification pro<br>ort & Allied Activities/Services<br>Regulations, as specified in Scl<br>inafter referred to as "the sai<br>fication proposal under section<br>ion; | ablishme<br>oposal fo<br>Zone" i<br>hedule-1<br>id modi                   | nt of Navi Mumb<br>or incorporation of<br>in the said Develo<br>& Schedule-II gi<br>fication") & sub | ai International<br>f "International<br>pment Plan and<br>ven here below<br>mitted the said                      |
| St:                                     | atement of proposed modifica                                                                                                                                                                                                | tions in<br>Plan:                                                         | Navi Mumbai D                                                                                        | evelopment                                                                                                       |
|                                         |                                                                                                                                                                                                                             | . 1 <b>2</b> 11:                                                          | · ··• · · 11 1                                                                                       | Construction of the second s |
| Sr.<br>No.                              | Location                                                                                                                                                                                                                    | Аррго<br>x.<br>ягеа                                                       | Use Zone (as per sanctioned                                                                          | Proposed<br>Land Use                                                                                             |
| Sr.<br>No.                              | Location<br>2                                                                                                                                                                                                               | Appro<br>x.<br>area<br>(Ha.)<br>3                                         | Use Zone (as<br>per sanctioned<br>D. P.)<br>4                                                        | Proposed<br>Land Use                                                                                             |
| Sr.<br>No.                              | Location<br>2<br>osed No Development Zone (                                                                                                                                                                                 | Appro<br>x.<br>агеа<br>(Ha.)<br>3<br>NDZ) N                               | Use Zone (as<br>per sanctioned<br>D. P.)<br>4<br>Iodification (616                                   | Proposed<br>Land Use<br>5<br>24 Ha.)                                                                             |
| <b>Sr.</b><br>No.                       | Location<br>2                                                                                                                                                                                                               | Appro<br>x.<br>агеа<br>(Ha.)<br>3<br>NDZ) N                               | Use Zone (as<br>per sanctioned<br>D. P.)<br>4<br>Iodification (616                                   | Proposed<br>Land Use                                                                                             |
| <b>Sr.</b><br>No.                       | Location<br>2<br>osed No Development Zone (<br>Waghivali Island (pocket                                                                                                                                                     | Аррго<br>х.<br>агеа<br>(На.)<br>3<br>NDZ) N<br>190.0<br>0<br>5,43<br>9,00 | Use Zone (as<br>per sanctioned<br>D. P.)<br>4<br>Iodification (616<br>No<br>Development              | Proposed<br>Land Use<br>5<br>24 Ha.)<br>No<br>Developmen                                                         |

|             | Station and North of Gadhi                                                                                                                                                                                                 |                                                                                                                          | Development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                     |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
|             | River, more clearly indicated                                                                                                                                                                                              |                                                                                                                          | Zone (NDZ)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                     |
|             | in the plan.                                                                                                                                                                                                               | 14.86                                                                                                                    | ÷ • • • • • • • • • • • • • • • • • • •                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | -                                                                   |
|             |                                                                                                                                                                                                                            | 96.49                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                     |
|             |                                                                                                                                                                                                                            | 23.91                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                     |
|             |                                                                                                                                                                                                                            |                                                                                                                          | Corridor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                     |
|             | Part of Village Targhar                                                                                                                                                                                                    | 9.20                                                                                                                     | Commercial                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                     |
|             | (pocket No.3)                                                                                                                                                                                                              | 8.90                                                                                                                     | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                     |
|             |                                                                                                                                                                                                                            |                                                                                                                          | Development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                     |
|             |                                                                                                                                                                                                                            |                                                                                                                          | Zone (NDZ)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                     |
|             |                                                                                                                                                                                                                            | 12.30                                                                                                                    | and the second | 4                                                                   |
|             | Part of Village Vahal (pocket                                                                                                                                                                                              | 20.60                                                                                                                    | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | /<br>                                                               |
|             | No.4)                                                                                                                                                                                                                      |                                                                                                                          | Development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                     |
|             | :                                                                                                                                                                                                                          |                                                                                                                          | Zone (NDZ)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | l                                                                   |
|             |                                                                                                                                                                                                                            | 1.10                                                                                                                     | Water Body                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | •<br>•<br>•                                                         |
|             |                                                                                                                                                                                                                            | 38.50                                                                                                                    | Special                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1                                                                   |
|             | -                                                                                                                                                                                                                          |                                                                                                                          | Economic Zone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                     |
|             |                                                                                                                                                                                                                            |                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                     |
| 1.5.1.1.1.1 | posed Airport and Allied A<br>9.58 Ha.)                                                                                                                                                                                    |                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                     |
| 1.5.1.1.1.1 |                                                                                                                                                                                                                            |                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Airport and                                                         |
| (115        | 9.58 Ha.)<br>Area comprising parts of<br>Villages Pargaon dungi.                                                                                                                                                           | .1 <b>.18,8</b> .<br>2                                                                                                   | Regional Park-<br>Zone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Airport and<br>Allied                                               |
| (115        | 9.58 Ha.)<br>Area comprising parts of<br>Villages Pargaon dungi,<br>Pragaon Kopar, Owale,                                                                                                                                  | -1-18,8<br>2<br>558.7                                                                                                    | Regional Park-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Airport and<br>Allied<br>Activities/Se                              |
| (115        | 9.58 Ha.)<br>Area comprising parts of<br>Villages Pargaon dungi,<br>Pragaon Kopar, Owale,<br>Ulwa, Targhar, Waghivali,                                                                                                     | -1-1-8,8<br>2<br>558,7<br>1                                                                                              | Regional Park-<br>Zone<br>Residential                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Airport and<br>Allied                                               |
| (115        | 9.58 Ha.)<br>Area comprising parts of<br>Villages Pargaon dungi,<br>Pragaon Kopar, Owale,<br>Ulwa, Targhar, Waghivali,<br>more clearly indicated in the                                                                    | 118,8<br>2<br>558,7<br>1<br>237,3                                                                                        | Regional Park-<br>Zone<br>Residential                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Airport and<br>Allied<br>Activities/Se                              |
| (115        | 9.58 Ha.)<br>Area comprising parts of<br>Villages Pargaon dungi,<br>Pragaon Kopar, Owale,<br>Ulwa, Targhar, Waghivali,                                                                                                     | 118.8<br>2<br>558.7<br>1<br>237.3<br>0                                                                                   | Regional Park-<br>Zone<br>Residential<br>Commercial                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Airport and<br>Allied<br>Activities/Se                              |
| (115        | 9.58 Ha.)<br>Area comprising parts of<br>Villages Pargaon dungi,<br>Pragaon Kopar, Owale,<br>Ulwa, Targhar, Waghivali,<br>more clearly indicated in the                                                                    | 118,8<br>2<br>558,7<br>1<br>237,3                                                                                        | Regional Park-<br>Zone<br>Residential<br>Commercial<br>No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Airport and<br>Allied<br>Activities/Se                              |
| (115        | 9.58 Ha.)<br>Area comprising parts of<br>Villages Pargaon dungi,<br>Pragaon Kopar, Owale,<br>Ulwa, Targhar, Waghivali,<br>more clearly indicated in the                                                                    | 118.8<br>2<br>558.7<br>1<br>237.3<br>0                                                                                   | Regional Park-<br>Zone<br>Residential<br>Commercial<br>No<br>Development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Airport and<br>Allied<br>Activities/Se                              |
| (115        | 9.58 Ha.)<br>Area comprising parts of<br>Villages Pargaon dungi,<br>Pragaon Kopar, Owale,<br>Ulwa, Targhar, Waghivali,<br>more clearly indicated in the                                                                    | 118.8<br>2<br>558.7<br>1<br>237.3<br>0<br>74.85                                                                          | Regional Park-<br>Zone<br>Residential<br>Commercial<br>No<br>Development<br>Zone (NDZ)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Airport and<br>Allied<br>Activities/Se                              |
| (115        | 9.58 Ha.)<br>Area comprising parts of<br>Villages Pargaon dungi,<br>Pragaon Kopar, Owale,<br>Ulwa, Targhar, Waghivali,<br>more clearly indicated in the                                                                    | 448.8<br>2<br>558.7<br>1<br>237.3<br>0<br>74.85<br>60.20                                                                 | Regional Park-<br>Zone<br>Residential<br>Commercial<br>No<br>Development<br>Zone (NDZ)<br>Water Body                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Airport and<br>Allied<br>Activities/Se                              |
| (115        | 9.58 Ha.)<br>Area comprising parts of<br>Villages Pargaon dungi,<br>Pragaon Kopar, Owale,<br>Ulwa, Targhar, Waghivali,<br>more clearly indicated in the                                                                    | -148.8<br>2<br>558.7<br>1<br>237.3<br>0<br>74.85<br>60.20<br>110.1                                                       | Regional Park-<br>Zone<br>Residential<br>Commercial<br>No<br>Development<br>Zone (NDZ)<br>Water Body<br>Marshalling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Airport and<br>Allied<br>Activities/Se                              |
| (115        | 9.58 Ha.)<br>Area comprising parts of<br>Villages Pargaon dungi.<br>Pragaon Kopar, Owale,<br>Ulwa, Targhar, Waghivali,<br>more clearly indicated in the<br>plan.                                                           | -148;8<br>2<br>558,7<br>1<br>237,3<br>0<br>74,85<br>60,20<br>110,1<br>0                                                  | Regional Park-<br>Zone<br>Residential<br>Commercial<br>No<br>Development<br>Zone (NDZ)<br>Water Body<br>Marshalling<br>Yard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Airport and<br>Allied<br>Activities/Se                              |
| (115<br>2   | 9.58 Ha.)<br>Area comprising parts of<br>Villages Pargaon dungi,<br>Pragaon Kopar, Owale,<br>Ulwa, Targhar, Waghivali,<br>more clearly indicated in the<br>plan.                                                           | -148.8<br>2<br>558.7<br>1<br>237.3<br>0<br>74.85<br>60.20<br>110.1<br>0<br>ication                                       | Regional Park-<br>Zone<br>Residential<br>Commercial<br>No<br>Development<br>Zone (NDZ)<br>Water Body<br>Marshalling<br>Yard<br>(351.46 Ha.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Airport and<br>Allied<br>Activities/Se<br>rvices Zone               |
| (115        | 9.58 Ha.)<br>Area comprising parts of<br>Villages Pargaon dungi.<br>Pragaon Kopar, Owale,<br>Ulwa, Targhar, Waghivali,<br>more clearly indicated in the<br>plan.<br>osed Commercial Zone Modif<br>Area comprising parts of | -148.8<br>2<br>558.7<br>1<br>237.3<br>0<br>74.85<br>60.20<br>110.1<br>0<br>ication<br>43.50                              | Regional Park-<br>Zone<br>Residential<br>Commercial<br>No<br>Development<br>Zone (NDZ)<br>Water Body<br>Marshalling<br>Yard<br>(351.46 Ha.)<br>Residential                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Airport and<br>Allied<br>Activities/Se<br>rvices Zone<br>Commercial |
| (115<br>2   | 9.58 Ha.)<br>Area comprising parts of<br>Villages Pargaon dungi,<br>Pragaon Kopar, Owale,<br>Ulwa, Targhar, Waghivali,<br>more clearly indicated in the<br>plan.                                                           | -1-18.8<br>2<br>558.7<br>1<br>237.3<br>0<br>74.85<br>60.20<br>110.1<br>0<br>10.1<br>0<br>10.1<br>0<br>10.1<br>0<br>154.0 | Regional Park-<br>Zone<br>Residential<br>Commercial<br>No<br>Development<br>Zone (NDZ)<br>Water Body<br>Marshalling<br>Yard<br>(351.46 Ha.)<br>Residential                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Airport and<br>Allied<br>Activities/Se<br>rvices Zone<br>Commercial |

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|                    | Area comprising parts of                                                                                                                                                                                                                                                                                                                            | 153.9                              | Regional Park                                                                               |                                                                           |
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|                    | Village Dapoli, Manghar,                                                                                                                                                                                                                                                                                                                            |                                    | Zone                                                                                        |                                                                           |
|                    | more clearly indicated in the                                                                                                                                                                                                                                                                                                                       |                                    | a an                                                    | · • • • • • • • • • • •                                                   |
| وعيدة ليعاط المحاط | plan,                                                                                                                                                                                                                                                                                                                                               |                                    |                                                                                             |                                                                           |
| Pro                | posed Residential Zone Modifi                                                                                                                                                                                                                                                                                                                       | cation (                           | (441.90 Ha.)                                                                                | <u></u>                                                                   |
| 4                  | Area comprising parts of                                                                                                                                                                                                                                                                                                                            | 24.80                              | Institutional                                                                               | Residential                                                               |
|                    | Village Kamothe, more                                                                                                                                                                                                                                                                                                                               |                                    |                                                                                             | Zone                                                                      |
|                    | clearly indicated in the plan.                                                                                                                                                                                                                                                                                                                      | _                                  |                                                                                             |                                                                           |
|                    | Area comprising parts of                                                                                                                                                                                                                                                                                                                            | •294.0                             | Regional Park                                                                               | Residential                                                               |
|                    | Villages Pargaon Dungi,                                                                                                                                                                                                                                                                                                                             |                                    | Zone                                                                                        | Zone                                                                      |
| -                  | Pargaon, Owale, Dapoli,                                                                                                                                                                                                                                                                                                                             |                                    | Marshalling                                                                                 |                                                                           |
|                    | Manghar, Kundevahal,                                                                                                                                                                                                                                                                                                                                |                                    | Yard                                                                                        |                                                                           |
|                    | Owale, more clearly                                                                                                                                                                                                                                                                                                                                 |                                    |                                                                                             |                                                                           |
|                    | indicated in the plan.                                                                                                                                                                                                                                                                                                                              |                                    |                                                                                             | ,<br>,<br>,                                                               |
| Pro                | posed Infrastructure (Recours                                                                                                                                                                                                                                                                                                                       | e Char                             | nel/Transportati                                                                            | on Corridor                                                               |
|                    |                                                                                                                                                                                                                                                                                                                                                     |                                    |                                                                                             |                                                                           |
| Mo                 | -                                                                                                                                                                                                                                                                                                                                                   |                                    |                                                                                             |                                                                           |
|                    | dification (99.8 Ha.)                                                                                                                                                                                                                                                                                                                               |                                    |                                                                                             | Recourse                                                                  |
| <b>Mo</b><br>5     | dification (99.8 Ha.)<br>Area comprising part of                                                                                                                                                                                                                                                                                                    | 24.17                              |                                                                                             | Recourse                                                                  |
|                    | dification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more                                                                                                                                                                                                                                                                         | 24.17                              | No                                                                                          | Recourse<br>Channel an<br>Transportation                                  |
| 5                  | dification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.                                                                                                                                                                                                                                       | 24.17                              | No<br>Development<br>Zone                                                                   | Recourse<br>Channel an<br>Transportation<br>Transportation                |
|                    | dification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area, comprising parts, of                                                                                                                                                                                                         | 24.17                              | No<br>Development<br>Zone                                                                   | Recourse<br>Channel an<br>Transportation<br>Transportation                |
| 5                  | dification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area, comprising parts, of<br>Villages Babmavi, Owale,                                                                                                                                                                             | 24.17<br>519.16                    | No<br>Development<br>Zone<br>Regional Park<br>Zone                                          | Recourse<br>Channel an<br>Transportation<br>Transportation                |
| 5                  | dification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area comprising parts of<br>Villages Babmavi, Owale,<br>Ulwa, more clearly indicated                                                                                                                                               | 24.17<br>519.16                    | No<br>Development<br>Zone<br>Regional Park<br>Zone                                          | Recourse<br>Channel an<br>Transportation<br>Transportation<br>Corridor/Ma |
| 5                  | dification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area comprising parts of<br>Villages Babmavi, Owale,<br>Ulwa, more clearly indicated<br>in the plan.                                                                                                                               | 24.17<br>\$19.16<br>38.34          | No<br>Development<br>Zone<br>Regional Park<br>Zone<br>Residential                           | Recourse<br>Channel an<br>Transportation<br>Transportation<br>Corridor/Ma |
| 5                  | dification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area comprising parts of<br>Villages Babmavi, Owale,<br>Ulwa, more clearly indicated                                                                                                                                               | 24.17<br>\$19.16<br>38.34          | No<br>Development<br>Zone<br>Regional Park<br>Zone<br>Residential                           | Recourse<br>Channel an<br>Transportation<br>Transportation<br>Corridor/Ma |
| 5                  | dification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area comprising parts of<br>Villages Babmavi, Owale,<br>Ulwa, more clearly indicated<br>in the plan.<br>Area comprising parts of                                                                                                   | 24.17<br>\$19.16<br>38.34          | No<br>Development<br>Zone<br>Regional Park<br>Zone<br>Residential                           | Recourse<br>Channel an<br>Transportation<br>Transportation<br>Corridor/Ma |
| 5                  | dification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area comprising parts of<br>Villages Babmavi, Owale,<br>Ulwa, more clearly indicated<br>in the plan.<br>Area comprising parts of<br>Villages Kopar, Targhar,                                                                       | 24.17<br>\$19.16<br>38.34          | No<br>Development<br>Zone<br>Regional Park<br>Zone<br>Residential                           | Recourse<br>Channel an<br>Transportation<br>Transportation<br>Corridor/Ma |
| 5                  | dification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area comprising parts of<br>Villages Babmavi, Owale,<br>Ulwa, more clearly indicated<br>in the plan.<br>Area comprising parts of<br>Villages Kopar, Targhar,<br>more clearly indicated in the<br>plan.                             | 24.17<br>\$19.16<br>38.34<br>14.92 | No<br>Development<br>Zone<br>Regional Park<br>Zone<br>Residential                           | Recourse<br>Channel an<br>Transportation<br>Transportation<br>Corridor/Ma |
| 5                  | dification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area comprising parts of<br>Villages Babmavi, Owale,<br>Ulwa, more clearly indicated<br>in the plan.<br>Area comprising parts of<br>Villages Kopar, Targhar,<br>more clearly indicated in the                                      | 24.17<br>\$19.16<br>38.34<br>14.92 | No<br>Development<br>Zone<br>Regional Park<br>Zone<br>Residential<br>Commercial             | Recourse<br>Channel an<br>Transportation<br>Transportation<br>Corridor/Ma |
| 5                  | dification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area comprising parts of<br>Villages Babmavi, Owale,<br>Ulwa, more clearly indicated<br>in the plan.<br>Area comprising parts of<br>Villages Kopar, Targhar,<br>more clearly indicated in the<br>plan.<br>Area comprising parts of | 24.17<br>\$19.16<br>38.34<br>14.92 | No<br>Development<br>Zone<br>Regional Park<br>Zone<br>Residential<br>Commercial<br>Woodland | Recourse<br>Channel an<br>Transportatio<br>n names of the<br>Corridor/Ma  |

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Note :- The exact boundary/areas mentioned above are subject to site verification and demarcation and accordingly may vary.

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## Schedule-II

- Statement of proposed amendments to GDCRs of Navi Mumbai.

| Sr.<br>No.                            | Existing<br>Provisions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Proposed Modification.                                                                                                                                            | . r:  |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 1                                     | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3                                                                                                                                                                 |       |
| Regu                                  | lation No.14 - 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Zoning & Use Provisions                                                                                                                                           |       |
| -                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | After clause no.13 Special Economic Zone, the<br>following shall be added -<br>14. Airport & Allied Activities/Services                                           |       |
| 2                                     | Nil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                   | .1 72 |
|                                       | new land use<br>zone in<br>regulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | After clause no.13 Special Economic Zone, the<br>following shall be added<br>14. Airport & Allied Activities/Services<br>12. Airport & Allied Activities/Services |       |
| Ran-                                  | 14.4<br>No.16 - 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Ruitting Operations                                                                                                                                               |       |
| A A                                   | New<br>provision in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Building Operations<br>After the provision (regulation) 16.3 (1a) at H, the<br>following provision shall be added<br>11H - Airport & Allied Activities/Services   |       |
| · · · · · · · · · · · · · · · · · · · | <ul> <li>A second sec<br/>second second sec</li></ul> | 74/3                                                                                                                                                              | 4     |

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|     | 16.3 (1a) at<br>'HH' over               | Maximum permissible FS1 = 1.00                                                                                                                                                                                                                                                                                                                                      |
|-----|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reg | ulation No.17-                          | Open Spaces around Buildings                                                                                                                                                                                                                                                                                                                                        |
| 5   | Addition of<br>new provision<br>at 17.7 | After the provision (regulation) 17.6, the following<br>provision shall be added –<br>17.7 – The restrictions on development & height of<br>buildings in the vicinity of Airport & also in the area<br>under landing & take of zones, as defined by the<br>Corporation shall be regulated in consultation with<br>Airport Authority of India (AAI), Govt. of India. |

And whereas, after making necessary enquiry and after consulting Director of Town Planning, Maharashtra State, Pune Govt. is of the opinion that the said modification should be sanctioned;

Now therefore, in exercise of the powers vested under 37(2) of the said Act, Government hereby sanctions the said modification submitted by CIDCO as mentioned in column no.5 of Schedule-I and column no.3 of Schedule-II with following conditions and for that purpose adds the New Entry of sanctioned modification after the last entry in the schedule of modifications appended to the notification dated <u>18</u>.1.1980 sanctioning the said Development Plan together with Development Control Regulations.

### Conditions :-

- It is binding on CIDCO, to take necessary prior approvals of all concerned Departments/ Authorities/Competent Authority for this proposal and it is also binding on CIDCO to comply with all the terms and conditions mentioned therein.
- 2) It is binding on CIDCO to comply with all the terms and conditions mentioned in MoEP's Environmental & CRZ clearance letter dated 22.11.2010 about 276 Ha, area. Also it is binding on CIDCO to take necessary prior approval of MoEP about additional 76 Ha, area shown for hon-aeronautical activities in this proposal.
- 3) It is binding on CIDCO to comply all necessary legal proceedings regarding acquisition of all the privately owned lands, as mentioned in Enclosures-1 attached with CIDCO's fetter dated 7.9.2011.

14<sup>(5</sup>/183

4) It will be the responsibility of CIDCO, if any legal consequences arise regarding this modification proposal in future. 5) The reliabilitation of all the persons affected due to this project will be an uncones the responsibility of CIDCO. 6) In the project under reference, residential zoned narrow stripped lands exists between the Airport boundary & the existing road & these lands are prone to encroachment as independent development thereat is not feasible As such, it will be total responsibility of CIDCO that these lands are to be kept free from encroachment & they shall be used only for & Airport related services, facilities , beautification & ancillary uses. A) Copy of plan & Regulations showing the sanctioned modification is Note :available at following offices to the general public during office hours 1) Managing Director, CIDCO, CIDCO Bhavan, Belapur, Navi on all working days -2) Dy.Director of Town Planning, Konkan Division, Navi Mumbai. Mumbai. 3) Asst. Director of Town Planning, Raigad-Alibag. B) This notification also published on government web site at www.urban.maharashtra.gov.in By order & in the name of the Governor of Maharashtra (Sanjay V.Pawar) Desk Officer Government Of Maharashtra

144/183

FAX TO Shri, Ravi Kumer H Pages महाराष्ट्र शासन नगर विकास विभाग,

प्रस्ताधित नवी मुंबई अंतरसप्ट्रीय विमानतळापासून २५ कि.ची. विज्येच्या प्रभावित क्षेत्रासाठी सिडकोची '' विशेष नियोजन प्राधिकरणाः म्हणून चैमणुक करणेवावत.

महाराष्ट्र प्रादेशिक य नगर रचना अधिनियम, १९६६ चे कलग ४० (१) (ब) अन्क्ये अधिसचना,

मंत्रालय, मुंबई - ४०० ०३२. शासन निर्णय क्र.टिपीएस-१७१२/४७५/प्र.क.९८/१२/नवि-१२, दिनांक :- १० जानेवारी , २०१३.

शासन निर्णय :- सोबतची अधिसूचना (मराठी व इंग्रजी) भहाराष्ट्र शासनाच्या साधारण राजपत्रात प्रसिद्ध करावी.

महाराष्ट्राचे राज्यपाल यांच्या आदेशानुसार व नावाने.

(संज़र्य वि.पवार) कार्यासन अधिकारी

प्रति :-

CIDCO NIRMAL

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- १) आयुक्त, कोकण विभाग, कोकण भवन, नवी मुंबई.
- २) महानगर आयुवत, मुंबई महानगर प्रदेश विकास प्राधिकरण, बांद्रा कुर्ला कॉम्प्लेक्स, थांद्रा (पूर्व) मुंबई,
- ३) संचालक, नगर रचना, महाराष्ट्र राज्य, पूर्ण (नकाशासह).

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- ५) मुख्य नियोजनकार, सिडको, सिडको भवन, सिबीडी चेलापूर, नवी मुंबई ४०० ६१४: त्यांना विगंती करण्यात येते की, त्यांनी सदर अधिसुचनेसोबतचे प्रमाणित पाग नकाशे १० प्रतीमध्ये तयार करून ते उपसंचालक,नगर रचना,कोकण विभाग व संचालक,नगर रचना,पूर्ण यांचेमार्फत अधिप्रमाणित करण्यासाठी शासनास पाठवावेत.)
- ६) जिल्हाधिकारी, रायगड/ ठाणे
- ७) भुख्य कार्यकारी अधिकारी, जिल्हापरिषद, रायगढ/छणे
- ८) उपसंचालक, नगर रचना, कोकण विभाग, कोकण भवन, नवी संबई,

(त्यांना चिनंती करण्यात येते की, सिडको महामंडळाने सदर अधिश्चनेसोवतचे प्रमाणित भाग नकाशे १० प्रतीमध्ये तयार करून ते आपल्या कार्यालयास सावर फेल्यानंतर सदर नकाशांची कृभया छाननी करून सदर नकाशे शासनाच्या अधिसूचनेनुसारच असल्याची खात्री आपले स्तरावरुन कठन त्यानंतर

D/KALAM/ADISUHNA 2012



भद्राराष्ट्र शासन नगर विकास विभाग, मंत्रालय, मुंबई - ४०० ०२१. दिनांवा :- १० जानेवारी , २०१३

## <u>अधिसूचना</u>

शासन निर्णय क्र.टिपीएस-१७१२/४७५/प्र.क्र.९८/१२/नवि-१२ :-

महाराष्ट्र प्रादेशिक व नगर रचना अधिनियम, १९६६

ञ्चाआर्थी, मुंबई महानगर प्रदेशाची सुधारीत प्रादेशिक योजना (सपुढे जिवा उल्लेख "उक्त प्रादेशिक योजना" असा करण्यात आला आहे) महाराष्ट्र प्रादेशिक व नगर रचना अधिनियम, १९६६ (यापूढे ज्याचा उल्लेख "उक्त अधिनियम" असा करण्यात आला आहे) चे कलम १५(१) अन्वये शासन नगर विकास विभागाची अधिसूचना क्राटिपीएस-१२९७/१०९४/सिआर-११६/९७/नवि-१२, दि.२३.९.१९९९ (यापुढे ज्याचा उल्लेख "उक्त अधिसुचना" असा करण्यात आला आहे.) अन्वये मंजूर केलेली असून, ती दि.१ डिसेंबर, १९९९ पासून अंमलात आली आहे.

आणि ज्याआर्थी, उक्त प्रावेशिक योजनेच्या क्षेत्रामधील मबी मुंबई येथे आंतरराष्ट्रीय विमानतळ विकसित करण्याचे शासनाने निश्चित केलेले आहे;

आणि ज्याआर्थी, भारत सरकारच्या पर्यावरण च वन मंत्रालयाने पर्यावरण व CRZ विषयक ना-हरकत प्रमाणपत्र देते वेळी नमूद केलेल्या अर्टीयेकी प्रस्तावित नबी मुंबई आंतरराष्ट्रीय विमानतळाच्या (एनएमआयए) परिसरात होणारा अनियोजित व अनियंत्रित विकास टाळण्यासाठी, नवी मुंबई शहराची विकास योजना सुधारित होणे गरजेचे असल्यावायत नमूर केलेले आहे :

आणि ज्याआर्थी, भारतीय विमान पत्तन प्राधिकरण (Air Port Authority of India) यांचे दि.१४ जानेवारी, २०१० च्या अधिसूचनेत नमूद केल्यानुसार, प्रस्तावित अंतरराष्ट्रीय विमानतव्यपासून २० कि.मी. त्रिज्येच्या प्रभावित क्षेत्रामध्ये कोणतेही यांयकाम करणेपूर्वी भारतीय विमान पत्तन प्राधिकरणाचे ना-हरकत प्रभाणपत्र (NOC) प्राप्त करन येणे आवश्यक झालेले आहे ;

आणि ज्याअर्थी, सोबत जोडलेल्या परिशिष्ट-१ आणि परिशिष्ट -२ मध्ये नमूर केलेल्या अनुक्रमे हनदी व गावांचे यादी नुसार प्रस्तावित आंतरराष्ट्रीय विमानतळा सभोवतलाच्या क्षेत्राकरीता (थापुढे "उवत अधिसूचित क्षेत्र" असे संबोधलेले) उवत अधिनियमाच्या कलाग ४०(१)(छ) नुसार विशेष नियोजन प्राधिकरण म्हणून निगुक्त करणेश्वी विनंती शहर व औद्योगिक विकास महामंडळ (महाराष्ट्र) मर्थावित (CIDCO)

D/KALAM/ADISUHNA 2012

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146/183

योंनी त्यांचे वि.१७.१.२०१२ रोजीचे इंग्रजी भन्न CIDCO/PLNG/CIV/२०१२/१८ अञ्चये शासनाच्या नगर विकास विभागास केलेली आहे;

आणि ज्याअर्थी, आवश्यक ती चौकशी फेल्यानंतर व संचालक,नगर रचना,महाराष्ट्र राज्य,पुणे यांचा सल्ला घेतल्यानंतर, सिडकोने क्षेत्र निर्वेशित करण्यासाठी प्रस्तावित केलेल्या क्षेत्राच्च सुनियोजित व सुनियंत्रित विकास होणे गरजेचे आहे,असे शासनाचे मत झाले आहे ;

आणि त्याआर्थी, आता उसर अपिनियमाच्या कलम ४० चे भोटकलम १ (ख) अन्वये शासनास प्राप्त असलेल्या सर्व शक्तीस अनुसरुन शासन खालीलप्रमाणे भान्यता देण्यात येक्ष आहे -

- १) सोबतचे परिशिष्ट-१ व परिशिष्ट-२ मध्ये नमूद केलेले क्षेत्र (नकाशात पर्शविल्यानुसार) "नची मुंबई विमानतळ प्रभाव अपिसूचित क्षेत्र" म्हणून घोषित-करीत आहे.
- २) उक्त अपिसूचित क्षेत्रासाठी म्हणजेच एनळेआयएनओ (NAINA)साठी सिडकोला विशेष नियोजन प्राधिकरण म्हणून घोषित करीत आहे.
- २) उपत अधिसूधित क्षेत्राग्रम्ये या अधिसूचनेपूर्वी कार्यरत असलेले इतर विशेष नियोजन प्राधिकरण यांचे कार्य / अधिकार या अधिसूचनेच्या दिनांकापासून संपुष्टात येतील, असे घोषित करीत आहे.
- ४) उक्त अधिनियमातील तरतुदीचे पालन करून सिडकोने सदर क्षेत्राचा विकास प्रस्ताव व विकास नियंत्रण नियमीवली तयार करणे, प्रसिध्द करणे व मंजूरीसाठी शासनास सादर करणेबाबत निर्देशित करीत आहे.

प्रस्तावित अधिसूचित क्षेत्राची एद दर्शविणारा भकाशा नागरीकांच्या अक्षलोकनार्थ कार्यालयीन फामकाजाच्या दिवशी कार्यालयीन बेळेमय्ये खाली नमूद केलेल्या कार्यालयांमध्ये एक महिन्यांच्या कालावधीमध्ये उपलब्ध राहील.

१) आयुक्त, कोकण विभाग, कोकण भवन, नवी मुंबई.

२) मुख्य नियोजनकार, सिडको,सिडको भवन,सि.बी.डी.बेलापूर,नवी मुंबई ४०० ६१४.

३) जिल्हाधिकारी, रायगड/ठाणे

४) उपसंचालक, नगर रचना, कोकण विभाग, कोकण भवन, नवी भूंबई.

५) सहाथक संचालक, नगर रचना, सबगड-अलिबाग,

६) सहाय्यक संचालक,नगर रचना,ठाणे शाखा,जि.ठाणे.

संदर मंजूर फेरबदलाची अधिसूचना शासनाचे वेबसाईट <u>www.mban.maharashtra.gov.in</u> वर प्रसिप्द करण्यात आली आहे. मराराष्ट्राचे राज्यपाल यांच्या आदेशामुसार च नावाने,

(संजर्भ वि.पवार) यक्ष अधिकारी

1477/183

D/KALAM/ADISUHNA 2012



પરિશિષ્ટ -૧ नवी मुंबई विमानतळ प्रभाव अधिसूचित क्षेत्रांच्या रही (एनअंआवएनओ) বিজ্ঞা र स मिललस गावाची उत्तर हुई (AKBSNA हदी लगत) तसेच माथेरान हको उत्तर सेन्सिटीक झोन (MESZ) भी मौजे वांगणी तफे तळाजे मधुन जाणारी हह मार्थरान इको सेन्सिटीव्ह झोन (MESZ) ची मौजे वांगणी तर्फ तळोजे मधन पूर्व जाणारी हद्द वावरले गावापर्यंत; तरोच कर्जन नगरपरिषदेची पश्चिम हद्द तसेच कर्जन ते खालापूर 'जाधारी रेल्वे लाईन तसेच खालापूर नगरपरिषदेची उत्तर हह भुंबई महानगर प्रदेश हद्यीपर्यंत खालापुर नगरपरिषदेच्या .उत्तर - पश्चिम कोप-यापासून पेण अगरपरिषद दक्षिण हदीपर्यंतची मुंबई गहानगर प्रदेशाची हद्द; पेण भगरपरिषदेची उत्तर ते पश्चिम हद्द तसेच पेण नगरपरिषद पश्चिम रदीपासून पेण तहसिल हद्वीपर्वत मुंबई महानगर प्रदेशाची घट तसेच पेण तहसिल हद विष्ठलवाडी गावापर्यंत पश्चिम खोपटा नवनगर हह गाव विष्ठलवाडी ते कंशावली आणि यापुढे नवी मेवर रुद्दीवरुन त्यापूढे नितलस गावापर्यंत

वरील दर्शविलेल्या क्षेत्राच्या हदी व्यतिरिक्त, नवी भुंबई महानगरपालिकेमणून वगळलेल्या गावांचा देखील अधिसूचित क्षेत्रात समावेश असेल.

टिप : उपरोक्त प्रपत्र अधिसूचनेसोवतच्या नकाशासह वाचावे.

(संजय वि.पवार)

रस्मय स्व.ययार. कक्ष अधिकारी

148/183

### D/KALAM/ADISUHNA 2012

### GOVERNMENT OF MAHARASHTRA URBAN DEVELOPMENT DEPARTMENT MANTRALAYA, MUMBAI - 400 021. Dated :- 10<sup>th</sup> January, 2013.

### NOTIFICATION

### No.3PS-1712/475/CR-98/12/UD-12:-

<u>Maharashtra</u> <u>Regional &</u> <u>Town</u> <u>Planning Act</u>, <u>1966</u>,

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Whereas, the Revised Regional Plan for Mumbai Metropolitan Region (hereinafter referred to as the "said Regional Plan") has been sanctioned by the Government in the Urban Development Department under sub-section (1) of section 15 of the Maharashtra Regional & Town Planning Act, 1966 (hereinafter referred to as the "said Act") vide Notification No.TPS-1297/1094/CR-116/97/UD-12, dated 23.9.1999 (hereinafter referred to as the \* said Notification") and has come into force with effect from the 1<sup>st</sup> December, 1999;

And whereas, the Government has decided to develop a site for International Air Port in Navi Mumbai area within the sold Regional Plan;

And whereas, as per one of the conditions laid down by the Ministry of Environment & Forest (MoEF), Government of India, while granting Environmental & CRZ Clearance to the Navi Mumbai International Airport (NMIA) that the Development Plan of Navi Mumbai shall be revised and recast in view of the proposed Air Port Development so as to avoid unplanned haphazard growth around the proposed air port;

And whereas, as per the provisions. prescribed in the Notification issued by the Airport Authority of India (AAI) on 14.1.2010, no structure shall be constructed or erected on any land within the periphery of 20 km. from ABP of NMIA (Navi Mumbal International Air Port) without obtaining the No objection certificate (NOC) from AAI (Air port Authority of India);

And whereas, City & Industrial Development Corporation of Maharashtra Ltd. (CIDCO) submitted a proposal to the Government vide letter No. CIDCO/PLNG/CP/2012/18 dated 17.1.2012 requesting for its appointment as Special Planning Authority under section 40(1)(b) of the said Act for an area around the proposed international Airport, comprising the boundaries and villages covered within it, as specified respectively in the schedule-I and schedule-II appended hereto;

And whereas, after making necessary enquiries and after consulting the Director of Town Planning, Maharashtra State, Pune, the

149/183

D/KALAM/ADISURNA 2012

Government is of the opinion that it is necessary to have planned and controlled Development within the area proposed by CIDCO to be declared as notified area (hereinafter referred to as the "said notified area"):

Now therefore, in exercise of the powers conferred under clause (b) of sub-section (1) of section 40 of the said Act and of all other powers enabling it in this behalf, the Government of Maharashtra hereby-

- Notifies the area specified in the schedules-1 & II appended hereto as "the Navi Mumbal Airport Influence" Notified Area" (NAINA), as shown on plan.
- ii) Appoints the CIDCO to be the Special Planning Authority for the said notified area i.e. NAINA.
- (ii) Declares that any other Special Planning Authority functioning in the said NAINA, prior to this notification shall cease to function from the date of this notification.
- iv) Directs the CIDCO to prepare and publish the development proposals and development control regulations for the said notified area and submit the same to the Government for sanction after following due procedure prescribed in the said Act.

Copy of the plan showing the boundaries of the said notified area shall be available for inspection for the general public during office hours on all working days at the following offices for a period of one month:-

- 1) Commissioner, Konkan Division, Konkan Bhavan, Navi Mumbai
- Chief Planner, CiDCO, CiDCO Bhavan; CBD Belapur, Navi Mumbai --400 614.
- Collector Raigad/Thane
- By Director of Town Planning, Konkan Division, Konkan Bhavan, Navi Mumbai.
- 5) Assistant Director of Town Planning, Raigad Branch, Raigad-Alibagh.
- 6) Assistant Director of Town Planning, Thane Branch, Thane,

This notification shall also be published on the Government website.www.urban.maharashtra.gov.in

By order and in the name of the Governor of Maharashtra,

(SANJAY V, AWAR) Section Officer

D/KALAM/ADISUHNA 2012

\<sup>50</sup>/183



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### SCHEDULE - 1

### Boundaries of the Navi Mumbal Airport Influence Notified Area (NAINA)

| Directions | Bounded by                                                                                                                                                                                                                                                                                                       |  |  |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| North      | The Northern boundary of village Nitalas touching the boundary of AKBSNA; then boundary of Matheran Eco sensitive Zone (MESZ) passing through village Wangani Tarf Taloje;                                                                                                                                       |  |  |
| East       | Boundary of MESZ passing through village Wangani Tarf Taloje<br>upto village Wavarle; then Western boundary of Karjat Municipa<br>Council; then railway line passing from Karjat Municipal Council to<br>Khalapur Municipal Council; then Northern boundary of Khalapur<br>Municipal Council up to MMR boundary; |  |  |
| South<br>* | MMR boundary from North-West corner of Khalapur Municipal<br>Council to pen Municipal Council; then North to West boundary of<br>Pen Municipal Council; MMR boundary from West corner of Pen<br>Municipal Council to Tahsil Boundary of Pen; then along the<br>boundary of Pen Tahsil up to village Vittalwadi;  |  |  |
| West       | Along periphery of Khopta New Town from village Vittalwadi to<br>Kanthavali and further along periphery of Navi Mumbai upto<br>village Nitalas.                                                                                                                                                                  |  |  |

It also includes the villages deleted from Navl Mumbal Municipal Corporation, apart from area designated by boundaries described above.

Note :- This shall be read with the plan accompanying this notification.

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(SANJÁY V. PAWAR) Section Officer

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D/KALAM/ADISUHNA 2012

| Sr.<br>No. | Name of Village                                               | Tahsil | District |
|------------|---------------------------------------------------------------|--------|----------|
| 1          | Gotghar                                                       | Thane  | Thane    |
| ź          | Bhandarli                                                     | Thane  | Thane    |
| 3          | Uttarshiv                                                     | Thane  | Thane    |
| 4          | Nagaon                                                        | Thane  | Thane    |
| 5          | Narivali                                                      | Thane  | Thane    |
| 5<br>6     | Bale                                                          | Thane  | Thane    |
| 7          | Vaklan                                                        | Thane  | There    |
| <u>.</u>   | Bamali                                                        | Thane  | Thane    |
| 9          | Nighu                                                         | Thane  | Thane    |
|            | Navali                                                        | Thane  | Thane    |
| 11         | Dahisər                                                       | Thane  | Thane    |
| 17.        | Mokeshi                                                       | Thane  | Thane    |
| 13         | Valivali                                                      | Thene  | Thene    |
| 14         | Pimpari Koyana                                                | Thane  | Thane    |
| 15         | Veshvi                                                        | Uran   | Raiged   |
| 16         | Dighode                                                       | Uran   | Raigad   |
| 17         | Kanthavali                                                    | Uran   | Raigad   |
| 18         | Pohi                                                          | Uran   | Haigad   |
| <u>19</u>  | Ransai                                                        | Urap   | Raigad   |
| 20         | Tighar                                                        | Karjat | Raigad   |
| 20         | Nangurle                                                      | Karjat | Raigad   |
| 22         | Varne                                                         | Karjat | Raigad   |
| 23         | Avalas (Excluding area East of Karjat-Khopoli<br>Railline)    | Karjat | Ratgad   |
| 24         | Palasdari (Excluding area East of Karjat-Khopoli<br>Railline) | Karjat | Raigad   |
| 2.5        | Talawali (Excluding area East of Karjal-Khopoli<br>Railline)  | Karjat | Raigad   |
| 26         | Khamada                                                       | Pen    | Raigad   |
| 27         | Dushini                                                       | Pen    | Raigad   |
| 28         | Kauli Simedevi                                                | Pen    | Raigad   |
|            | Khar Simadevi                                                 | Pen    | Raigad   |
| 30         | Khərkaslıkı                                                   | Pen    | Raigod   |
| 31         | Jai Kh                                                        | Pen    | Rangad   |
| 32         | Jui Bk.                                                       | Pén    | Raigad   |
| 33         | Jite                                                          | Pen    | Raigad   |
| 34         | Navkhor                                                       | Рел    | Staigad  |
| 35         | Khar Nandzi                                                   | Pen    | Raigad   |
| 36         | Turkhul                                                       | Pen    | Raigad   |

### <u>Schedule -11</u> List of the Villages within the boundaries of the Notified Area

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152/183

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| 37              | Khar Duboj         | Рел   | Rolgad |
|-----------------|--------------------|-------|--------|
| 38              | Rave               | Pen   | Kaigad |
| 39              | Dadar              | Pen   | Reigad |
| 40              | Urnoli             | Pen   | Raigad |
| 41              | Sonkhar            | Pen   | Raigad |
| 42              | Khar Dutarie Borii | Fen   | Raigad |
| 43              | Kalave             | Sen . | Raigad |
| 44              | Hanumanpada        | Pen   | Raigad |
| 45              | Davre              | Pen   | Raigad |
| 46              | Корвг              | Pen   | Raigad |
| 47              | Khar Bonfi         | Pen   | Ralgad |
| 48              | Govirie            | Pen   | Raigad |
| 49              | Baławali           | Peg   | Raigad |
| 50              | Ambivali           | Pen   | Raigad |
| <u>50</u><br>S1 | Hamrapur           | Pen   | Raigad |
| 51              | Tambadshet         | Pen   | Raigad |
| 53              | Johe               | Pen   | Reiged |
| 50<br>54        | Dolvi Dababa       | Pen   | Reigad |
| 55<br>55        | Mothe Vadhav       | łon   | Raigad |
| 56              | Kaleshri -         | Pen   | Reigad |
| 57              | Kanhoba            | Pen   | Reigad |
| 58              | Vitthalwadi        | Pen   | Reigad |
| 59<br>59        | Mothe Bhal         | Pen   | Raigzo |
| 59<br>60        | Lakhola            | Pen   | Raigad |
| 61              | Narwel             | Pen   | Reigad |
| 62              | Bahiram Kotak      | Pen   | Raigod |
| 63              | Benavale           | Pen   | Ralgad |
| 64              | Wadhav             | Pen   | Raigad |
| 65              | Div                | Pen   | Raigad |
| 66              | Borze              | Pen   | Raigad |
| 60<br>67        |                    | Pen   | Ralgad |
| 68<br>68        | Kane               | Pen   | Raigad |
| 69              | Nagadi Sapoli      | Pen   | Raigad |
| 70              | Dutarfa Sapoli     | Pen   | Raigad |
|                 |                    | Pen   | Raigad |
| 71              | Kharsapoli         | Pen   | Raigad |
| 72              | Chinchghar         | Pen   | Raigad |
| 73              | Shitole            | Pen   | Raigad |
| 74              | Davahsar           | Pen   | Raigad |
| 75              | Ramtaj             | Pen   | Raigad |
| 76              | Dhavate            | Pen   | Raigad |
| 77              | Tarankhop          | Pen   | Ralgad |
| 78              | Antore             | Pen   | Raigad |
| 79              | Patnoll            | Pen   | Raigad |
| 80              | Koproli            | [ FGH |        |

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153/183



|      |                                                  | iren       | Raigad  |
|------|--------------------------------------------------|------------|---------|
| 81   | Odhangi                                          | Pen        | Raigad  |
| 82   | Washi                                            | Pen        | Ratgad  |
| 83   | Sare Bhag                                        | Pen        | Raigad  |
| 84   | Shirki Chawl                                     | Pen        | Haigad  |
| 85   | Masad Bedi                                       | Pen        | ftaigad |
| 86   | Masad Kh                                         | Pen        | Raigad  |
| £7   | Masad Bk                                         | Pen        | Raigad  |
| 8B   | Borwa                                            |            | Ralgad  |
| 89   | Bort                                             | fen        | Raigad  |
| 90   | Shirki                                           | Pen        | Raigad  |
| 91   | Kolave                                           | Pen        |         |
| 92   | Shinganval                                       | Pen        | Raigad  |
| 93   | Dhondpada                                        | Pen        | Raigad  |
| 94   | Umbarde                                          | Pen        | Reigad  |
| 95   | Meleglwr                                         | Pen        | Raigad  |
| 96   | Kandale                                          | Pen        | Raigad  |
| 97   | Uchede                                           | Pen        | Raigad  |
| 98   | Kandlepada                                       | Pen        | fleigad |
| 99   | Wadkhal                                          | Pen        | Reigad  |
| 100  | Beneghat.                                        | Pen        | Ruiged  |
| 101  | Wave                                             | Pen        | Raigad  |
| 102  | Kaslımire wadi                                   | Pen        | Raigad  |
| 103  | Rode                                             | Pen        | Raigad  |
| 104  | Talegaon                                         | Khalapur   | Raigad  |
| 105  | Panstál                                          | Khalapur   | Raigad  |
| 105  | Rees                                             | Khalapur   | Raigad  |
| 100  | Lodnivali (Excluding area under MESZ)            | Khalaput   | Raigad  |
| 108  | Nachal (Excluding area under MESZ)               | Khalapur   | Raigad  |
| 100  | Chouk Manivali (Excluding area under MESZ)       | Khalapur   | Raigad  |
| 1105 | Nanivali (Excluding area under MESZ)             | Khalapur   | Raigad  |
| 111  | Warose Tarf Wankhal (Excluding area under MESZ)  | Khalapur   | Raigad  |
| 445  | Borgaon Kh. (Excluding area under MESZ)          | Khalaput   | Raiged  |
| 112  | Sondewadi (Excluding area under MESZ)            | Khalapur   | Raigad  |
| 313  | Wavarie (Excluding area under MES7.)             | Khalopur   | Raigad  |
| 114  |                                                  | Khalapur   | Raigad  |
| 115  | Pali Bk.<br>Vadvihir (Excluding area under MESZ) | Khalapur   | Raigad  |
| 116  | Vadvinir (Excluding area under MESZ)             | Khalapur   | Raigad  |
| 117  | Borgaon Bk. (Excluding area under MESZ)          | Khalsour   | Raigad  |
| 118  | Padaghe                                          | Khalapur   | Raigad  |
| 119  | Morbe                                            | Khalapur   | Raiged  |
| 120  | Bhilyalo                                         | Kitatapur  | Itaigad |
| 121  | Hatnoli                                          | Kitalapur  | Rulgad  |
| 122  | Jambhivall Tarf Wankhal                          | Khalapur   | Raigad  |
| 123  |                                                  | Khalapur   | Raigad  |
| 124  | Pall Kh.                                         | - Khatoput |         |

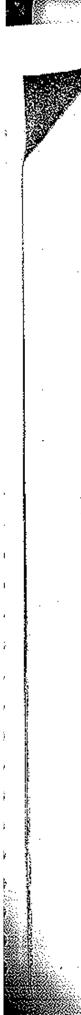
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| 125 Serang                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalapur    | Raigad |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------|
| 126 Parade                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalapur    | Raigad |
|                                        | Tengartan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Khalapur    | Raigad |
|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalapur    | Raigad |
| 128 Wasambe<br>129 Charabhari          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalapur    | Ralgad |
|                                        | 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Khalapur    | Raigad |
| 130 Vat                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalapur    | Raigad |
| 131 Kambe                              | ·                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Khalapur    | Raigad |
| 132 Vayal                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalaper    | Raigad |
| 133 Tembhari                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalapur    | Raigad |
| 134 Kopari                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalapur    | Raigad |
| 135 Asroti                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalapur    | Raigad |
| 136 Dhami                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalapur    | Raigad |
| 137 Asare                              | The second secon | Khalapur    | Ralgad |
| ······································ | urf Wankhal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Khalapur    | Raigad |
| 139 Vavandal                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khelapur    | Raigad |
| 140 Vinegaon                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalapur    | Raigad |
| 141 Kalote Mo                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalapur    | Reiged |
| 142 Kalote Ray                         | ati                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Khalapur    | Reiged |
| 143 Nigdoll                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalapur    | Raigad |
| 144 Nadode                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Кнајариг    | Raigad |
| 145 Nimbode                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalapur    | Raigad |
| 146 Vanave                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalapur    | Raigad |
| 147 Shiravall T                        | arf Boriti                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Khalapur    | Ralgad |
| 148 Khalapur                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalapur    | Raigad |
| 149 Ghodivali                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalapur    | Reiged |
| 150 Kandroll T                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalapur    | Raigad |
| 151 Navandhe                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | - Midrolivi |        |
| Rallinc)                               | Excluding area East of Karjat-Khopoli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Khalapur    | Raigad |
| 153 Kelavali (E<br>Reillinc)           | xcluding area East of Karjat-Khopoli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Khalapur    | Raigad |
| 16A Dolavali (L                        | xcluding area East of Karjat-Khopoli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Khalapur    | Raigad |
|                                        | (Excluding area East of Karjst-Khopoli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Khalapur    | Raigad |
| Mankivali                              | (Excluding area East of Karjat-Khopoli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Khalapur    | Raiged |
| Kaunnel                                | ······································                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Khalapur    | Raigad |
| 157 Anjrun                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalapur    | Reigad |
| 158 Hal Kh                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Khalapur    | Raigad |
| 159 Mahad                              | and a surrow                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Panvel      | Raigud |
| 160 Nitalas (E                         | cluding area under MESZ)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Panyel      | Raigad |
|                                        | cluding area under MESZ)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Panyel      | Raigad |
| 162 Kherane k                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Panvel      | Raigad |
| 163 Vavanje (I                         | Excluding area under MES2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Panvel      | Raigad |
| 164 Mahodar                            | (Excluding area under MESZ)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |        |

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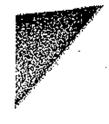
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| 65   | Kondap (Excluding area under MESZ)                | Panvel  | Raigad |
|------|---------------------------------------------------|---------|--------|
|      | Wangani Tarf Taloje (Excluding orea under ME52)   | Panvel  | Raigad |
|      | Korambeli Taif Taloje (Excluding area under MESZ) | Panvel  | Raigad |
|      | Stilravali (Excluding area under MESZ)            | Panvel  | Raigeo |
| 68 [ | Ambe tarf teloje (Excluding area under MESZ)      | Panvel  | Raigad |
|      |                                                   | Panvel  | Raigad |
|      | Chinchavali Tart Taloje                           | Panvel  | Raigad |
|      | Mahalungi                                         | Panvel  | Raigad |
| 72   | Chindharan                                        | Panvei  | Raigad |
| 73   | Kanpoli                                           | Panvel  | Raigad |
| 174  | Vəlap                                             | Panvel  | Roigad |
| 175  | Pale Bk.                                          | Panvei  | Ralgad |
|      | Hadutane                                          | Panvel  | Rainad |
| 77   | Kevale                                            | Panvel  | Reigad |
| 178  | Khanev                                            | Panvel  | Raigad |
| 79   | Morbe (Excluding area under MESZ)                 | Panvel  | Raigad |
| 180  | Kondale (Excluding area under MESZ)               | Panyel  | Reigad |
| 181  | Khairwadi (Excluding area under MES2)             | Panvel  | Raiged |
| 182  | Tamsel (Excluding area under MESZ)                | Panvel  | Raigad |
| 183  | Maldunge (Excluding prea under MESZ)              | Penvel  | Raigad |
| 184  | Dhodani (Excluding area under MESZ)               | Panve)  | Raigad |
| 185  | Deinstang (Excluding area under MESZ)             | Panvel  | Rahgad |
| 166  | Dhamani (Excluding area under MESZ)               |         | Raigad |
| 187  | Gadhe (Excluding area under MESZ)                 | Panvel  | Kaigad |
| 188  | Ambe tarf waje                                    | Panvel  | Ratgad |
| 189  | Shivansal                                         | Panvel  | Raigad |
| 190  | Dundre (Excluding area under MESZ)                | Panvel  | Reigad |
| 191  | Ritghar (Excluding area under MESZ)               | Panvel  |        |
| 192  | Usarli Bk. (Excluding area under MESZ)            | Panvel  | Roigad |
| 193  | Umroll                                            | Panvel  | Raigad |
| 194  | Chinchavali Tarf Waje                             | Panvel  | Raigad |
| 195  | Vakadi                                            | Panyel  | Reinad |
| 196  | Nore (Excluding area under MESZ)                  | Panvel  | Raigad |
| 197  | Koproli                                           | Panvel  | Raigad |
| 198  | Hatigram                                          | Panvel  | Raigad |
| 199  | Adai                                              | Panvel  | Raigod |
| 200  | Akudi                                             | Panvel  | Reigad |
|      | Palidevad                                         | Panvel  | Raigad |
| 7.01 | Devad                                             | Panvel  | Ralgad |
| 202  | Shilottar Raichur                                 | Panvel  | Relgad |
| 203  |                                                   | Parivel | Reigad |
| 204  |                                                   | Parcyel | Raigad |
| 205  | Bonshet<br>Vihighar (Excluding area under MESZ)   | Panvel  | Raigud |
| 205  | Ambivali (Excluding area under MESZ)              | Panvel  | Ralgad |

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| der MESZ]                             | Panyel    | Raigad                                                                                                         |
|---------------------------------------|-----------|----------------------------------------------------------------------------------------------------------------|
| MESZ)                                 | Panyel    | itaigad                                                                                                        |
| der MESZ)                             | Panvel    | Raigod                                                                                                         |
|                                       | Panvel    | Ratgad                                                                                                         |
| der MESZ}                             | Panvei    | Raigad                                                                                                         |
| g area under MESZ)                    | Panvel    | Ralgad                                                                                                         |
|                                       | Panvel    | Raigad                                                                                                         |
|                                       | Panvel    | Raigad                                                                                                         |
|                                       | Panvel    | Raigad                                                                                                         |
| ·                                     | Panyel    | Raigad                                                                                                         |
|                                       | Panvel    | Raigad                                                                                                         |
|                                       | i'anvel   | Raigad                                                                                                         |
|                                       | Panyel    | Raigad                                                                                                         |
|                                       | Panyel    | Raigad                                                                                                         |
|                                       | Panvel    | Raigad                                                                                                         |
| ·                                     | Panvel    | Raiged                                                                                                         |
|                                       | Panyel    | Reiged                                                                                                         |
|                                       | Panvel    | Raigad                                                                                                         |
| ier MESZ]                             | Panvel    | Raigad                                                                                                         |
| er MESZ)                              | Panvel    | Raigad                                                                                                         |
| ler MESZ)                             | Panvel    | Raigad                                                                                                         |
|                                       | Panvel    | Raigad                                                                                                         |
|                                       | Panvei    | Raigad                                                                                                         |
|                                       | Panvel    | Raigad                                                                                                         |
|                                       |           | Raigad                                                                                                         |
|                                       | Panvel    | Raigad                                                                                                         |
|                                       | Panvel    | Raigad                                                                                                         |
| · · · · · · · · · · · · · · · · · · · | Panvel    | flaigad                                                                                                        |
|                                       | Panvel    | Raigad                                                                                                         |
|                                       | Panyel    | Raigad                                                                                                         |
|                                       | Parryel   | Raigad                                                                                                         |
|                                       | Panvel    | Reigad                                                                                                         |
|                                       | Panvel    | A DESCRIPTION OF THE OWNER OWNER |
| · · · · ·                             | Panvel    | Raigad                                                                                                         |
|                                       | Panvel    | Raigad                                                                                                         |
| ······                                | Panvel    | Raigad                                                                                                         |
|                                       | Panvel    | Kalgad                                                                                                         |
|                                       | Panvel    | Raigad                                                                                                         |
|                                       | Panvel    | Raigud                                                                                                         |
| nder MESZ)                            | Panvel    | Raigad                                                                                                         |
| nder MESZ)                            | Panvel    | Raigad                                                                                                         |
| ler MESZ}                             | Panvel    | Raigad                                                                                                         |
| a under MESZ)                         | Panvel    | Raigad                                                                                                         |
| der MESZ)                             | Panvel    | Reigod                                                                                                         |
|                                       | Panvel    | Raigad                                                                                                         |
| •                                     | ler MESZ) | ler MESZ)                                                                                                      |

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157/183

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| 252 | Bhatan      |                                                           | Panvel  | Raigad |
|-----|-------------|-----------------------------------------------------------|---------|--------|
| 253 | Narpoli     |                                                           | Panyel  | Raigad |
| 254 | Dahivali    |                                                           | Panvet  | Raigad |
| 255 | Nanoshi     |                                                           | Panvel  | Raigad |
| 255 | Sanguti     |                                                           | Panvel  | Raigad |
|     | Chinchavan  |                                                           | Panvel  | Raigad |
| 257 |             |                                                           | Panvel  | Raigad |
| 258 | Devloli 8k. |                                                           | Panvel  | Raigad |
| 259 | Savale      |                                                           | Panvel  | Raigad |
| 260 | Jatade      | مىسىدىكى بىن مىسىمىدىرىكىن<br>1                           | Panvel  | Ralgad |
| 261 | Daolwali    |                                                           | Panvel  | Raigad |
| 262 | Vaveghar    | ,r                                                        | Panvel  | Reigad |
| 263 | Gulsunde    |                                                           | Panvel  | Raigad |
| 264 | Posari      | والمرورية والمراجع والمروح والمحافظ فيقر والمالي والمراجع | Panvel  | Raigad |
| 265 | Turade      |                                                           |         | Raigad |
| 266 | Kalhe       | · · · · · · · · · · · · · · · · · · ·                     | Panvel  |        |
| 267 | Korał       |                                                           | Parivel | Raigad |
| 268 | Apte        |                                                           | Panvel  | Raigad |
| 269 | Akulwadi    |                                                           | Panvel  | Raigad |
| 270 | Ladiwali    |                                                           | Panvel  | Reigad |

Note:

1) MESZ = Matheran Eco-Sensitive Zone

4

 Boundary of Matheran Eco-Sensitive Zone shall be as per the Ministry of Environment and Forests, Govt. Of India, Notification No. S.O. 133 (E) dated 4<sup>th</sup> February, 2003.

(SANEAY V. PAWAR) Desk Officer

158/183

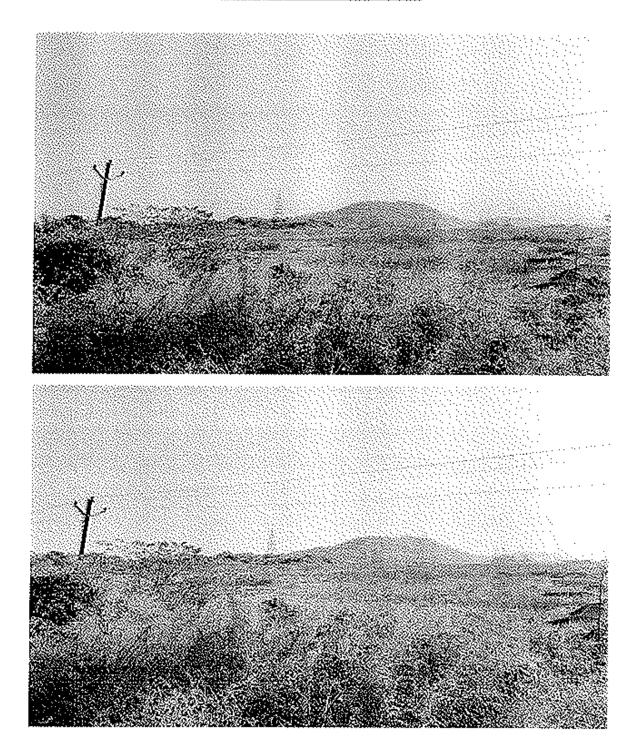
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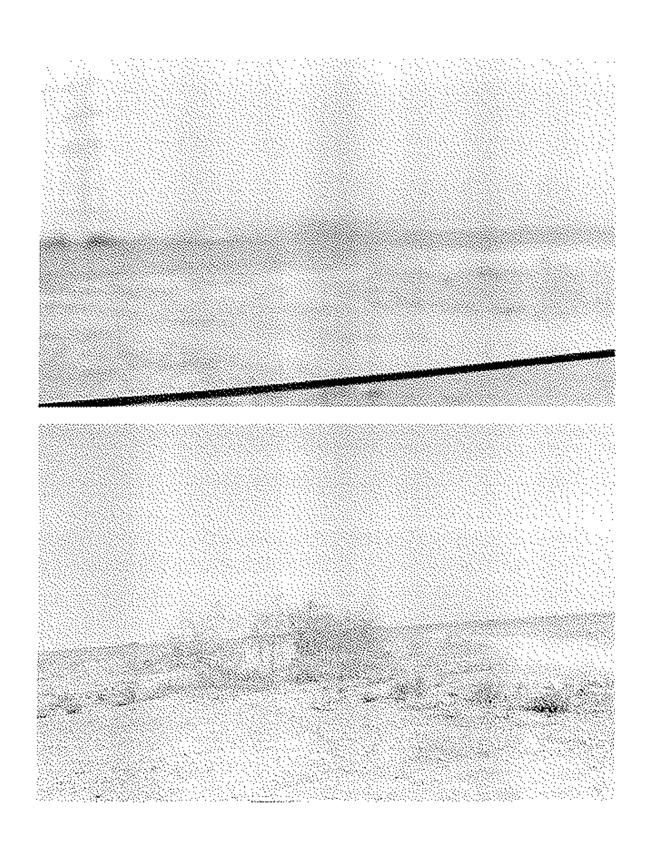
### Photographs of the Project Site

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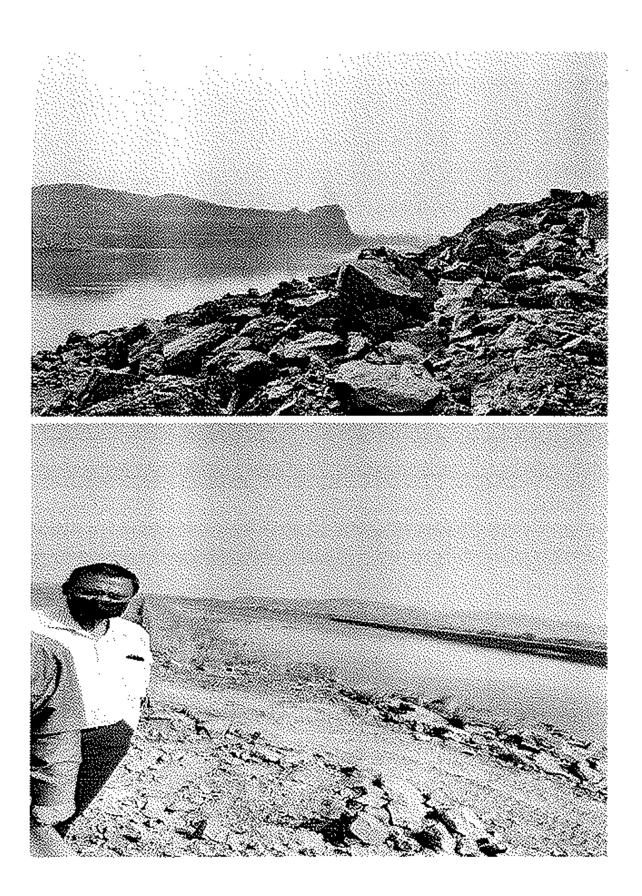


159/183

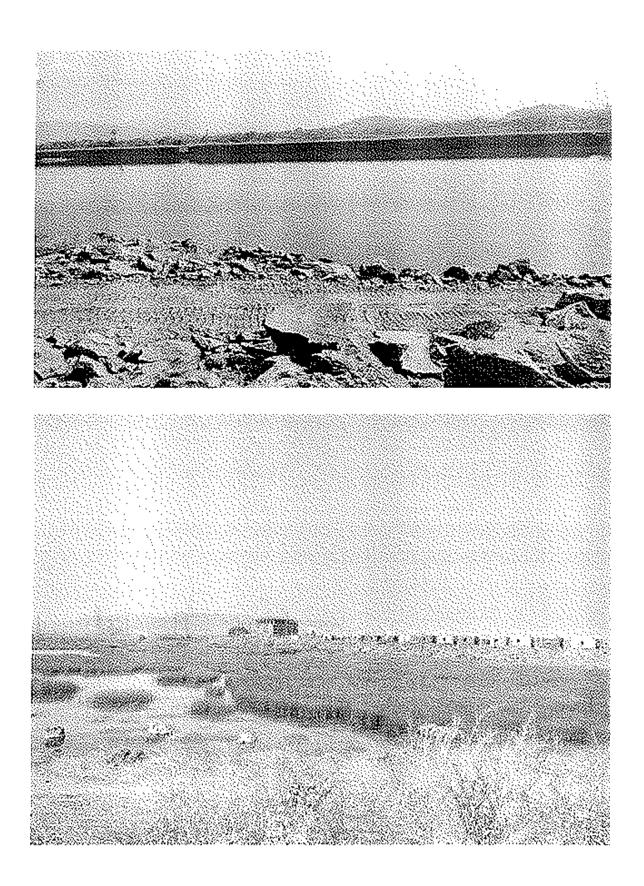




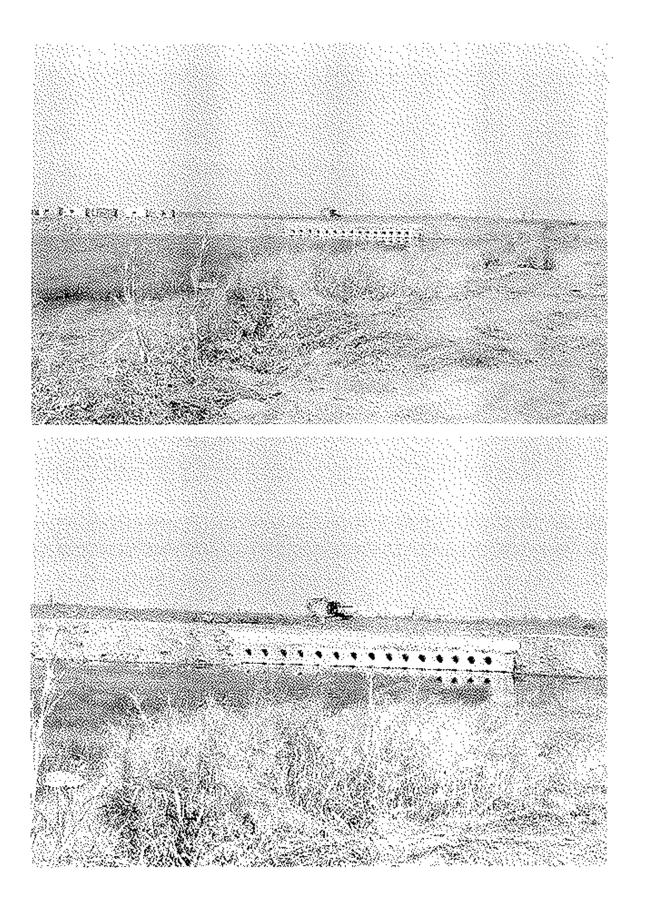
161/183



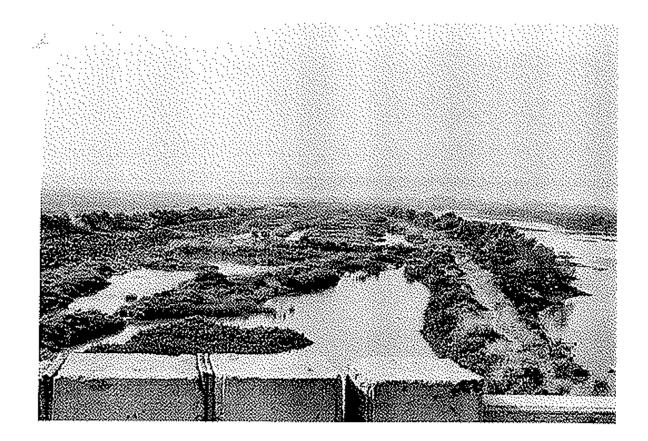
162/183



163/183

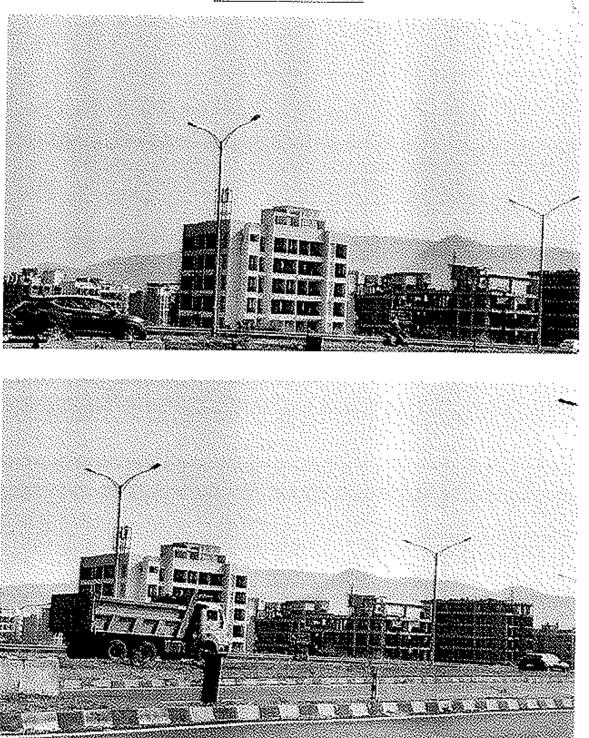


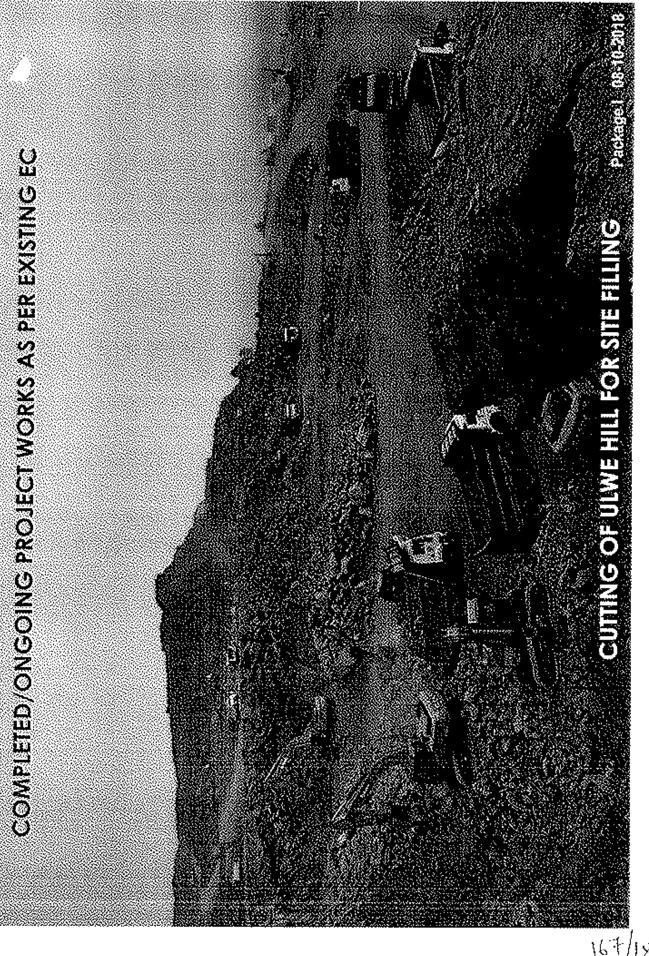
16-1/183

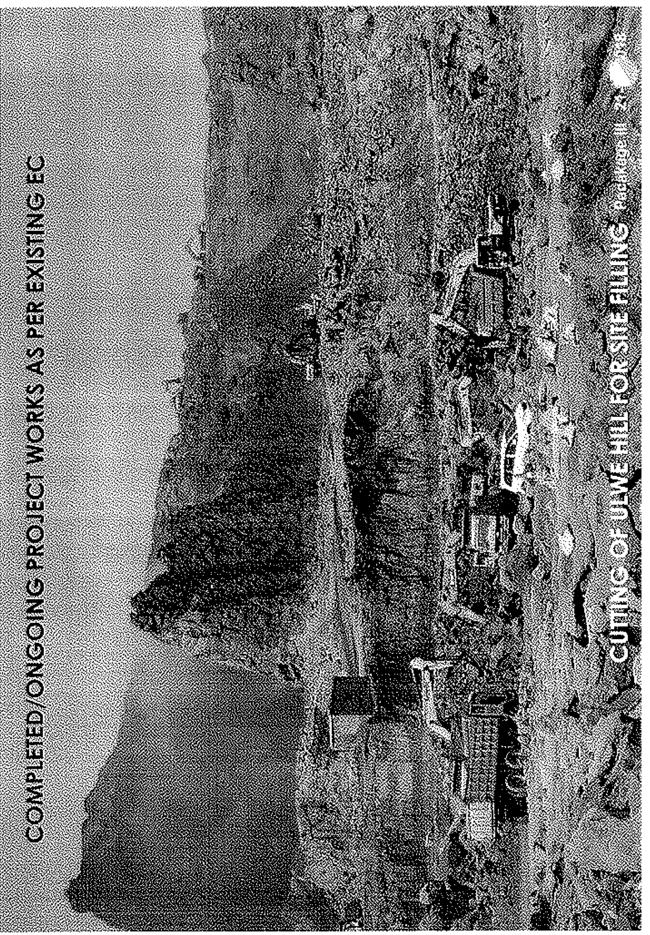


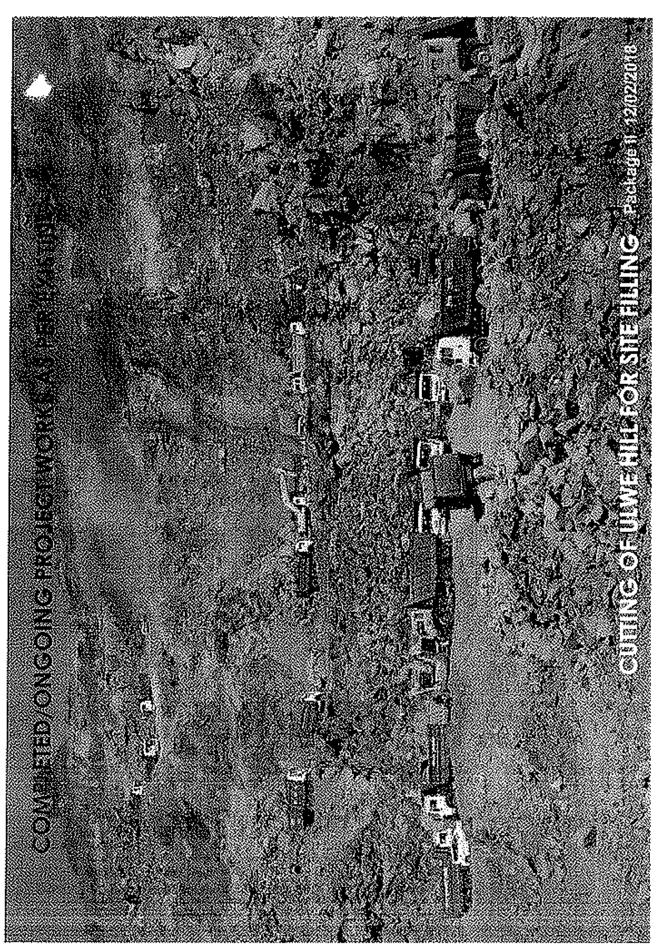
165/183

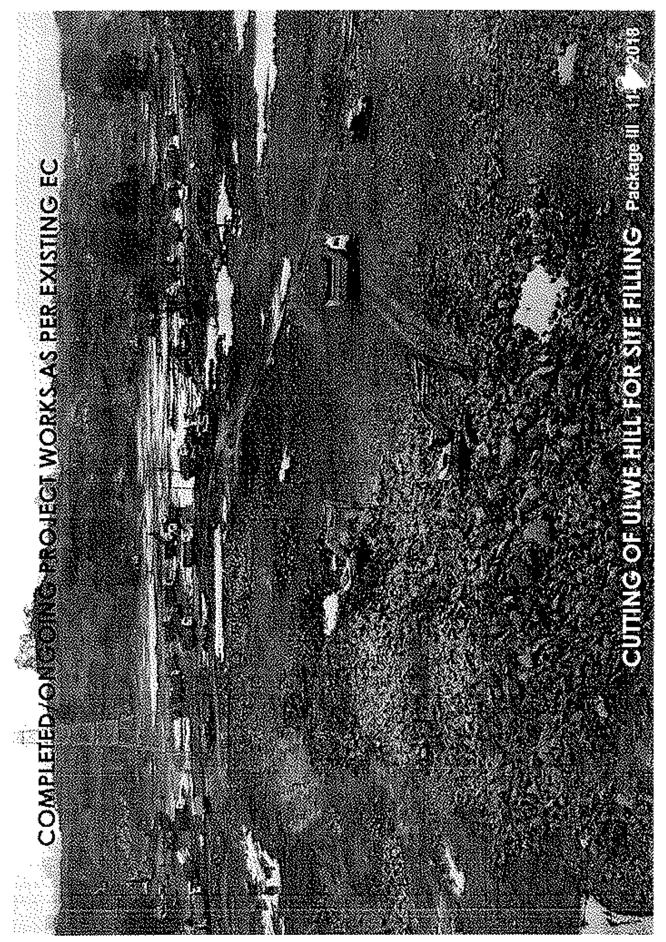
Rehabilitation Colonies













# COMPLETED/ONGOING PROJECT WORKS AS PER EXISTING EC

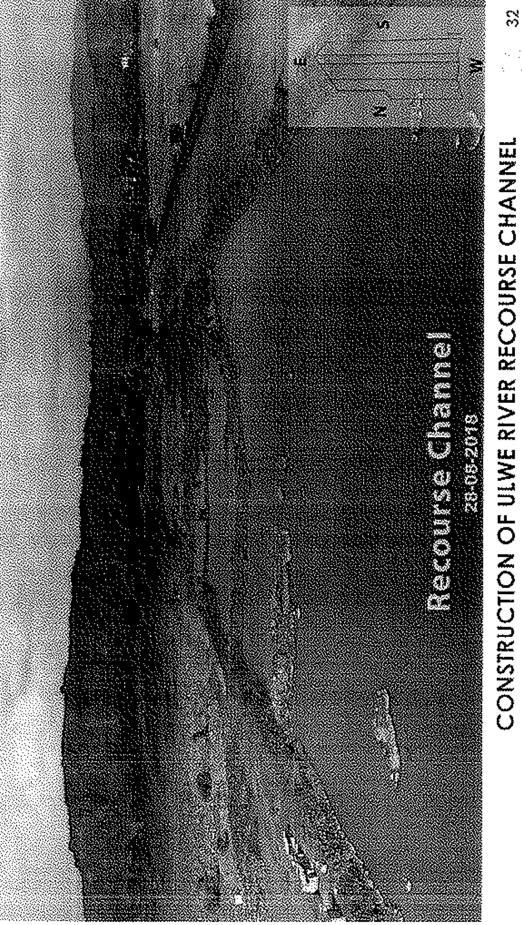


### CUTTING OF ULWE HILL FOR SITE FILLING

171/183



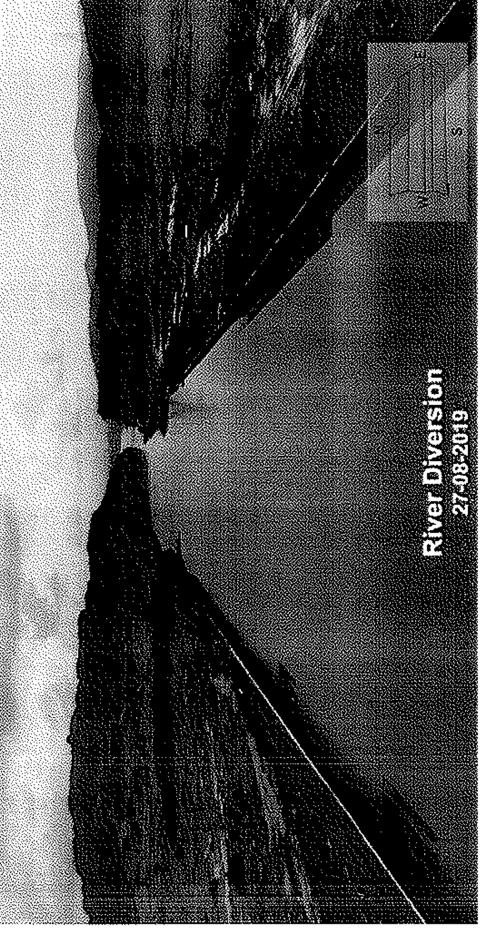




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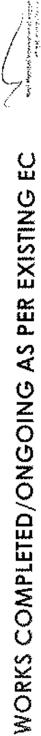
WORKS COMPLETED/ONGOING AS PER EXISTING EC

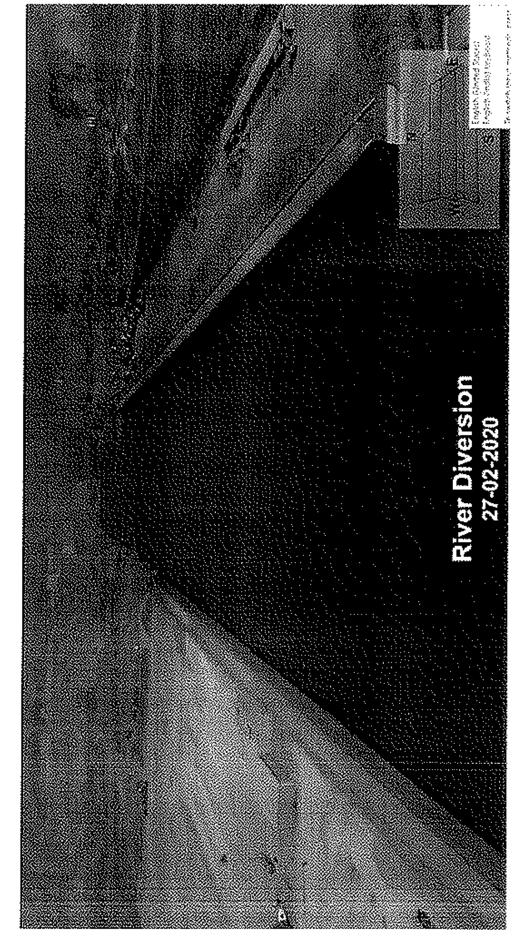




CONSTRUCTION OF ULWE RIVER RECOURSE CHANNEL

173/183

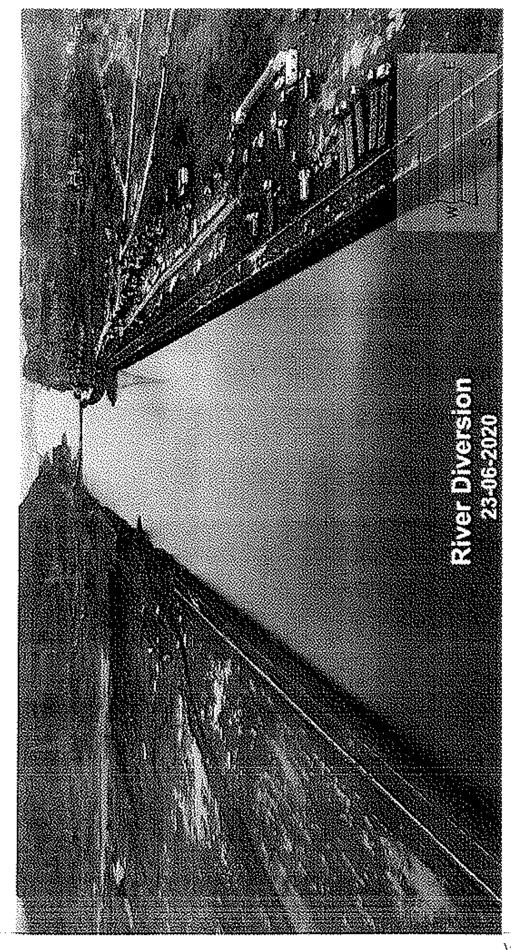




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## WORKS COMPLETED/ONGOING AS PER EXISTING EC

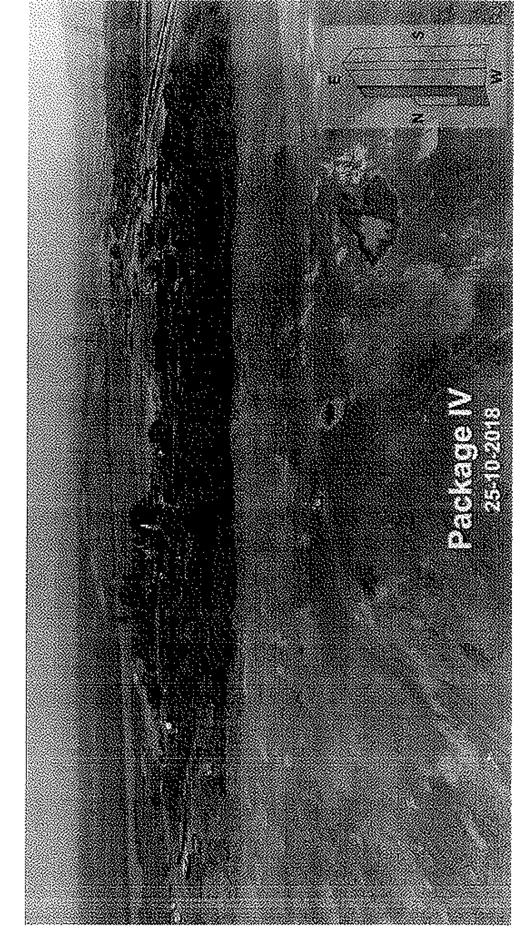


CONSTRUCTION OF ULWE RIVER RECOURSE CHANNEL

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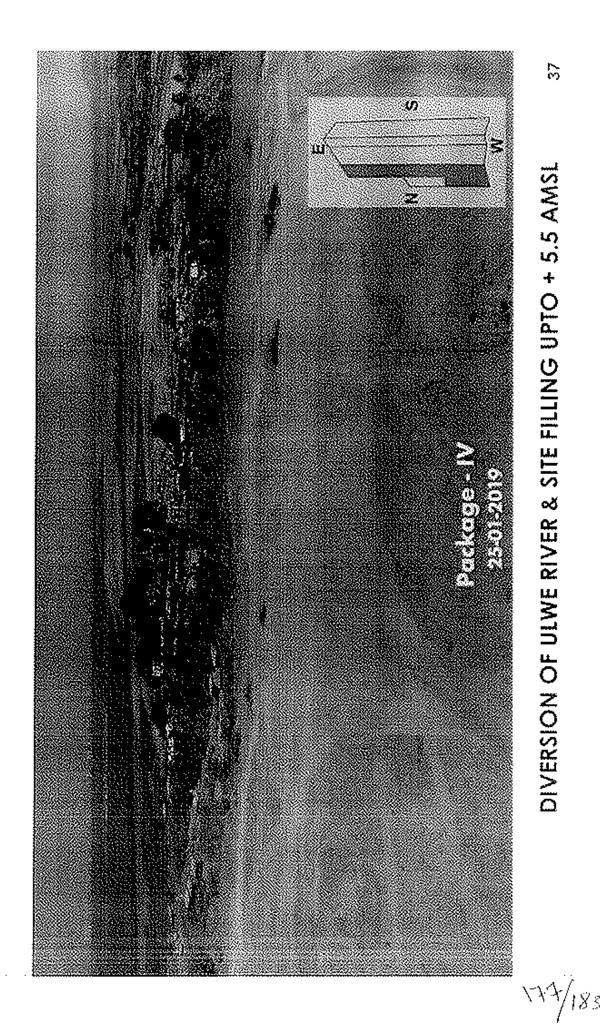


## WORKS COMPLETED/ONGOING AS PER EXISTING EC



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DIVERSION OF ULWE RIVER & SITE FILLING UPTO + 5.5 AMSL

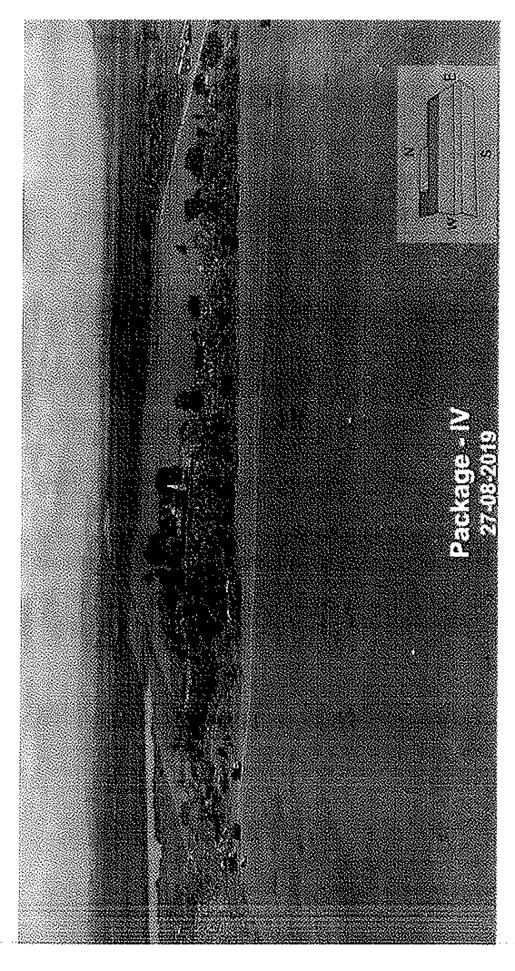


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WORKS COMPLETED/ONGOING AS PER EXISTING EC



## WORKS COMPLETED/ONGOING AS PER EXISTING EC

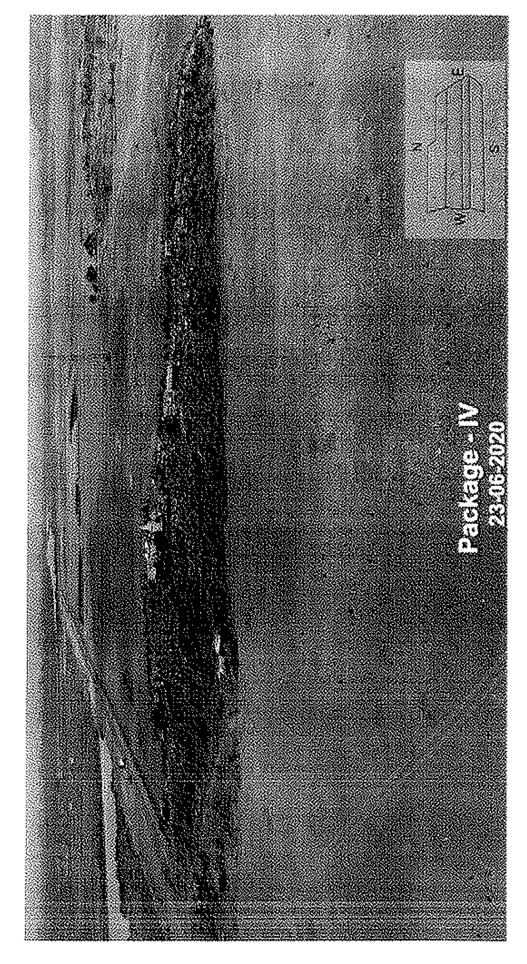


DIVERSION OF ULWE RIVER & SITE FILLING UPTO + 5.5 AMSL

178/183



## WORKS COMPLETED/ONGOING AS PER EXISTING EC



DIVERSION OF ULWE RIVER & SITE FILLING UPTO + 5.5 AMSL

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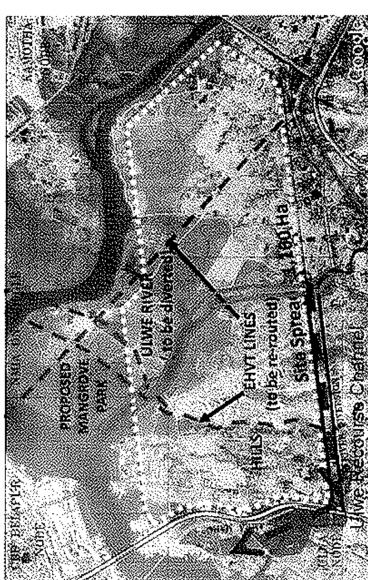
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Pre-Development Works :

- Land Development filling of airport area upto +5.5 m Completed
- **Ulwe Recourse Channel** Commissioned
- Shifting of EHVT Lines by In progress rerouting

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Underground ducting of EHVT lines along boundary of airport :

- MSETCL lines: 15 km
- Tata Power lines: 9.5 km •

Current Status:

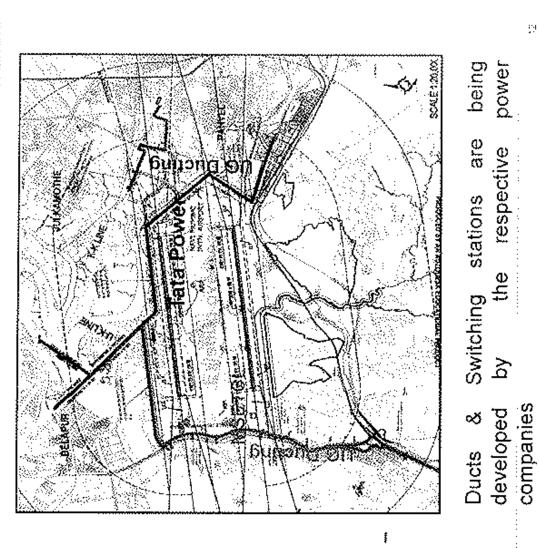
28th Aug 2018 by MoEF&CC CRZ Clearance granted in

Stage I FC – June 2019

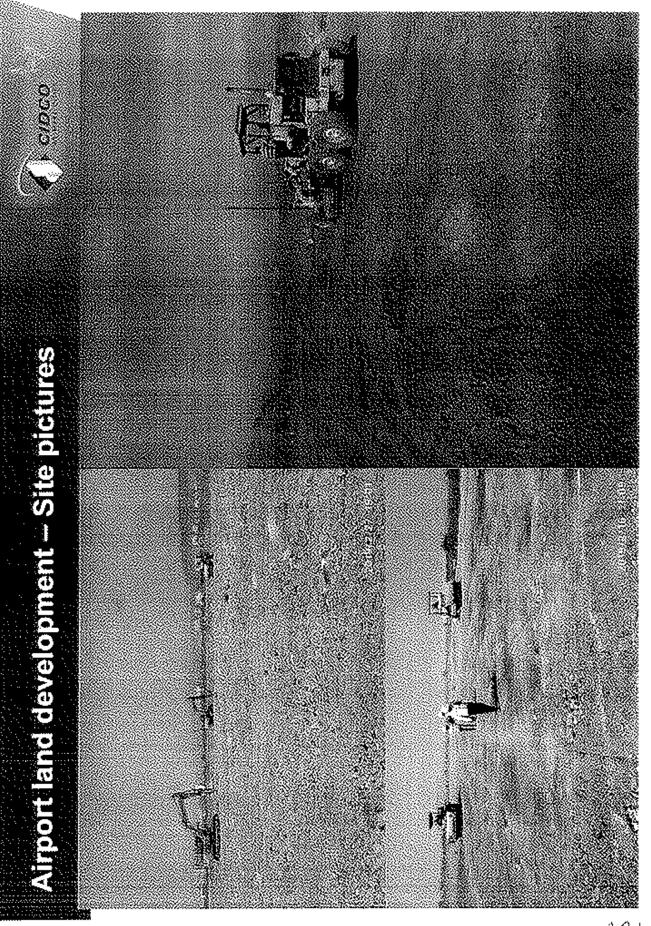
High Court clearance- Dec 2019

Working Permission from Forest Feb 2020

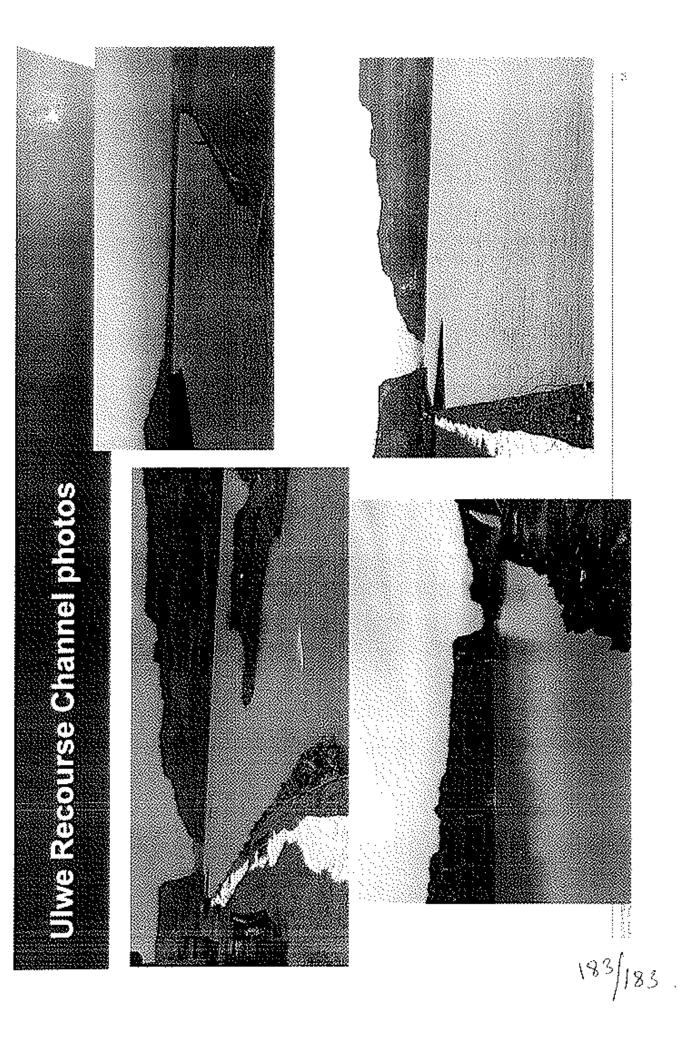
Stage II FC awaited







187/183



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## ANNEXURE-II TRANSFER OF ENVIRONMENTAL & CRZ CLEARANCE

(Letter No. F.No. 10-53/2009-IA.III Dated 17<sup>th</sup> August, 2020)

#### F. No. 10-53/2009-IA-III Government of India Ministry of Environment, Forest and Climate Change (IA.III Section)

Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 3

Date: 17 August, 2020

The Director, M/s Navi Mumbai International Airport Private Limited Terminal I-B, CSI Airport, Santacruz Mumbai - 400099, Maharashtra Email: <u>charu.deshmukh@gvk.com</u>

#### Subject: Transfer of Environmental and CRZ Clearance accorded for 'Establishment of Navi Mumbai International Airport at Mumbai' in favour of M/s City and Industrial Development Corporation of Maharashtra Ltd to M/s Navi Mumbai International Airport Private Limited - reg.

Sir,

To,

This has reference to your online application no. IA/MH/MIS/236/2009 dated 16<sup>th</sup> July, 2020 submitted to this Ministry for Transfer of Environmental and CRZ Clearance accorded for the project namely 'Establishment of Navi Mumbai International Airport at Mumbai in favour of M/s City and Industrial Development Corporation of Maharashtra Ltd vide letter of even No. dated 22.11.2010 to M/s Navi Mumbai International Airport Private Limited in terms of the provisions of the Environment Impact Assessment (EIA) Notification, 2006 and CRZ Notification, 2011 under the Environment (Protection) Act, 1986.

2. As per your submission, M/s Navi Mumbai International Airport Private Limited has submitted all the required supporting documents along with the relevant details required in Form-7 "Application for Transfer of Environmental Clearance" on the online portal of MoEF&CC has been uploaded. In this connection, M/s Navi Mumbai International Airport Private Limited, the transferee, requests for transfer of the aforementioned EC&CRZ Clearance of M/s City and Industrial Development Corporation of Maharashtra Limited (CIDCO) to them for taking up the full responsibility of complying with all the clauses of the EC (and related applicable compliances) granted for the aforementioned project.

3. In this regard, referring to the clause related to transferability of Environment Clearance as per section 11 of EIA Notification, 2006, M/s Navi Mumbai International Airport Private Limited has requested Ministry for transfer of Environmental and CRZ Clearance accorded to the project 'Establishment of Navi Mumbai International Airport Limited' in favour of M/s City and Industrial Development Corporation of Maharashtra Ltd to them. M/s Navi Mumbai International Airport Private Limited has also submitted 'No objection Certificate' from M/s City and Industrial Development Corporation of Maharashtra Limited (CIDCO) and undertaking for taking up the full responsibility for complying with all the conditions stipulated in the Environmental and CRZ Clearance accorded by the Ministry of Environment, Forest and Climate Change, Government of India vide letter F. No. 10-53/2009-IA.III dated 22.11.2010 and subsequent extension of validity of EC&CRZ Clearance accorded vide letter of even No. dated 20.12.2017 for the aforesaid project.

4. In view of the information submitted by the M/s Navi Mumbai International Airport Private Limited, as per Section 11 of EIA Notification, 2006, the Ministry of Environment, Forest and Change hereby accords the transfer of Environmental and CRZ Clearance accorded vide letter F.No. 10-53/2009-IA.III dated 22.11.2010 and subsequent extension of validity of EC&CRZ Clearance accorded vide letter dated 20.12.2017 to M/s Navi Mumbai International Airport Private Limited.

5. All the other conditions stipulated in the MoEF&CC letter F.No. 10-53/2009-IA.III dated 22.11.2010 and subsequent extension of validity of EC&CRZ Clearance accorded vide letter dated 20.12.2017 shall remain unchanged.

6. This issues with the approval of the Competent Authority.

(Dr. Vinoc Scientist E

#### Copy to:

- 1) The General Manager (Environment), M/s City and Industrial Development Corporation of Maharashtra Limited (CIDCO), 3<sup>rd</sup> Floor, Tower no. 10, Belapur railway Station Complex, CBD Belapur, Navi Mumbai 400614, Maharashtra.
- 2) The Principal Secretary, Environment Department, Government of Maharashtra, 15<sup>th</sup> Floor, New Administrative Building, Mantralaya, Mumbai 400 032.
- 3) The Joint Secretary (AS), ministry of Civil Aviation, Rajiv Gandhi Bhawan, Safdarjung Airport, New Delhi 110003.
- 4) The APCCF (C), MoEF&CC, Regional Office (WCZ), Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur 440001.
- 5) The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi 110 032.
- 6) The Chairman, Maharashtra Coastal Zone Management Authority, Room No. 217 (Annexe), Mantralya, Mumbai 400032, Maharashtra.
- 7) The Chairman, Maharashtra Pollution Control Board, Kalpataru Point, 3<sup>rd</sup> and 4<sup>th</sup> floor, Opp. Cine Planet, Sion Circle, Mumbai 400 022.
- 8) Monitoring Cell, MoEF&CC, Indira Paryavaran Bhavan, New Delhi.
- 9) Guard File/ Record File/ Notice Board/MoEF&CC website.

(Dr. Vinod K. Singh) Scientist E

# adani

## ANNEXURE-III TERMS OF REFERENCE & IT'S COMPLIANCE

(ToR Letter No. F.No. 10-53/2009-IA.III Dated 29th October, 2020)

#### F.No. 10-53/2020-IA-III Government of India Ministry of Environment, Forest and Climate Change (IA.III Section)

Indira ParyavaranBhawan, JorBagh Road, New Delhi - 3 Email: <u>lk.bokolia@nic.in</u>, Tel: 011-24695301

Date: 29<sup>th</sup> October, 2020

To,

#### Shri Charudatta Deshmukh, Director-Urban Planning

M/s Navi Mumbai International Airport Limited (NMIAL) Terminal I B, CSI Airport, Santacruz, Mumbai- 400099, Maharashtra E Mail: charu.deshmukh@gvk.com

### Subject: Environmental and CRZ Clearance of on-going Project for establishment of Navi Mumbai International Airport (NMIA) at Panvel Tehsil, Raigad district by M/s Navi Mumbai International Airport Limited- Terms of Reference- regarding.

Sir,

This has reference to your proposal No.IA/MH/MIS/154209/2020; received on 1<sup>st</sup> September, 2020 through Parivesh Portal for grant of Terms of Reference (ToR) for preparation of Environmental Impact Assessment (EIA) Report and Environment Management Plan (EMP) in respect of Project mentioned in the subject above.

2. The proposal for grant of ToR regarding EIA Report and EMPfor 'Environmental and CRZ Clearance of on-going Project for establishment of Navi Mumbai International Airport (NMIA) at Panvel Tehsil, Raigad district by M/s Navi Mumbai International Airport Limited has been examined as per the provisions of the Environment Impact Assessment (EIA) Notification, 2006, as amended and notified under the Environment (Protection) Act, 1986 (29 of 1986) by the Expert Appraisal Committee (Infra-2) in its 55<sup>th</sup> meeting held during 24-25 September, 2020

**3.** The project/activity is covered under category 'A' of item 7 (a) i.e. 'Airports' of the schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at Central level by sectoral EAC.

**4.** The EAC took note following information and details of the project, as provided in theapplication submitted by the project proponent, and provided during the above said meeting of EAC:

 (i) The proposal is for issuing Terms of Reference for preparation of EIA and EMP Reports for development ofNavi Mumbai International Airport (NMIA) on the land piece located at Villages Vadghar (Chinchpada), Kopar, Pargaon (Kohli), Pargaon-Dungi, Owale (Upper and Lower Owale+ Waghivali Wada), Ulwe (Ulwe + Ganeshpuri), Targhar (Targhar + Kombhadbuje), Waghivali-KharTalukaPanvel,

Proposal No. IA/MH/MIS/154209/2020

District Raigad, Maharashtra. The proposed airport site will cover 1160 Ha

- (ii) The Government of Maharashtra vide Notification No TPS 1711/2495/CR-202/11/UD-12 dated 21<sup>st</sup> March 2012 has incorporated "International Airport & Allied Activities / Service Zone" in the Navi Mumbai Development Plan (NMDP) and changed the land use in surrounding area. As per approved NMDP, the site area of 1160 Ha is designated as Airport and Allied Activities / Services Zone.
- (iii) Stage I and Stage II Forest clearance for 250.0635 Ha land has been obtained from MoEFCC vide F. No. 8-95/2012-FC dated 17<sup>th</sup> December, 2013 and 24<sup>th</sup> April, 2017 respectively.
- (iv) Earlier, MoEFCC had granted Environmental and CRZ Clearance to the project vide F. No. 10-53/2009-IA.III dated 22<sup>nd</sup> November, 2010 in the name of City & Industrial Development Corporation of Maharashtra Limited (CIDCO). Subsequently, the validity of the EC and CRZ was extended up to 21<sup>st</sup> November 2020 vide letter dated 20<sup>th</sup> December 2017.
- (v) Thereafter, Transfer of the above mentioned Environmental and CRZ Clearance was allowed in the name of NMIAL from CIDCO vide Letter No. F. No. 10-53/2009-IA.III dated 17<sup>th</sup> August 2020. Since the extended validity of the EC is expiring on 21<sup>st</sup> November 2020, the present application is for granting TOR for preparing EIA/EMP Reports for fresh EC for the same project without any change in location, scope, area or capacity except certain internal configuration.
- (vi) The project involves Construction and Development of Greenfield airport at Navi Mumbai having passenger capacity 60 MPPA and Cargo capacity 1.5 MTPA over site area of 1160 Ha.
- (vii) Total water demand will be 22 MLD (Potable 10.8 MLD + Recycled water from STPs 11.2 MLD). CIDCO will provide potable water for the project. No ground water withdrawal is envisaged.
- (viii) Domestic Wastewater generation will be 13.3 MLD and will be treated in separate STPs (in different zones within the project site). Total capacity of STPs put together will be 14.25 MLD and shall comprise SBR followed by UF- RO. Treated sewage water will be fully reused in the site for flushing, green belt development, floor washing and cooling (HVAC)
- (ix) The solid waste (SW) (Construction Phase 150 TPD, Operation Phase 72 TPD) generated will be segregated. The recyclable waste will be sold to partiesauthorised by the Maharashtra State Pollution Control Board (MSPCB) whereas biodegradable waste will be composted and compost generated so will be used for landscaping. Inert waste will be disposed offat CIDCO authorized sites at Chal, Taloja. The Hazardous waste(2.5 TPD), such as oily sludge, empty drums, paint cans, e-waste, etc. generated at the site, will be disposed off to Common Hazardous Waste Treatment. Storage and Disposal Facility (CHWTSDF), Taloja or as authorized by MSPCB. The Biomedical Waste (0.05 TPD) will be

disposedoff Common Biomedical Waste Treatment. Storage and Disposal Facility (CBMWTSDF), Taloja

- (x) Based on EC granted in 2010, clearance of land, vegetation/trees and existing structures on Site is being carried out by CIDCO since April 2017with due permission of Tree authority in the State. Removal of about 439 trees and transplantation of about 1826 trees are in progress.
- (xi) The land for the project (of area 1160 Ha) has been acquired by CIDCO. For ten settlements (nine settlements within airport site and remaining one-Waghivali village outside site), R&R has been undertaken by CIDCO, as per the Environmental and CRZ Clearance dated 22<sup>nd</sup>November 2010.
- (xii) Diversion of tidally influenced water body of Ulwe River has been completed & commissioned by CIDCO as permitted in the Environmental and CRZ Clearance dated 22<sup>nd</sup>November 2010
- (xiii) Power (96 MVA) for the project will be supplied by Maharashtra State Electricity Distribution Company Limited (MSEDCL). Emergency DG sets of 35 MVA will provide backup power for airport operations.
- (xiv) PIL No. 57 of 2019 is pending in respect of the project before the Hon'ble High Court of Judicature at Bombay. However, the same is yet to be admitted and there have been no orders passed yet.
- (xv) Investment/Cost of the project is Rs. Rs.36,538 Crores (for all four phases)
- (xvi) Employment potential: Temporary 15,000 (Approx.) Permanent 90,000 (Approx.)
- (xvii) Benefits of the project: The social benefits envisioned from the implementation of the project will involve, inter-alia; availability of alternate air transport facility to unserved population in Navi Mumbai and MMR Region; socio-economic opportunities for business and employment for people in Navi Mumbai and MMR Region; skill development and technical expertise enhancement possibilities due to influx of aviation related institutions in Navi Mumbai, etc. The financial benefits envisioned from the project are- over 50,000 Direct & Indirect employment due to aviation businessleading to stimulation of economic growth in MMR outside Mumbai city; stimulation oflocal economy due to direct & indirect impact of aviation and related business, large investment around proposed airport by other parties due to NMIA development. The environmental benefits will include: reducing congestion in Mumbai city, creation of environmentally friendly and sustainable infrastructure in and around NMIA like metro, new STPs, large garden and parks and well-planned drainage, decongestion and enhancement of environmental conditions around CSMIA.

**5.** The EAC noted that Project has been granted Environmental and CRZ Clearance vide letter F. No. 10-53/2009-IA.III dated 22<sup>nd</sup> November, 2010, the validity of which was extended up to 21<sup>st</sup> November 2020 vide letter

Proposal No. IA/MH/MIS/154209/2020

Page 3 of 9

dated 20<sup>th</sup> December 2017 and thereaftertransfer of this Environmental and CRZ Clearance was allowed vide Letter dated 17<sup>th</sup> August 2020 to NMIAL from CIDCO. Since the extended validity of the EC is expiring on 22<sup>nd</sup>November 2020 and there is no provision under the EIA Notification, 2006 for extending validity of EC beyond 10 years, the present application has been made for accord of Terms of Reference for the same project without any change in location, scope, area or capacity.As of now, 20% of the work has been completed. The status of work completed is as follows:

| S.No. | Particulars                                               | Status                       | Remarks                                                                                                 |
|-------|-----------------------------------------------------------|------------------------------|---------------------------------------------------------------------------------------------------------|
| 1.    | Project Site / Land                                       | 99 % Land                    | Required Land: 1160 Ha                                                                                  |
|       |                                                           | Available                    | Available Land: 1156 Ha                                                                                 |
| 2.    | R & R                                                     | 96% Completed                | 89 PAP Structures on<br>Site                                                                            |
| 3.    | Project Master Plan                                       | Completed                    | Approved by CIDCO,<br>DGCA, BCAS, CWPRS &<br>AAI                                                        |
| 4.    | Project Designs for<br>Construction                       | Completed                    | Submitted to CIDCO                                                                                      |
| 5.    | Project Approvals<br>Required                             | Approvals<br>Received        | List of Approvals<br>Provided. EC & CRZ<br>Clearance expires in Nov<br>2020, CTE expires in Oct<br>2020 |
| 6.    | Appointment of<br>Contractor                              | Appointed                    | EPC Contract awarded to L&T                                                                             |
| 7.    | Pre-Development<br>Works                                  |                              |                                                                                                         |
| A     | Cutting of Ulwe Hill<br>& Filling Up to +5.5<br>M<br>AMSL | Completed                    |                                                                                                         |
| В     | Construction of Ulwe<br>Recourse<br>Channel               | Completed                    |                                                                                                         |
| С     | Shifting of EHVT<br>Lines by Tata<br>Power                | Completed                    |                                                                                                         |
| D     | Shifting of EHVT<br>Lines by MSETCL                       | In Progress                  | Completion by Dec 2020                                                                                  |
| 8.    | Total Project Cost                                        | Rs 36,538<br>Crores          | Inclusive of all Costs                                                                                  |
| 9.    | Project Cost of Phase<br>I & II                           | Rs 16250 Crores              | Inclusive of Pre-Dev<br>Work Cost                                                                       |
| 10.   | Cost Incurred till<br>Dec 2019                            | Rs 3,368 Crores              | CIDCO has additionally<br>incurred cost of Rs 1813<br>Crores towards R&R                                |
| 11.   | Percentage Work<br>Achieved                               | 21 % of Phase I<br>& II Cost |                                                                                                         |
| 12.   | Compliance to EC                                          | Critical                     | Compliance Status                                                                                       |

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| Conditions | Conditions       | Provided |   |
|------------|------------------|----------|---|
|            | Complied, others |          |   |
|            | In Progress      |          | _ |

6. The EAC also noted that there may be some changes in the internal configurations of the facilities to be developed. However, the project proponent has confirmed that there is no change in location, scope, area or capacity. The Environmental and CRZ Clearance is still valid up to 21<sup>st</sup> November, 2020. Considering the same and construction status/physical progress of the work, the EAC exempted the project from requirement of Public Hearing as per para 7(ii) of EIA Notification, 2006 and its subsequent amendments for preparation of EIA/EMP report.

7. The EAC, in its 55<sup>th</sup> meeting held during 24-25 September, 2020, after detailed deliberations, recommended granting ToR to the project under reference. As per the recommendation of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords ToR for preparation of the Environment Impact Assessment (EIA) Report and Environment Management Plan (EMP) for the project for Environmental and CRZ Clearance of on-going Project for establishment of Navi Mumbai International Airport (NMIA) at Panvel Tehsil, Raigad district by M/s Navi Mumbai International Airport Limited with the following specific and general conditions in addition to Standard ToR provided at **Annexure**:

- (i) The EIAshall cover justification for land requirements along with a comparison to the guidelines established by the Airport Authority of India/Ministry of Civil Aviation in this regard.
- (ii) Study impact, including risk of flooding in and around the project site, due to diversion work on Ulwecreek along with other creeks which are modified.
- (iii) A toposheet of the study area of radius of 10 km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet (including all ecosensitive areas and environmentally sensitive places).
- (iv) Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scale.
- (v) Submit superimposing of latest CZMP as per CRZ (2011) on the CRZ map.
- (vi) Layout maps of proposed project indicating runway, airport building, parking, greenbelt area, utilities etc.
- (vii) Submit the actual site photograph including the aerial photograph of the present construction.
- (viii) Cost of project and time of completion.
- (ix) The report shall examine the details of excavations, its impacts and the impacts of transport of excavated material. A detailed Management Plan shall be suggested.
- (x) Detail plan for 'deplane waste' and impact of noise on the sensitive environment specially the wildlife sanctuaries and national parks.

Proposal No. IA/MH/MIS/154209/2020

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- (xi) An assessment of the cumulative impact of all development and increased inhabitation being carried out or proposed to be carried out by the project or other agencies in the core area, shall be made for traffic densities and parking capabilities in a 05 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up through an organization of repute and specializing in Transport Planning shall be submitted with the EIA. The Plan to be implemented to the satisfaction of the State Urban Development and Transport Departments shall also include the consent of all the concerned implementing agencies.
- (xii) The EIA should specifically address to vehicular traffic management as well as estimation of vehicular parking area inside the Airport premises.
- (xiii) An onsite disaster management plan shall be drawn up to account for risks and accidents. This onsite plan shall be dovetailed with the onsite management plan for the district.
- (xiv) A note on appropriate process and materials to be used to encourage reduction in carbon foot print. Optimize use of energy systems in buildings that should maintain a specified indoor environment conducive to the functional requirements of the building by following mandatory compliance measures (for all applicable buildings) as recommended in the Energy Conservation Building Code (ECBC) 2017 of the Bureau of Energy Efficiency, Government of India. The energy system includes air conditioning systems, indoor lighting systems, water heaters, air heaters and air circulation devices.
- (xv) Details shall be provided regarding the solar generation proposed and the extent of substitution, along with compliance to the ECBC rules.
- (xvi) Details of emission, effluents, solid waste and hazardous waste generation and their management. Air quality modelling and noise modelling shall be carried out for the emissions from various types of aircraft.
- (xvii) The impact of aircraft emissions in different scenarios of idling, taxiing, take off and touchdown shall be examined and a management plan suggested.
- (xviii) The impact of air emissions from speed controlled and other vehicles plying within the Airport shall be examined and management plan drawn up.
- (xix) The management plan will include compliance to the provisions of the MSW Rules, 2016.
- (xx) A detailed management plan, drawn up in consultation with the competent District Authorities, shall be submitted for the regulation of unauthorized development and encroachments within 05 Km radians of the Airport.

- (xxi) The E.I.A. will also examine the impacts of construction and operation of the proposed STP and draw up a detailed plan for management including that for odour control.
- (xxii) Classify all Cargo handled as perishable, explosive, solid, petroleum products, Hazardous Waste, Hazardous Chemical, Potential Air Pollutant, Potential Water Pollutant etc. and put up a handling and disposal management plan.
- (xxiii) Noise monitoring and impact assessment shall be done for each representative area (as per the Noise Rules of MoEF&CC). A noise management plan shall be submitted to conform to the guidelines of the MoEF&CC and the DGCA.
- (xxiv) Noise monitoring shall be carried out in the funnel area of flight path.
- (xxv) Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).
- (xxvi) Ground water abstraction and rain water recharge shall be as prescribed by the CGWA. A clearance/permission of the CGWA shall be obtained in this regard.
- (xxvii) Details of fuel tank farm and its risk assessment.
- (xxviii) The E.I.A. should present details on the compliance of the project to the Fly Ash notification issued under the E.P. Act of 1986.
- (xxix) EIA should contain the status of present mangrove cover and mangrove afforestation plans. Water quality of the modified creeks should be presented in the EIA.
- (xxx) Impact of the proposed project on Elephantaisland which is a tourist destination.
- (xxxi) The report should give a detailed impact analysis and management plan for handling of the following wastes for the existing and proposed scenarios.
  - (a) Trash collected in flight and disposed at the Airport including the segregation mechanism.
  - (b) Toilet wastes and sewage collected from aircrafts and disposed at the Airport.
  - (c) Maintenance and workshop wastes.
  - (d) Wastes arising out of eateries and shops situated within the airport.
- (xxxii) Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.

(xxxiii) Submit an affidavit signed by the Board of Directors, that there is no violation and no part of the project has been implemented without Environmental Clearance.

(xxxiv) A tabular chart with index for point-wise compliance of above ToR.

**8.** The Project proponent shall also take note of the following General Guidelines for preparation of EIA Report and EMP:

- (i) The EIA document shall be printed on both sides, as for as possible.
- (ii) All documents should be properly indexed, page numbered.
- (iii) Period/date of data collection should be clearly indicated.
- (iv) Authenticated English translation of all material provided in Regional languages.
- (v) The letter/application for EC should quote the MoEF&CC File No. and also attach a copy of the letter prescribing the ToR.
- (vi) The copy of the letter received from the Ministry on the ToR prescribed for the project should be attached as an annexure to the final EIA-EMP Report.
- (vii) The final EIA-EMP report submitted to the Ministry must incorporate the issues mentioned in ToR. The index of the final EIA-EMP report, must indicate the specific chapter and page no. of the EIA-EMP Report where the specific ToR prescribed by the Ministry have been incorporated. Questionnaire related to the project (posted on MoEF&CC website) with all sections duly filled in shall also be submitted at the time of applying for EC.
- (viii) Grant of ToR does not mean grant of EC.
- (ix) The status of accreditation of the EIA consultant with NABET/QCI shall be specifically mentioned. The consultant shall certify that his accreditation is for the sector for which this EIA is prepared.
- (x) On the front page of EIA/EMP reports, the name of the consultant/consultancy firm along with their complete details including their accreditation, if any shall be indicated. The consultant while submitting the EIA/EMP report shall give an undertaking to the effect that the prescribed ToRs (ToR proposed by the project proponent and additional ToR given by the MoEF&CC) have been complied with and the data submitted is factually correct (Refer MoEF&CC Office memorandum dated 4<sup>th</sup> August, 2009).
- (xi) While submitting the EIA/EMP reports, the name of the experts associated with/involved in the preparation of these reports and the laboratories through which the samples have been got analysed should be stated in the report. It shall clearly be indicated whether these laboratories are approved under the Environment (Protection) Act, 1986 and the rules made there under (Please refer MoEF&CC Office Memorandum dated 4<sup>th</sup> August, 2009). The project leader of the EIA study shall also be mentioned.

(xii) All the ToR points as presented before the Expert Appraisal Committee (EAC) shall be covered.

**8.** The above ToR should be considered for preparation of EIA/EMP for the project 'Environmental and CRZ Clearance of on-going Project/ activity of establishment of Navi Mumbai International Airport (NMIA) at Panvel Tehsil, Raigad district by M/s Navi Mumbai International Airport Limited, in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. Public hearing is exempted for the project as per para 7(ii) of EIA Notification, 2006 for preparation of EIA/EMP Report.

**9.** The project proponent shall submit the detailed final EIA Report and EMP prepared as per above ToR to the Ministry for considering the proposal for Environmental Clearance within four years as stipulated in amendment notification No. S.O. 751(E) dated 17<sup>th</sup> February, 2020.

**10.** As per amendment notification No. 648(E) dated 3<sup>rd</sup> March, 2016, the Environmental consultant organizations which are accredited for a particular sector and the category of project for that sector with the Quality Council of India (QCI) or National Accreditation Board for Education and Training (NABET) or any other agency as may be notified by the Ministry of Environment, Forest and Climate Change from time to time shall be allowed to prepare the EIA Report and EMP of a project and appear before the concerned EAC. The consultants involved in preparation of EIA Report would need to include a certificate in this regard in the EIA report and EMP prepared by them and details for data provided by other Organization(s)/Laboratories including their status of approvals etc.

**11.** The prescribed Terms of Reference (ToR) would be valid for a period of four years from the date of issue.

**12.** This issues with the approval of the Competent Authority.

(Lalit Bokolia) Director (S)

#### Copy to:

- 1. The Member Secretary, Maharashtra Pollution Control Board, Kalpataru Point, 3<sup>rd</sup> and 4<sup>th</sup> floor, Opp. Cine Planet, Sion Circle, Mumbai - 400 022.
- 2. The APCCF (C), MoEF&CC, Regional Office (WCZ), Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur 440001.

(Lalit Bokolia)

Proposal No. IA/MH/MIS/154209/2020

7(a): STANDARD TERMS OF REFERENCE FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY FOR AIRPORTS AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT

- (i) Reasons for selecting the site with details of alternate sites examined/rejected/selected on merit with comparative statement and reason/basis for selection. The examination should justify site suitability in terms of environmental angle, resources sustainability associated with selected site as compared to rejected sites. The analysis should include parameters considered along with weightage criteria for short-listing selected site.
- (ii) Details of the land use break-up for the proposed project. Details of land use around 10 km radius of the project site. Examine and submit detail of land use around 10 km radius of the project site and map of the project area and 10 km area from boundary of the proposed/existing project area, delineating project areas notified under the wild life (Protection) Act, 1972/critically polluted areas as identified by the CPCB from time to time/notified ecosensitive areas/inter state boundaries and international boundaries.. Analysis should be made based on latest satellite imagery for land use with raw images.
- (iii) Submit the present land use and permission required for any conversion such as forest, agriculture etc. land acquisition status, rehabilitation of communities/ villages and present status of such activities. Check on flood plain of any river.
- (iv) Examine and submit the water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity, quality likely impacts on them due to the project.
- (v) Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area, any obstruction of the same by the airport.
- (vi) Submit details of environmentally sensitive places, land acquisition status, rehabilitation of communities/ villages and present status of such activities.
- (vii) Examine the impact of proposed project on the nearest settlements.
- (viii) Examine baseline environmental quality along with projected incremental load due to the proposed project/activities
- (ix) Examine and submit details of levels, quantity required for filling, source of filling material and transportation details etc. Submit details of a comprehensive Risk Assessment and Disaster Management Plan including emergency evacuation during natural and man-made disaster integrating with existing airport
- (x) Examine road/rail connectivity to the project site and impact on the existing traffic network due to the proposed project/activities. A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.
- (xi) Submit details regarding R&R involved in the project
- (xii) Examine the details of water requirement, use of treated waste water and prepare a water balance chart. Source of water vis-à-vis waste water to be generated along with treatment facilities to be proposed.
- (xiii) Rain water harvesting proposals should be made with due safeguards for ground water quality. Maximize recycling of water and utilization of rain water.
- (xiv) Examine details of Solid waste generation treatment and its disposal.
- (xv) Submit the present land use and permission required for any conversion such as forest, agriculture etc.
- (xvi) Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.

- (xvii) Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster.
- (xviii) Examine baseline environmental quality along with projected incremental load due to the proposed project/activities.
- (xix) The air quality monitoring should be carried out as per the notification issued on 16<sup>th</sup> November, 2009.
- (xx) Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.
- (xxi) Submit details of corporate social responsibilities (CSR)
- (xxii) Submit details of the trees to be cut including their species and whether it also involves any protected or endangered species. Measures taken to reduce the number of the trees to be removed should be explained in detail. Submit the details of compensatory plantation. Explore the possibilities of relocating the existing trees.
- (xxiii) Examine the details of afforestation measures indicating land and financial outlay. Landscape plan, green belts and open spaces may be described. A thick green belt should be planned all around the nearest settlement to mitigate noise and vibrations. The identification of species/ plants should be made based on the botanical studies.
- (xxiv) Public hearing to be conducted for the project in accordance with provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan. The Public Hearing should be conducted based on the ToR letter issued by the Ministry and not on the basis of Minutes of the Meeting available on the web-site.
- (xxv) A detailed draft EIA/EMP report should be prepared in accordance with the above additional TOR and should be submitted to the Ministry in accordance with the Notification.
- (xxvi) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
- (xxvii) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
- (xxviii) Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "http://moef.nic.in/Manual/Airport".

| SR.<br>NO. | CONDITIONS                                                                                                                                                                                               | COMPLIANCE STATUS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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|            | Additi                                                                                                                                                                                                   | onal ToR Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| (i)        | The EIA shall cover justification<br>for land requirement along with<br>a comparison to the guidelines<br>established by the Airport<br>Authority of India/Ministry of<br>Civil Aviation in this regard. | The construction of the Navi Mumbai International Airport (NMIA) is under implementation in an area of 1160 ha and has received requisite approvals from Airport Authority of India and Ministry of Civil Aviation. Establishment of NMIA at Navi Mumbai is the second airport within 150 km radius of CSMIA, was approved by MoCA, GoI vide letter no. AV.24011/1/95-VB (Vol.VI) dated 6th July 2007. (Annexure- IV [A])                                                                                                                              |
|            |                                                                                                                                                                                                          | The airport also received "No-Objection" from Ministry<br>of Defence, GoI for setting up the airport at Navi<br>Mumbai subject to specific conditions vide letter no.<br>3(15)/07/D(Air-II) dated 11th October 2010.<br>(Annexure- IV [C]). Based on this, MoEF&CC Granted<br>Environment & CRZ Clearance on 22 <sup>nd</sup> Nov 2010.                                                                                                                                                                                                                |
|            |                                                                                                                                                                                                          | The details of land developed by different Airports based on their operational capacities with regard to MPPA and Cargo handling are illustrated in Table-1.4 and details are addressed in <b>Section-1.3.7 of Chapter-1</b> .                                                                                                                                                                                                                                                                                                                         |
|            |                                                                                                                                                                                                          | Therefore, land considered for the proposed project is less than any other international airports.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| (ii)       | Study Impact, including risk of<br>flooding in and around the<br>project site, due to diversion<br>work on Ulwe Creek along with<br>other creeks which are modified.                                     | The flood risk assessment of NMIA has been carried out<br>by the CWPRS based on 1-D, 2-D Mathematical and<br>Physical Model studies for the airport and its vicinity<br>based on 100 years return period and the<br>recommendations were incorporated into to the<br>stormwater drainage masterplan of NMIA. NMIA<br>drainage system is approved and validated by CWPRS.<br>NMIAL has designed NMIA drainage system while<br>CIDCO has parallelly designed the Drainage Master<br>Plan of surrounding areas by incorporating CWPRS<br>Recommendations. |
|            |                                                                                                                                                                                                          | The details are addressed in Section-7.4 of Chapter-7.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| (iii)      | A toposheet of the study area of<br>radius of 10 km and site location<br>on 1:50,000/1:25000 scale on<br>A3/A2 sheet (including all Eco<br>sensitive areas &<br>environmentally sensitive<br>places)     | The toposheet of the study area (1: 50000 scale) depicting 10 km radius from the project boundary is shown in <b>Figure-1.5 (A)</b> , <b>Chapter-1</b> . The ecosensitive areas, environmentally sensitive places, and ESZ boundaries are marked on the map and the aerial distance and directions of the same are given in <b>Table-1.6</b> .                                                                                                                                                                                                         |
| (iv)       | Submit a copy of layout<br>superimposed on HTL/LTL map<br>demarcated by an authorized<br>agency on 1:4000 Scale                                                                                          | The CRZ Map of the project site (layout superimposed<br>on the HTL/LTL map on 1: 4000 scale) is depicted in<br><b>Figure-1.8 (A), Chapter-1</b> .                                                                                                                                                                                                                                                                                                                                                                                                      |
| (v)        | Submit superimposing of latest CZMP as per CRZ (2011) on the CRZ map                                                                                                                                     | The CZMP map as per CRZ (2011) on the CRZ map with superimposition of the NMIA project site is depicted in <b>Figure-1.8 (B), Chapter-1</b> .                                                                                                                                                                                                                                                                                                                                                                                                          |



| SR.<br>NO. | CONDITIONS                                                                                                             | COMPLIANCE STATUS                                                                                                                                                                                                                                                                                                            |
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|            | Additi                                                                                                                 | onal ToR Conditions                                                                                                                                                                                                                                                                                                          |
| (vi)       | Layout maps of proposed<br>project indicating runway,<br>airport building, parking,<br>greenbelt area, utilities, etc. | The layout maps of the project indicating runways, airport buildings, parking facilities, utility locations, safety and security systems and other support facilities are shown in Section-2.8, Section-2.9 and Section-2.10 of Chapter-2.                                                                                   |
|            |                                                                                                                        | It is planned to develop greenspace as part of the landscape development for permissible vegetation within an area of 384.90 ha, i.e., 33.18 % of the airport site area of 1160 ha. Proposed Plan of Central Green & Forecourt are provided in <b>Figure-2.31</b> and <b>Figure-2.32</b> respectively of <b>Chapter -2</b> . |
| (vii)      | Submit the actual site<br>photograph including the aerial<br>photograph of the present<br>construction                 | The actual site photographs of NMIA construction activity and progress are shown in Figure-1.2 (A-C) in Chapter-1.                                                                                                                                                                                                           |
|            |                                                                                                                        | The aerial image of the project site (in large scale) depicting current physiographic conditions is shown in <b>Figure-1.2 (D) of Chapter-1</b> .                                                                                                                                                                            |
| (viii)     | Cost of the project and time of completion                                                                             | The total estimated cost of the project (all four phases) is about Rs 41,302 Cr.                                                                                                                                                                                                                                             |
|            |                                                                                                                        | Based on present status airport infrastructure construction work by NMIA shall commence from FY 21-22 and will be completed by FY 24-25 for the Phase I and FY 25-26 Phase-II. Subsequently, Phase-III and Final / Phase -IV will commence based on traffic triggers.                                                        |
|            |                                                                                                                        | The phase-wise airport development cost and completion schedule are describe in <b>Section-2.10.3</b> and <b>Section 2.10.4.1 of Chapter-2</b> respectively.                                                                                                                                                                 |
| (ix)       |                                                                                                                        | A volume of 44.70 million cubic meter of rock will be<br>cut from the Ulwe Hill within the project site area. It<br>will be used as fill material for the airport site levelling<br>and additional fill material will be procured from outside<br>sources as per requirement.                                                |
|            | shall be suggested                                                                                                     | Similarly, the impact due to cutting of Ulwe Hill and transportation of aggregates upon ambient air quality, noise levels especially due to blasting, quarrying and crushing activities, impact on soil quality, impacts on ecology and bio-diversity etc. are describe in <b>Section-4.2 of Chapter-4</b> .                 |
|            |                                                                                                                        | A detailed traffic circulation and management plan for<br>movement of construction vehicles inside NMIA is<br>describe in <b>Section-4.2.12</b> ( <b>Chapter-4</b> ) with<br>adequate proactive measures against identified<br>possible traffic congestion and safety issues.                                                |
|            |                                                                                                                        | Details of Environmental Management Plan (EMP) are discussed in Section 10.3 of Chapter 10.                                                                                                                                                                                                                                  |



| SR.<br>NO. | CONDITIONS                                                                                                                                                                                                                                                                               | COMPLIANCE STATUS                                                                                                                                                                                                                                                                                                                                                                                                        |
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| NO.        | Additi                                                                                                                                                                                                                                                                                   | onal ToR Conditions                                                                                                                                                                                                                                                                                                                                                                                                      |
| (x)        | Detailed plan of for `deplane                                                                                                                                                                                                                                                            | De-plane Waste Management                                                                                                                                                                                                                                                                                                                                                                                                |
|            | waste' and impact of noise on<br>the sensitive environment<br>specially the wildlife sanctuaries<br>and national parks                                                                                                                                                                   | De-plane wastes include sanitary wastes generated<br>from toilets and the galley wastes include waste<br>generated from in-flight catering and other services.                                                                                                                                                                                                                                                           |
|            |                                                                                                                                                                                                                                                                                          | The sanitary wastes will be collected by lavatory trucks<br>and treated in the Triturator facility proposed at the<br>airport before disposal into sewage system before<br>reaching the STP.                                                                                                                                                                                                                             |
|            |                                                                                                                                                                                                                                                                                          | The galley waste will be collected from the aircrafts and<br>segregated as bio-degradable and non-biodegradable<br>waste. After segregation, it will be treated along with<br>municipal solid waste managed at the airport.                                                                                                                                                                                              |
|            |                                                                                                                                                                                                                                                                                          | Impact due to solid waste generated during NMIA operations, the assessment of solid waste and its collection, segregation, handling, and disposal management are discussed in <b>Section-4.3.7 of Chapter-4.</b>                                                                                                                                                                                                         |
|            |                                                                                                                                                                                                                                                                                          | Impact of Noise Sensitive Areas                                                                                                                                                                                                                                                                                                                                                                                          |
|            |                                                                                                                                                                                                                                                                                          | The impact of noise on sensitive areas due to noise<br>generated from aircrafts movement in the operation<br>phase is modelled using INM (Version-6.0) and the<br>predicted incremental noise in the representative<br>areas, ESZ boundary and Eco-Sensitive areas within 10<br>km radius of the project boundary. The noise levels<br>from landing and take-off of aircrafts are considered.                            |
|            |                                                                                                                                                                                                                                                                                          | The assessment impact of noise pollution and mitigation measures are addressed in <b>Section-4.3.6</b> of Chapter-4.                                                                                                                                                                                                                                                                                                     |
| (xi)       | cumulative impact of all<br>development and increased<br>inhabitation being carried out or<br>proposed to be carried out by<br>the project or other agencies in<br>the core area, shall be made for<br>traffic densities and parking                                                     | management plan has been drawn for NMIA based on<br>the traffic study. The Lea Associates South Asia Pvt. Ltd<br>(LASA) has been engaged by NMIAL/CIDCO for this<br>purpose. The study was completed by LASA and same<br>was discussed with all stakeholders and Final report<br>was submitted to MoEF&CC on 14 <sup>th</sup> July 2020.                                                                                 |
|            | capabilities in a 5 km radius of<br>from the site. A detailed traffic<br>management and traffic<br>decongestion plan drawn up<br>through an organization of<br>repute and specializing in<br>Transport Planning shall be<br>submitted with the EIA. The<br>plan to be implemented to the | The above report addresses the impact of development<br>and recommends infrastructure development for traffic<br>management and de-congestion within 5 km radius of<br>the NMIA boundary for improving the Level of Service<br>in the major traffic intersections and connecting road<br>to the airport. CIDCO along with other stakeholders has<br>taken-up various projects for improving the<br>connectivity to NMIA. |
|            | satisfaction of the State Urban<br>Development and Transport<br>Departments shall also include                                                                                                                                                                                           | The findings of Detailed Traffic Management and De-<br>congestion Management Report are addressed in <b>Section-4.3.4 of Chapter-4</b> . The detailed traffic                                                                                                                                                                                                                                                            |



| SR.<br>NO. | CONDITIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | COMPLIANCE STATUS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|            | Additi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | onal ToR Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|            | the consent of all the concerned agencies.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | management and decongestion plan for NMIA is attached as <b>Annexure-IX</b> to the EIA report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| (xii)      | The EIA should specifically<br>address to vehicular traffic<br>management as well as<br>estimation of vehicular parking<br>area inside the Airport premises.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | The traffic management within the airport is addressed<br>with specific routes for passenger and Cargo traffic in<br>airport operational areas.<br>A specific traffic route and entry and exit gates are<br>planned specifically construction vehicles.<br>The assessment of NMIA traffic demand and parking<br>management are addressed in <b>Section-4.3.4 of</b><br><b>Chapter-4</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| (xiii)     | An onsite disaster management<br>plan shall be drawn up to<br>account for risks and accidents.<br>This onsite plan shall be<br>dovetailed with the onsite<br>management plan for the<br>district.                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | The assessment of risks and on-site disaster<br>management plan of NMIA is addressed for<br>development and operation phases of NMIA are<br>discussed in <b>Section-7.1 and Section-7.2 of</b><br><b>Chapter-7</b> .<br>A quantitative risk assessment (QRA) has been carried<br>out for the air turbine fuel tank farms within NMIA and<br>the predictions of the study/modelling simulations are<br>given in the <b>Section-7.2 of Chapter-7</b> .<br>The detailed QRA report is attached as <b>Annexure-</b><br><b>XXIII</b> of EIA Report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| (xiv)      | A note on appropriate process<br>and material to be used to<br>encourage reduction of carbon<br>footprint. Optimize use of<br>energy systems in buildings that<br>should maintain a specified<br>indoor environment conducive<br>to the functional requirement of<br>the building by following<br>mandatory compliance<br>measures (for all applicable<br>buildings) as recommended in<br>the Energy Conservation<br>Building Code (ECBC) 2017 of<br>the Bureau of Energy Efficiency,<br>Government of India. The<br>energy systems include air<br>conditioning systems, indoor<br>lighting systems, water heaters,<br>air heaters and air circulation<br>devices. | The proposed Terminals and Ancillary Buildings in NMIA<br>will adopt necessary Green Building measures and<br>follow maximum conservation of energy in line with<br>"Energy Conservation Building Code –2017", "National<br>Building Code 2016" and ASHRAE requirements.<br>The building falls under the category of Assembly, and<br>the energy conservation measures which will be<br>adopted are described in the ECBC rules is dealt in<br><b>Section- 10.3.3.11 in Chapter-10</b> of EIA report and<br>the detailed ECBC Compliance status is attached as<br><b>Annexure-XII</b> to the EIA Report.<br>The compliance to ECBC guidelines aims at optimizing<br>use of energy by use of energy efficient systems for<br>indoor lighting, water systems, heating, ventilation and<br>air circulation systems thereby reducing carbon<br>footprint of the project to the extent possible.<br>The Terminals are also targeted to achieve LEED<br>Certification Gold from the United States Green<br>Building Council (USGBC), and all other building shall<br>follow a minimum energy requirement as per<br>ECBC,2017 guidelines. |
| (xv)       | Details shall be provided<br>regarding the solar generation<br>proposed and the extent of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | The generation of solar energy is planned at the airport<br>based on the land availability and feasibility within<br>NMIA. The final phase solar generation capacity will be                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |



| SR.   | CONDITIONS                                                                                                                                                          | COMPLIANCE STATUS                                                                                                                                                                                                                                                                                                                                                                    |
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| NO.   |                                                                                                                                                                     | onal ToR Conditions                                                                                                                                                                                                                                                                                                                                                                  |
|       | substitution, along with compliance to ECBC rules.                                                                                                                  | 22.14 MW and this will be used in-house to reduce the requirement of conventional fossil fuel-based energy.                                                                                                                                                                                                                                                                          |
|       |                                                                                                                                                                     | The solar panels/photo-voltaic cells will be set-up at the terminal roof-top and ground mounted at designated areas parallel to north and south runway.                                                                                                                                                                                                                              |
|       |                                                                                                                                                                     | The phase-wise solar power generation is given in <b>Section-2.11.1.1</b> of <b>Chapter-2</b> in the EIA report.                                                                                                                                                                                                                                                                     |
|       |                                                                                                                                                                     | As per ECBC guidelines, it is planned that more than<br>1% of the total peak power demand of connected load<br>of the airport buildings will be sourced from solar power<br>systems. It is dealt in <b>Section- 10.3.3.11</b> in <b>Chapter-<br/>10</b> of EIA report and the detailed ECBC Compliance<br>status attached as <b>Annexure-XII</b> to the EIA Report.                  |
| (xvi) | Details of emissions, effluents,<br>solid waste and hazardous<br>waste generation and their                                                                         | Details of Emissions, Effluents, Solid Waste and<br>Hazardous Waste generation and their<br>management.                                                                                                                                                                                                                                                                              |
|       | waste generation and their<br>management. Air quality<br>modelling and noise modelling<br>shall be carried out for the<br>emissions from various types<br>aircraft. | The impacts and mitigations due to project related<br>emissions, effluents, solid waste generation and<br>hazardous waste generation during construction and<br>operation phases are addressed in <b>Chapter-4</b> and the<br>environment management plan are addressed in the<br><b>Chapter-10</b> of the EIA Report.                                                               |
|       |                                                                                                                                                                     | Air Dispersion Modelling                                                                                                                                                                                                                                                                                                                                                             |
|       |                                                                                                                                                                     | The air-quality modelling of has been carried out using AREMOD (Version-7.1.0). The aircraft emissions from narrow-bodied and wide-bodied aircrafts are accounted. The emission rates from aircraft LTO cycle and emissions from Aircraft APU and GSE at the time of aircraft parking are considered. The modelling predictions are presented in <b>Section-4.3.3 of Chapter-4</b> . |
|       |                                                                                                                                                                     | The GLCs of the predicted air quality within the project<br>influence area including sensitive locations are<br>assessed. It is ascertained that the predicted GLCs are<br>within permissible limits in all phases of the airport<br>operation.                                                                                                                                      |
|       |                                                                                                                                                                     | Noise Modelling                                                                                                                                                                                                                                                                                                                                                                      |
|       |                                                                                                                                                                     | The impact of noise generated due to aircrafts in the operation phase has been modelled using INM (Version-6.0) and the predicted incremental noise in the representative area due to landing and take-off of aircrafts is assessed.                                                                                                                                                 |
|       |                                                                                                                                                                     | The assessment of impact due to noise and suitable mitigation measures are addressed in <b>Section-4.3.6</b> of Chapter-4.                                                                                                                                                                                                                                                           |

| SR.<br>NO. | CONDITIONS                                                                                                                                                    | COMPLIANCE STATUS                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| 110.       | Additi                                                                                                                                                        | onal ToR Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| (xvii)     | The impact of aircraft emissions<br>in different scenarios of idling,<br>take-off and touch down shall be<br>examined and management<br>plan suggested.       | The aircraft emissions were examined for different aircraft types during their LTO cycle (Approach, touch-down, taxiing, idling and take-off) and parking. The aircraft emissions modelling predictions are given in <b>Section 4.3.3</b> of <b>Chapter-4</b> of the EIA report.                                                                                                                                                                                   |
|            |                                                                                                                                                               | The LTO cycle consists of descent/approach, touchdown, landing-run, taxi-in, idle and shutdown, start-up and idle, check-out, taxi-out, take-off and climb out to the reference height.                                                                                                                                                                                                                                                                            |
|            |                                                                                                                                                               | DGCA through its circular 3 & 4 of 2003 has laid down<br>guidelines for measurement and monitoring at airports,<br>including noise mapping, validation, action plan, noise<br>reporting, carbon emissions, and local air quality<br>monitoring. Aviation noise limits have also been<br>proposed by DGCA.                                                                                                                                                          |
|            |                                                                                                                                                               | Gaseous emissions from aircrafts engines will be monitored at regular intervals for compliance with ICAO guidelines.                                                                                                                                                                                                                                                                                                                                               |
|            |                                                                                                                                                               | The aircraft air pollution management will be carried<br>out as per ICAO guidelines and DGCA regulations. The<br>environment management plan of aircraft induced air<br>emissions is addressed in <b>Section-10.3.3.2 of</b><br><b>Chapter-10</b> .                                                                                                                                                                                                                |
| (xviii)    | The impact of air emissions in<br>different speed controlled and<br>vehicles plying within the<br>Airport shall be examined and<br>management plan suggested. | The impact of air emissions in different speed-<br>controlled vehicles and vehicles plying within the<br>Airport is assessed based on air dispersion modelling<br>predictions. The details are addressed in <b>Section-</b><br><b>4.3.4.11 of Chapter-4.</b>                                                                                                                                                                                                       |
| (xix)      | The management plan will<br>include compliance to the<br>provisions of the MSW Rules,<br>2016.                                                                | The solid waste management plan of NMIA is addressed<br>in accordance with regulations mentioned in MSW<br>Rules, 2016.                                                                                                                                                                                                                                                                                                                                            |
|            |                                                                                                                                                               | The solid waste management plan of NMIA during construction and operation phases are addressed in <b>Section-10.3.2.3</b> and <b>Section-10.3.3.7</b> respectively in <b>Chapter-10</b> .                                                                                                                                                                                                                                                                          |
| (xx)       | A detailed management plan,<br>drawn-up in consultation with<br>the competent District<br>authorities, shall be submitted<br>for the regulation of            | A detailed management plan, drawn-up in consultation<br>with CIDCO. It is based on 2010 EC and CRZ condition,<br>the land use in the project corridor of NMIA and its<br>surrounding has been changed vide NMDP notification<br>issued by CIDCO.                                                                                                                                                                                                                   |
|            | unauthorized development and<br>encroachments within 5 km<br>radius of the Airport.                                                                           | CIDCO assessed the impacts of the project within 5 km radius of the project site and beyond 10 km radius of project site as well. It is based on the regulations of Airport Authority of India, the requirements of Airport, connectivity infrastructure, proximity to eco-sensitive zones, operation of various planning authorities within MMR etc. The assessment identified an area up to 25 km would be influenced by the construction and operation of NMIA. |



| SR.<br>NO. | CONDITIONS                                                                                                                                                                                                                                              | COMPLIANCE STATUS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|            |                                                                                                                                                                                                                                                         | It is referred in Section-4.3.4 of Chapter-4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| (xxi)      | The EIA will also examine the<br>impacts of construction and<br>operation of the proposed STP<br>and draw up a detailed plan for                                                                                                                        | During construction phase, the liquid waste generated<br>by the construction workforce will be linked to the STP<br>to be facilitated at the construction site.                                                                                                                                                                                                                                                                                                                                                                           |
|            | management including that for odour control.                                                                                                                                                                                                            | The sludge generated from the STPs will be utilized as<br>manure in plantation areas. Hence, there will be no<br>impact on water resources. The treated water from the<br>STP will be reused in construction activity.                                                                                                                                                                                                                                                                                                                    |
|            |                                                                                                                                                                                                                                                         | During operation phase, 13.3 MLD of sewage will be generated in the final phase operations. The sewage treatment plant capacity for Phase-I & II will be 5.5 MLD increasing to 11.25 MLD in Phase-III and finally 14.25 MLD in Phase-IV. The treated sewage water from the STP will be re-used for flushing, HVAC, Landscape development, etc.                                                                                                                                                                                            |
|            |                                                                                                                                                                                                                                                         | The details of wastewater management and proposed STP details for construction and operation phase are addressed in <b>Section-4.2.6</b> and <b>Section-4.3.5 of Chapter-4</b> .                                                                                                                                                                                                                                                                                                                                                          |
|            |                                                                                                                                                                                                                                                         | Odour reported if any, from STP areas will be managed<br>as per Guidelines on Odour Monitoring & Management<br>Rules by CPCB, May, 2008.                                                                                                                                                                                                                                                                                                                                                                                                  |
| (xxii)     | Classify all Cargo handled as<br>perishable, explosive, solid,<br>petroleum products, Hazardous<br>Waste, Hazardous Chemical,<br>Potential Air Pollutants,<br>Potential Water Pollutants etc.<br>and put up a handling and<br>disposal management plan. | A cargo complex has been planned with all required<br>supporting infrastructure elements and ancillary<br>facilities for handling different types of cargo, viz.,<br>import and export cargo, transit cargo, domestic cargo,<br>express/ courier cargo, perishable cargo, air mail,<br>hazardous cargo, etc. The cargo complex will have<br>necessary infrastructure for segregation, handling and<br>management of cargo and waste generated from cargo.<br>These details are explained in <b>Section-2.9.5 of</b><br><b>Chapter-2</b> . |
|            |                                                                                                                                                                                                                                                         | 14 TPD of solid waste will be generated from the<br>handling and management of cargo in the final phase<br>of the airport. The collected waste will be collected<br>separately and processed at the SWM facility proposed<br>near the northern runway.                                                                                                                                                                                                                                                                                    |
|            |                                                                                                                                                                                                                                                         | A comprehensive solid waste management plan has<br>been developed for NMIA for collection, segregation,<br>handling and management of wastes. Solid hazardous,<br>non-hazardous, bio-medical waste, etc. will treated and<br>disposed as per CPCB regulations.                                                                                                                                                                                                                                                                            |
|            |                                                                                                                                                                                                                                                         | The solid waste management plan of NMIA during operation phases is given in <b>Section-4.3.7 of Chapter-4.</b>                                                                                                                                                                                                                                                                                                                                                                                                                            |



| SR.<br>NO. | CONDITIONS                                                                                                                                                                                         | COMPLIANCE STATUS                                                                                                                                                                                                                                                               |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            | Additi                                                                                                                                                                                             | onal ToR Conditions                                                                                                                                                                                                                                                             |
| (xxiii)    | Noise monitoring and impact<br>assessment shall be done for<br>each representative area (as per<br>the Noise Rules of MOEF&CC). A<br>noise management plan shall be<br>submitted to confirm to the | Baseline noise monitoring has been conducted at 13 locations including funnel zones and eco-sensitive areas, residential and commercial areas. The results of baseline noise monitoring are given in <b>Section-3.8 of Chapter-3</b> .                                          |
|            | guidelines of MoEF&CC and the DGCA.                                                                                                                                                                | During construction phase, noise will be generated<br>from construction activities like quarrying, vehicular<br>movement, development of land structures etc.                                                                                                                   |
|            |                                                                                                                                                                                                    | The impact of noise generated due to aircrafts in the operation phase is modelled using INM (Version-6.0) and the predicted incremental noise in the representative area due to landing and take-off of aircrafts is assessed.                                                  |
|            |                                                                                                                                                                                                    | The assessment of impact due to noise and suitable mitigation measures are addressed in <b>Section-4.2.7</b> and <b>Section-4.3.6</b> of <b>Chapter-4</b> .                                                                                                                     |
|            |                                                                                                                                                                                                    | Based on noise studies an implementation plan for<br>noise abatement plan and noise compatibility plan will<br>be established to comply with permissible level of noise<br>as per the noise sensitivity zones as per FAA, LUG<br>Notification.                                  |
| (xxiv)     | Noise monitoring shall be carried out in the funnel area of the flight path.                                                                                                                       | Noise monitoring has been carried out at 13 locations<br>in the vicinity of the NMIA site and impact assessment<br>is done for each representative area (as per the Noise<br>Rules of MOEF&CC) including landing and take-off<br>funnel zones and eco-sensitive areas.          |
|            |                                                                                                                                                                                                    | The daytime and night-time (24 Hours) noise levels at locations falling within NMIA funnel area at noise locations N2, N3 and N12 are recoded and analysed.                                                                                                                     |
|            |                                                                                                                                                                                                    | The baseline environmental status of the noise levels of NMIA in the study area are described in <b>Section-3.8</b> of <b>Chapter-3</b> .                                                                                                                                       |
| (xxv)      | Requirement of water, power,<br>with source of supply, status of<br>approval, water balance<br>diagram, man-power<br>requirement (regular and<br>contract).                                        | The details of all NMIA utilities and resource requirements (including water, power, source of supply, status of approval, water balance diagram, ATF demand, communication systems, waste management facilities, etc.) are addressed in the <b>Section-2.11 of Chapter-2</b> . |
|            |                                                                                                                                                                                                    | Project construction is expected to generate more than<br>5000 direct employments. During operation phase,<br>NMIA will generate about 15,000 temporary<br>employment and about 90,000 permanent employment<br>opportunities.                                                   |
| (xxvi)     | Ground water abstraction and<br>rainwater recharge shall be as<br>prescribed by the CGWA. A<br>clearance/permission of the                                                                         | The project does not envisage groundwater abstraction<br>in project development and operation phases.<br>Therefore, CGWA permission about groundwater<br>abstraction is not required. Suitable rainwater<br>harvesting facilities will be provided. The details of              |



| SR.<br>NO. | CONDITIONS                                                                                                                    | COMPLIANCE STATUS                                                                                                                                                                                                                                                                                                                                                           |
|------------|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NO.        | Additi                                                                                                                        | onal ToR Conditions                                                                                                                                                                                                                                                                                                                                                         |
|            | CGWA shall be obtained in this regard.                                                                                        | airport utilities with regard to water requirement, its sources and the facility of rainwater harvesting system are explained in <b>Section-2.11.2</b> of <b>Cahpter-2.</b>                                                                                                                                                                                                 |
| (xxvii)    | Details of fuel tank farm and its risk assessment                                                                             | NMIA envisages utilisation of 6060 cum/day of air<br>turbine fuel usage in the final phase operation. The ATF<br>tank farms are designed for storage of ATF for 5 days<br>at a time based on design day flight schedules.                                                                                                                                                   |
|            |                                                                                                                               | The details of ATF storage facility, incoming supply line is given <b>Section-2.11.7</b> and <b>Section-2.11.8 of Chapter-2</b> .                                                                                                                                                                                                                                           |
|            |                                                                                                                               | A quantitative risk assessment (QRA) has been carried<br>out for the air turbine fuel tank farms within NMIA and<br>the predictions of the study/modelling simulations are<br>given in the <b>Section-7.2 of Chapter-7</b> . The study<br>recommendations are also addressed based on the<br>modelling predictions.                                                         |
|            |                                                                                                                               | The detailed QRA report is attached as <b>Annexure-XXIII</b> of EIA Report.                                                                                                                                                                                                                                                                                                 |
| (xxviii)   | The EIA should present details<br>on the compliance of the project<br>to the fly ash notification issued<br>under EP Act 1986 | NMIA will comply with Fly Ash Notification issued under<br>the EP Act of 1986 and plans to utilize fly-ash products<br>in the range of 50,000 Tonnes in construction of Phase-<br>I and 1,00,000 Tonnes in the construction of final<br>Phase-IV. The details of fly ash utilisation in NMIA<br>development are referred in <b>Section-2.12.2.7 of</b><br><b>Chapter-2.</b> |
| (xxix)     | present mangrove cover and<br>mangrove afforestation plans.<br>Water quality of the modified                                  | The total forest area of 250.0635 ha including mangroves in 108.607 ha and forest land in 141.4565 ha has been cleared after receiving the following clearances:                                                                                                                                                                                                            |
|            | creeks should be presented in the EIA.                                                                                        | <ul> <li>Forest Clearance (Stage-I) vide letter no. 8-<br/>95/2012-FC 17<sup>th</sup> December 2013.</li> </ul>                                                                                                                                                                                                                                                             |
|            |                                                                                                                               | <ul> <li>Forest Clearance (Stage-II) vide letter no. F.No. 8-<br/>95/2012-FC dated 24<sup>th</sup> April 2017.</li> </ul>                                                                                                                                                                                                                                                   |
|            |                                                                                                                               | Compensatory mangrove afforestation has been implemented as per the MOEF&CC directives as stipulated in the EC and CRZ Clearance conditions, 2010. The status of mangrove afforestation is given in <b>Section-4.2.10 of Chaper-4</b> .                                                                                                                                     |
|            |                                                                                                                               | The project site is now reclaimed and does not contain any mangrove cover.                                                                                                                                                                                                                                                                                                  |
|            |                                                                                                                               | The marine water quality has been sampled and<br>analysed at 10 locations in the Panvel creek within<br>study area. This includes modified creeks area due to<br>project site reclamation. The sampling and analysis<br>results of marine water and sediment samples is<br>addressed in <b>Section-3.11.4.2 of Chapter-3</b> .                                              |



| SR.<br>NO. | CONDITIONS                                                                                                                                                                                                              | COMPLIANCE STATUS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 110.       | Additio                                                                                                                                                                                                                 | onal ToR Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| (xxx)      | Impact of the proposed project<br>on Elephanta island which is a<br>tourist destination.                                                                                                                                | The Elephanta Caves are located at about 11.3 km west<br>of the NMIA project site. Based on the assessment of<br>flight path, the estimated altitude of the flights near the<br>Elephanta caves will be more than 500 m. Based on<br>noise dispersion modelling predictions, aircraft induced<br>noise contours will be less than 15 Noise Exposure<br>Forecast (NEF). Thus, it can be concluded that aircraft<br>noise will have very negligible impact.                                                                                                                   |
|            |                                                                                                                                                                                                                         | The Elephanta caves are located beyond the 10 km radius of the project boundary of NMIA, which is expected to have no other project related impacts during construction and operation phases.                                                                                                                                                                                                                                                                                                                                                                               |
|            |                                                                                                                                                                                                                         | The impact on the Elephanta island in the development is described in <b>Section-4.3.6 of Chapter-4</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| (xxxi)     | The report should give a                                                                                                                                                                                                | (a) <u>Trash Collected from the Aircraft</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|            | detailed impact analysis and<br>management plan for handling<br>of the following wastes for the<br>existing and proposed<br>scenarios:<br>(a) Trash collected in flight<br>and disposed at the<br>airport including the | Other De-planed waste includes "galley waste" –<br>materials typically collected by airline caterers as part<br>of the de-catering process, including compactor boxes,<br>waste carts (bags), food carts and bonded carts – which<br>will be segregated as degradable and non-bio-<br>degradable and will be managed along with the MSW<br>collected at the airport.                                                                                                                                                                                                        |
|            | segregation<br>mechanism.<br>(b) Toilet Waste and swage                                                                                                                                                                 | (b) <u>Toilet waste and sewage collected from the</u><br><u>Aircraft</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|            | collected from aircrafts<br>and disposed at the<br>Airport<br>(c) Maintenance and<br>Workshop Wastes<br>(d) Waste arising out of<br>eateries and shops                                                                  | For handling the sanitary waste generated from the aircrafts, Triturator facility is proposed, where waste from aircraft vacuum toilets will be received through lavatory trucks and triturating process (grinding/shredding) is completed before being disposing the waste into the sewerage system.                                                                                                                                                                                                                                                                       |
|            | situated within the<br>airport                                                                                                                                                                                          | The facility will be strategically located with consideration to:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|            |                                                                                                                                                                                                                         | <ul> <li>Catchment areas and minimum travel time and crossing of taxiways and taxi lanes.</li> <li>Proximity to main utilities connection points and facilities; and</li> <li>Under the ultimate scenario, a total of 3 Triturator facilities are proposed.</li> </ul>                                                                                                                                                                                                                                                                                                      |
|            |                                                                                                                                                                                                                         | Considering the possibility that liquid waste from the<br>aircrafts (also known as blue water) may pose hazards<br>for plants and animals, it will be separately collected<br>and adequately sanitized before sending to a sewage<br>treatment plant for further treatment. The wastes will<br>initially be collected in various designated collection<br>pits. From collection pits, wastes will be transferred to<br>equalization tanks through suction tanker for<br>sanitization. Sanitized wastes will then be transferred<br>to STP by pumping for further treatment. |

Environmental Impact Assessment for the Proposed Navi Mumbai International Airport (NMIA) at Ulwe, Navi Mumbai, Panvel Taluka, Raigad District, Maharashtra

### NMIA -Terms of Reference (ToR) Compliance

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| SR.<br>NO. | CONDITIONS                                                                                                                                                                                                                                                                                                                                                                                        | COMPLIANCE STATUS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|            | Additional ToR Conditions                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
|            |                                                                                                                                                                                                                                                                                                                                                                                                   | (c & d) <u>Waste generated from the maintenance areas</u><br>and workshops and from the eateries and shops<br>within the airport                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
|            |                                                                                                                                                                                                                                                                                                                                                                                                   | Wet and dry wastes arising from maintenance area and<br>workshops, eateries and shops, etc. will be transferred<br>separately to proposed waste collection centre and<br>further segregated and transferred to respective waste<br>processing centres for appropriate handling, treatment<br>and disposal.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
|            |                                                                                                                                                                                                                                                                                                                                                                                                   | Impact due to solid waste generated from the aircrafts<br>and its collection, segregation, handling and disposal<br>management are discussed in <b>Section-4.3.7 of</b><br><b>Chapter-4</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
|            |                                                                                                                                                                                                                                                                                                                                                                                                   | Impact due to liquid waste generated from the aircrafts<br>and its collection, segregation, handling and disposal<br>management are discussed in <b>Section-4.3.5 of</b><br><b>Chapter-4</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
| (xxxii)    | the project and/or any<br>direction/order passed by Court<br>Law Against the project, if so,<br>details thereof shall also be<br>included. Has the unit received<br>any notice under the section 5 of<br>Environment (Protection) Act,<br>1986 or relevant Sections of Air<br>and Water Acts? If so, details<br>thereof and compliance/ATR to<br>the notice(s) and present status<br>of the case. | <ul> <li>The Conservation Action Trust (CAT) filed a PIL before the Hon'ble Bombay High Court challenging the extension of validity of Environmental and CRZ Clearance (EC) granted to the project. The particulars of the PIL are as below:</li> <li>Stamp No.: PILST/34920/2018 Reg. No.: PIL/57/2019</li> <li>Status of PIL/57/2019</li> <li>The PIL is pending but not admitted by the Hon'ble Bombay High Court.</li> <li>On 4<sup>th</sup> October 2019, while considering the PIL for admission, the HC orally observed that the documents on which the PIL was based were several years old, and that the Petitioners (CAT) were late in approaching the Court considering that the project is ongoing.</li> <li>The Petitioners were given time to file additional up to date documents.</li> <li>As of date, the Petitioners have not filed any additional documents.</li> </ul> |  |
| (xxxiii)   | Submit an affidavit signed by<br>the Board of Directors, that<br>there is no violation and no part<br>of the project has been<br>implemented without<br>environmental clearance.                                                                                                                                                                                                                  | Complied and attached as <b>Appendix-1</b> of ToR<br>Compliance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
| (xxxiv)    |                                                                                                                                                                                                                                                                                                                                                                                                   | Complied                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |



| Sr.  | Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Compliance Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No   | Stand                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ard ToR Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| (i)  | Reasons for selecting the site<br>with details of alternate sites<br>examined/rejected/selected on<br>merit with comparative<br>statement and reason/basis for<br>selection. The examination<br>should justify site suitability in<br>terms of environmental angle,<br>resources sustainability<br>associated with selected site as<br>compared to rejected sites. The<br>analysis should include<br>parameters considered along<br>with weightage criteria for short-<br>listing selected site.                                                                                                                                                                                                                                                                                                                                                                                                                                         | NMIA is an on-going project which has already<br>received Environmental and CRZ Clearance in 2010<br>based on EIA study which presented analysis of<br>alternative sites carried out by CIDCO.                                                                                                                                                                                                                                                                                                                                                            |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | The current proposal does not require any additional<br>land and there is no change in location of site as<br>approved in EC of 2010, based on analysis of<br>alternative sites submitted at that time. Moreover,<br>based on EC condition (Condition No. XXVII [I]),<br>CIDCO has already changed the land use of airport<br>Site to 'Airport and Allied Activities' by amending<br>Development Plan of Navi Mumbai vide GoM<br>Notification in March 2012 (GoM Notification No. TPS<br>1711/2495/CR-202/11/UD-12 dated 21 <sup>st</sup> March<br>2012). |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | It is referred in Section-5.0 in Chapter-5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| (ii) | Details of the land use break-up<br>for the proposed project. Details<br>of land use around 10 km radius<br>of the project site. Examine and<br>submit detail of land use around<br>10 km radius of the project site<br>and map of the project area and<br>10 km area from boundary of the<br>proposed/existing project area,<br>delineating project areas notified<br>under the Wildlife (Protection)<br>Act, 1972/critically polluted<br>areas as identified by the CPCB<br>from time to time/notified eco-<br>sensitive areas /inter-state<br>boundaries. Analysis should be<br>made based on latest satellite<br>imagery for land use with raw<br>images.<br>Submit the present land use and<br>permission required for any<br>conversion such as forest,<br>agriculture etc. land acquisition<br>status, rehabilitation of<br>communities/ villages and<br>present status of such activities.<br>Check on flood plain of any river. | Details of the land use break-up for the proposed project is given in Table -2.27 and Table-2.28 of <b>Section-2.9.27 of Chapter-2</b> .                                                                                                                                                                                                                                                                                                                                                                                                                  |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | The land use survey within 10 km radius of the project site has been carried out through site High Resolution LISS IV Satellite imagery (7 <sup>th</sup> May 2020) and site reconnaissance. The detailed land use break-up is given in <b>Section-3.4 of Chapter-3</b> .                                                                                                                                                                                                                                                                                  |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | The project influence area (within 10 km radius from project site boundary) does not fall within critically polluted areas as identified by the CPCB or inter-state boundaries and international boundaries.                                                                                                                                                                                                                                                                                                                                              |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | NOC from NBWL (Wildlife Clearance) obtained by CIDCO dated 1 <sup>st</sup> Aug 2013 and amendment letter dated 30 <sup>th</sup> June, 2015. It is attached as <b>Annexure-IV</b> of the EIA report.                                                                                                                                                                                                                                                                                                                                                       |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | The NMIA is being established in an area of 1160 ha.<br>The acquisition of the land required for the project has<br>been retained by CIDCO after implementation of R&R<br>policy approved by GoM.                                                                                                                                                                                                                                                                                                                                                         |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | The details of rehabilitation and resettlement of the project affected people and status of implementation of the R&R policy of CIDCO is given in <b>Section-3.12.2</b> of <b>Chapter-3</b> .                                                                                                                                                                                                                                                                                                                                                             |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | CIDCO has already changed the land use of airport<br>Site to 'Airport and Allied Activities' by amending<br>Development Plan of Navi Mumbai vide GoM<br>Notification in March 2012 (GoM Notification No. TPS<br>1711/2495/CR-202/11/UD-12 dated 21 <sup>st</sup> March,<br>2012). The project site is reclaimed as the site pre-<br>devolvement activities are completed.                                                                                                                                                                                 |

Environmental Impact Assessment for the Proposed Navi Mumbai International Airport (NMIA) at Ulwe, Navi Mumbai, Panvel Taluka, Raigad District, Maharashtra

#### NMIA -Terms of Reference (ToR) Compliance

| Sr.    | Conditions                                                                                                                                                                                                        | Compliance Status                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No     | Stand                                                                                                                                                                                                             | ard ToR Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|        |                                                                                                                                                                                                                   | A detailed flood risk assessment has been carried out<br>by CWPRS based on the HFL of the surrounding water<br>bodies. The site will be raised beyond the<br>recommended safe grade elevation level of +8.5<br>AMSL to avoid inundation. The details are addressed<br>in <b>Section-4.2.4</b> and <b>Section-4.3.5 of Chapter-4.</b>                                                                                                                  |
| (iv)   | Examine and submit the water<br>bodies including the seasonal<br>ones within the corridor of<br>impacts along with their status,<br>volumetric capacity, quality<br>likely impacts on them due to the<br>project. | As per 2010 EC Clearance conditions, the stormwater generated within the project site will not be drained into the Ulwe recourse channel and Moha Creek to avoid flooding in these water bodies.<br>The impacts on Ulwe Recourse Channel and the modified creeks due to project development is addressed in <b>Section-4.2.6</b> and <b>Section-4.2.9 of Chapter-4</b> .                                                                              |
|        |                                                                                                                                                                                                                   | As per EC (2010) directives, the stormwater generated<br>from NMIA site will be drained to the north into Panvel<br>Creek or north-east into Gadhi river. This will facilitate<br>safe discharge of stormwater from the project area<br>without flooding.<br>No other project related impacts on nearby<br>waterbodies are anticipated.<br>The details of impact on the nearby waterbodies and                                                        |
|        |                                                                                                                                                                                                                   | drainage are addressed in Section-4.2.4 and Section-4.3.5 of Chapter-4.                                                                                                                                                                                                                                                                                                                                                                               |
| (v)    | Submit a copy of the contour<br>plan with slopes, drainage<br>pattern of the site and<br>surrounding area, any<br>obstruction of the same by the<br>airport.                                                      | The site physiographic conditions within 10 km radius<br>of the project boundary (project influence area) and<br>the recent contour map ( <b>Figure-3.3.2</b> ) is given in<br><b>Section-3.3.1 of Chapter-3</b> .<br>Similarly, the drainage pattern (Figure-3.3.3) of the<br>project influence area and the recent drainage map is<br>given in <b>Section-3.3.2 of Chapter-3</b> .                                                                  |
| (vi)   | Submit details of<br>environmentally sensitive<br>places, land acquisition status,<br>rehabilitation of communities/<br>villages and present status of<br>such activities.                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| (vii)  | Examine the impact of proposed project on the nearest settlements.                                                                                                                                                | The nearest settlement is identified at CBD Belapur to<br>the north of the project site and at Pargaon Dungi near<br>the southern boundary of the project area. The<br>baseline monitoring has been carried out at all the<br>nearby habitations for air, noise, soil, ground/ surface<br>water and marine water and the impacts and<br>mitigation measures due to project development and<br>operation phase are addressed in the <b>Chapter-4</b> . |
| (viii) | Examine baseline environmental quality along with projected                                                                                                                                                       | The baseline environmental monitoring for the project was generated in the non-monsoon period between                                                                                                                                                                                                                                                                                                                                                 |

Environmental Impact Assessment for the Proposed Navi Mumbai International Airport (NMIA) at Ulwe, Navi Mumbai, Panvel Taluka, Raigad District, Maharashtra

### NMIA -Terms of Reference (ToR) Compliance



| Sr.                                                                                                                                                                                                                                                                                                                                                     | Conditions                                                                                                                                                                                                                                                                                                            | Compliance Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No                                                                                                                                                                                                                                                                                                                                                      | Stand                                                                                                                                                                                                                                                                                                                 | ard ToR Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                                                                                                         | incremental load due to the proposed project/activities                                                                                                                                                                                                                                                               | 1 <sup>st</sup> December 2019 and 29 <sup>th</sup> February 2020. The baseline environmental status of the project is given in <b>Chapter-3</b> .                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                       | The impact due to land acquisition, topography, geology and hydrogeology, drainage pattern, soil quality, water quality, traffic congestion, air quality, noise levels and socio-economy of the study area are assessed in comparison with baseline status. It is addressed in <b>Chapter-4</b> .                                                                                                                                                                                                                                                            |
|                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                       | Impact due to incremental pollution load during construction phase is assessed and suitable mitigation measures are addressed to abate environmental pollution ( <b>Section-4.2, Chapter-4</b> ).                                                                                                                                                                                                                                                                                                                                                            |
|                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                       | Similarly, during operation phase, impact due to incremental pollution load and mitigation measures are addressed ( <b>Section-4.3</b> ).                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                       | The predictive modelling software were used to assess<br>the incremental pollution load on air quality due to<br>aircraft LTO cycles and landside traffic (Section-4.3.3<br>and Section-4.3.4) and incremental noise levels due<br>to aircraft LTO cycles in <b>Section-4.3.6 of Chapter-4</b> .                                                                                                                                                                                                                                                             |
| (ix) Examine and submit details of<br>levels, quantity required for<br>filling, source of filling material<br>and transportation details etc.<br>Submit details of a<br>comprehensive Risk Assessment<br>and Disaster Management Plan<br>including emergency evacuation<br>during natural and man-made<br>disaster integrating with existing<br>airport | The aggregate required for construction activities will<br>be manufactured by crushing rock removed by cutting<br>the Ulwe hill within the airport site. The details of<br>levels, quantity required for filling, source of filling<br>materials, etc. are addressed in <b>Section-4.2.2</b> of<br><b>Chapter-4</b> . |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                                                                                                                                                                                                                                                                                                                                         | including emergency evacuation<br>during natural and man-made<br>disaster integrating with existing                                                                                                                                                                                                                   | A specific transportation route <b>(Figure-4.11)</b> has been envisaged for entry/exit and traversal of the construction vehicles within the project area. It is discussed in <b>Section-4.2.12 of Chapter-4.</b>                                                                                                                                                                                                                                                                                                                                            |
|                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                       | The details of a comprehensive Risk Assessment and<br>Disaster Management Plan including emergency<br>evacuation during natural and man-made disaster<br>integrating with existing airport during the<br>construction and operation phases of the airport are<br>addressed in <b>Section-7.1</b> and <b>Section-7.2</b><br>respectively in <b>Chapter-7</b> .                                                                                                                                                                                                |
| (x)                                                                                                                                                                                                                                                                                                                                                     | Examine road/rail connectivity to<br>the project site and impact on<br>the existing traffic network due<br>to the proposed<br>project/activities. A detailed<br>traffic and transportation study<br>should be made for existing and<br>projected passenger and cargo<br>traffic.                                      | A detailed traffic management and de-congestion plan<br>has been drawn for NMIA based on the traffic study.<br>The Lea Associates South Asia Pvt. Ltd (LASA) has<br>been engaged by NMIAL/CIDCO for this purpose. The<br>study was completed by LASA and same was<br>discussed with all stakeholders and final report<br>submitted to MoEF&CC on 14 <sup>th</sup> July 2020. The report<br>is attached as <b>Annexure-IX</b> of the EIA report.<br>The above report addresses the existing and proposed<br>rail, road and public water transport development |



| Sr.    | Conditions                                                                                                                                                                                                                    | Compliance Status                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No     | Stand                                                                                                                                                                                                                         | ard ToR Conditions                                                                                                                                                                                                                                                                                                                                                                                                 |
|        |                                                                                                                                                                                                                               | based on the passenger and cargo traffic in the<br>subsequent years of commencement of terminal<br>operations.                                                                                                                                                                                                                                                                                                     |
|        |                                                                                                                                                                                                                               | The findings of detailed traffic management and de-<br>congestion report are addressed in <b>Section-4.3.4 of</b><br><b>Chapter-4.</b>                                                                                                                                                                                                                                                                             |
| (xi)   | Submit details regarding R&R involved in the project                                                                                                                                                                          | The details of rehabilitation and resettlement of the project affected people and status of implementation of the R&R policy of CIDCO is given in <b>Section-3.12</b> of <b>Chapter-3</b> .                                                                                                                                                                                                                        |
| (xii)  | Examine the details of water<br>requirement, use of treated<br>wastewater and prepare a water<br>balance chart. Source of water<br>vis-à-vis wastewater to be<br>generated along with treatment<br>facilities to be proposed. | The phase-wise water requirement for project, water balance and flow diagram and the source of water supply is given in <b>Section 2.11.2 of Chapter-2</b> .                                                                                                                                                                                                                                                       |
|        |                                                                                                                                                                                                                               | The water required during construction and operation phases of the NMIA will be provided by CIDCO.                                                                                                                                                                                                                                                                                                                 |
|        |                                                                                                                                                                                                                               | During construction phase, the liquid waste generated<br>by the construction workforce will be linked to the STP<br>to be facilitated at the construction camp site.                                                                                                                                                                                                                                               |
|        |                                                                                                                                                                                                                               | The sludge generated from the STPs will be utilized as<br>manure in plantation areas. Hence, there will be no<br>impact on water resources. The treated water from the<br>STPs will be reused and recycled during construction<br>period.                                                                                                                                                                          |
|        |                                                                                                                                                                                                                               | During operation phase, 13.3 MLD of sewage will be<br>generated till the final phase. The sewage Treatment<br>plant capacity for Phase -I & II will be 5.5 MLD<br>increasing to 11.25 MLD in Phase-III and finally 14.25<br>MLD in Phase -IV. The treated sewage water from the<br>STP will be re-used and recycled for flushing, HVAC,<br>irrigation of horticulture, washing of floors, dust<br>suppression etc. |
|        |                                                                                                                                                                                                                               | The details of wastewater management and proposed STP details for construction and operation are addressed in <b>Section-4.2.6</b> and <b>Section-4.3.5</b> in <b>Chapter-4</b> .                                                                                                                                                                                                                                  |
| (xiii) | Rainwater harvesting proposals<br>should be made with due<br>safeguards for ground water<br>quality. Maximize recycling of<br>water and utilization of<br>rainwater.                                                          | A rainwater harvesting pond is proposed along the main drain alignment path in the operation phase of the airport. The details of the rainwater harvesting pond and its capacity are given in <b>Section-2.12.2 of Chapter-2</b> .                                                                                                                                                                                 |
| (xiv)  | Examine details of Solid waste generation treatment and its disposal.                                                                                                                                                         | The solid waste generated from the construction<br>camps will be monitored and managed by MSW Rules,<br>2016. C&D waste generated at the construction site<br>will be minimised to the extent possible and handled<br>as per C&D Waste Handling and Management Rules,<br>2016. The solid waste management plan of NMIA                                                                                             |

Environmental Impact Assessment for the Proposed Navi Mumbai International Airport (NMIA) at Ulwe, Navi Mumbai, Panvel Taluka, Raigad District, Maharashtra

## NMIA -Terms of Reference (ToR) Compliance



(Issued vide letter No. F. No. 10-53/2020-IA-III dated 29th October 2020)

| Sr.     | Conditions                                                                                                                                  | Compliance Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No      | Stand                                                                                                                                       | ard ToR Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|         |                                                                                                                                             | during construction and operation phase is addressed<br>in <b>Section-10.3.2.3</b> of <b>Chapter-10</b> .                                                                                                                                                                                                                                                                                                                                                                                                          |
|         |                                                                                                                                             | The quantity of solid waste generated from various facilities during airport operation is given in <b>Table-4.59.</b> A comprehensive solid waste management plan has been envisaged for the operation phase of NMIA. It is addressed in <b>Section-10.3.3.7 of Chapter-10</b> .                                                                                                                                                                                                                                   |
| (xv)    | Submit the present land use and<br>permission required for any<br>conversion such as forest,<br>agriculture etc.                            | Complying to the EC & CRZ Clearance granted by<br>MoEF&CC vide letter dated November 22, 2010, for<br>establishment of NMIA, GoM vide Notification No TPS<br>1711/2495/CR-202/11/UD-12 dated 21 <sup>st</sup> March 2012<br>CIDCO has incorporated "International Airport & Allied<br>Activities / Service Zone" in Navi Mumbai<br>Development Plan (NMDP) and changed land use in<br>surrounding area. The details are addressed in<br><b>Section-2.6.1. of Chapter-2</b> .                                       |
| (xvi)   | Examine separately the details<br>for construction and operation<br>phases both for Environmental<br>Management Plan and                    | The construction and operation phase management plan of NMIA are addressed in <b>Section-10.3 of Chapter-10</b> .                                                                                                                                                                                                                                                                                                                                                                                                  |
|         | Environmental Monitoring Plan<br>with cost and parameters.                                                                                  | The environmental monitoring plan for the construction and operation phase of NMIA are addressed in Section-6.4.1 and Section-6.4.2 of Chapter 6.                                                                                                                                                                                                                                                                                                                                                                  |
|         |                                                                                                                                             | The budget of monitoring, implementation of mitigation and environment management plan to mitigate the potential adverse impact during construction/development and operation phase of the airport are given in the <b>Table-10.8</b> in <b>Section-10.4</b> of <b>Chapter-10</b> .                                                                                                                                                                                                                                |
| (xvii)  | Submit details of a<br>comprehensive Disaster<br>Management Plan including<br>emergency evacuation during<br>natural and man-made disaster. | The details of a comprehensive Risk Assessment and<br>Disaster Management Plan including emergency<br>evacuation during natural and man-made disaster<br>integrating with existing airport during the<br>construction and operation phases of the airport are<br>addressed in <b>Section-7.1</b> and <b>Section-7.2</b><br>respectively in <b>Chapter-7</b> .                                                                                                                                                      |
|         |                                                                                                                                             | A detailed airport emergency response plan (including<br>on-site and off-site emergencies) will be prepared and<br>will be dovetailed with the disaster management plan<br>of NMMC before commencement of airport operations.                                                                                                                                                                                                                                                                                      |
| (xviii) | Examine baseline environmental<br>quality along with projected<br>incremental load due to the<br>proposed project/activities.               | The baseline environmental monitoring for the project<br>was carried out in the non-monsoon period between<br>1 <sup>st</sup> December 2019 and 29 <sup>th</sup> February 2020. The<br>baseline environmental status of the project with<br>respect to geology & hydrogeology, topography,<br>drainage pattern, land use and land change, soil<br>quality, site-specific meteorology, air quality, noise<br>level, surface and groundwater quality, terrestrial and<br>marine ecosystem and bio-diversity, traffic |

Environmental Impact Assessment for the Proposed Navi Mumbai International Airport (NMIA) at Ulwe, Navi Mumbai, Panvel Taluka, Raigad District, Maharashtra

## NMIA -Terms of Reference (ToR) Compliance



(Issued vide letter No. F. No. 10-53/2020-IA-III dated 29th October 2020)

| Sr.   | Conditions                                                                                                                   | Compliance Status                                                                                                                                                                                                                                                                                                                                                                                                |
|-------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No    | Stand                                                                                                                        | ard ToR Conditions                                                                                                                                                                                                                                                                                                                                                                                               |
|       | Stanu                                                                                                                        | connectivity and socio-economic status of the study area is given in <b>Chapter-3</b> .                                                                                                                                                                                                                                                                                                                          |
|       |                                                                                                                              | The impact due to land acquisition, topography, geology and hydrogeology, drainage pattern, soil quality, water quality, traffic congestion, air quality, noise levels and socio-economy of the study area are assessed in comparison with baseline status. It is addressed in <b>Chapter-4</b> .                                                                                                                |
|       |                                                                                                                              | Impact due to incremental pollution load during construction phase is assessed and mitigation measures are addressed to abate environmental pollution ( <b>Section-4.2</b> , <b>Chapter-4</b> ).                                                                                                                                                                                                                 |
|       |                                                                                                                              | Similarly, during operation phase, impact due to incremental pollution load and mitigation measures details are provided in ( <b>Section-4.3</b> ) <b>Chapter 4</b> .                                                                                                                                                                                                                                            |
|       |                                                                                                                              | The predictive modelling software were used to assess<br>the incremental pollution load on air quality due to<br>aircraft LTO cycles and landside traffic details given in<br><b>Section-4.3.3</b> and <b>Section-4.3.4</b> . Incremental<br>noise levels due to aircraft LTO cycles details are<br>provided in <b>Section-4.3.6 of Chapter-4</b> .                                                              |
| (xix) | The air quality monitoring should<br>be carried out as per the<br>notification issued on 16 <sup>th</sup><br>November, 2009. | The ambient air quality data was generated through<br>monitoring of all the parameters as stipulated under<br>16 <sup>th</sup> November 2009 CPCB Notification. The AAQ<br>monitoring has been carried out at 12 locations within<br>the study area. The locations of monitoring are<br>selected in different regions representative of<br>industrial, traffic, urban and rural activities within<br>study area. |
|       |                                                                                                                              | The AAQ monitoring results are given <b>Section-3.7 of Chapter-3</b> .                                                                                                                                                                                                                                                                                                                                           |
| (xx)  | Examine separately the details<br>for construction and operation<br>phases both for Environmental<br>Management Plan and     | The construction and operation phase management plan of NMIA are addressed in <b>Section-10.3 of Chapter 10</b> .                                                                                                                                                                                                                                                                                                |
|       | Environmental Monitoring Plan<br>with cost and parameters.                                                                   | The environmental monitoring plan for the construction and operation phase of NMIA is addressed in Section-6.4.1 and <b>Section-6.4.2 of Chapter-6</b> the EIA report.                                                                                                                                                                                                                                           |
|       |                                                                                                                              | The budget of monitoring, implementation of mitigation and environment management plan to mitigate the potential adverse impact during development and operation phase of the airport are given in the <b>Table-10.8 in Section-10.4</b> of <b>Chapter-10</b> .                                                                                                                                                  |
| (xxi) | Submit details of corporate social responsibilities (CSR)                                                                    | CSR activities of NMIAL emphasis lies on vital thematic<br>areas as per the Companies Act, 2013 and required<br>funds will be made available to undertake activities in                                                                                                                                                                                                                                          |

## NMIA -Terms of Reference (ToR) Compliance



(Issued vide letter No. F. No. 10-53/2020-IA-III dated 29<sup>th</sup> October 2020)

| Sr.     | Conditions                                                                                                                                                                                                                                                                                                                                                                                                                       | Compliance Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No      | Stand                                                                                                                                                                                                                                                                                                                                                                                                                            | ard ToR Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|         |                                                                                                                                                                                                                                                                                                                                                                                                                                  | the project as per the details given in <b>Section-8.6.4</b><br>of <b>Chapter-8</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| (xxii)  | Submit details of the trees to be<br>cut including their species and<br>whether it also involves any<br>protected or endangered<br>species. Measures taken to<br>reduce the number of the trees<br>to be removed should be<br>explained in detail. Submit the<br>details of compensatory<br>plantation. Explore the<br>possibilities of relocating the<br>existing trees.                                                        | <ul> <li>The total forest area of 250.0635 ha including mangroves in 108.607 ha and forest land in 141.4565 ha has been cleared after receiving the following clearances:</li> <li>Forest Clearance (Stage I) vide letter no. 8-95/2012-FC 17<sup>th</sup> December, 2013.</li> <li>Forest Clearance (Stage II) vide letter no. F.No. 8-95/2012-FC dated 24<sup>th</sup> April 2017.</li> <li>Compensatory mangrove afforestation has been implemented as per the MOEF&amp;CC directives as stipulated in the EC and CRZ Clearance conditions, 2010. The status of mangrove afforestation is given in Section-4.2.10 of Chaper-4.</li> <li>Project has been granted permissions from Tree Authority, CIDCO for tree transplant/ cutting.</li> <li>The permission letters along with transplantation details are given in Table-4.5 of Chapter-4.</li> </ul> |
| (xxiii) | Examine the details of<br>afforestation measures<br>indicating land and financial<br>outlay. Landscape plan, green<br>belts and open spaces may be<br>described. A thick green belt<br>should be planned all around the<br>nearest settlement to mitigate<br>noise and vibrations. The<br>identification of species/ plants<br>should be made based on the<br>botanical studies.                                                 | The proposed landscape development at NMIA is<br>planned considering key airport related constraints,<br>such as birds hazard management, height restrictions<br>in the airport operational areas.<br>Although, it is planned to develop greenspace as part<br>of the landscape development for permissible<br>vegetation within an area of 384.9 ha, i.e., 33.18 %<br>of the airport site area of 1160 ha.<br>The details of green space and landscape development<br>within NMIA are described in <b>Section-2.9.26 in</b><br><b>Chapter-2</b> .<br>NMIAL intends to plant about 14,000 trees on 50.620<br>ha of land outside the project site on land provided by<br>Forest Dept. near Jite Village in Raigad District of<br>Maharashtra.                                                                                                                |
| (xxiv)  | Public hearing to be conducted<br>for the project in accordance<br>with provisions of Environmental<br>Impact Assessment Notification,<br>2006 and the issues raised by<br>the public should be addressed in<br>the Environmental Management<br>Plan. The Public Hearing should<br>be conducted based on the ToR<br>letter issued by the Ministry and<br>not on the basis of Minutes of the<br>Meeting available on the website. | As per the ToR issued dated 29 <sup>th</sup> October, 2020, EAC<br>has exempted the project from the requirement for<br>Public Hearing as per para 7(ii) of EIA Notification,<br>2006 and its subsequent amendments for preparation<br>of EIA/EMP report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## NMIA -Terms of Reference (ToR) Compliance



(Issued vide letter No. F. No. 10-53/2020-IA-III dated 29th October 2020)

| Sr.      | Conditions                                                                                                                                                                                                                                                                    | Compliance Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No       | Stand                                                                                                                                                                                                                                                                         | ard ToR Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| (xxv)    | A detailed draft EIA/EMP report<br>should be prepared in<br>accordance with the above<br>additional TOR and should be<br>submitted to the Ministry in<br>accordance with the Notification.                                                                                    | The EIA/EMP report has been prepared as per the ToR issued vide letter F.No. 10-53/2020-IA-III dated 29 <sup>th</sup> October, 2020 and EIA Notification, 2006 and its subsequent amendments.                                                                                                                                                                                                                                                                                                                                                                                     |
| (xxvi)   | Details of litigation pending<br>against the project, if any, with<br>direction /order passed by any<br>Court of Law against the Project<br>should be given.                                                                                                                  | The Conservation Action Trust (CAT) filed a PIL before<br>the Hon'ble Bombay High Court challenging the<br>extension of validity of Environment and CRZ<br>Clearance (EC) granted to the project. The particulars<br>of the PIL are as below:<br>Stamp No.: PILST/34920/2018<br>Reg. No.: PIL/57/2019                                                                                                                                                                                                                                                                             |
|          |                                                                                                                                                                                                                                                                               | <u>Status of PIL/57/2019</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|          |                                                                                                                                                                                                                                                                               | <ul> <li>The PIL is pending but not admitted by the Hon'ble<br/>Bombay High Court.</li> <li>On 4<sup>th</sup> October 2019, while considering the PIL for<br/>admission, the HC orally observed that the<br/>documents on which the PIL was based were<br/>several years old, and that the Petitioner (CAT)<br/>was late in approaching the Court considering that<br/>the project is ongoing.</li> <li>The Petitioners were given time to file additional<br/>up to date documents.</li> <li>As of date, the Petitioners have not filed any<br/>additional documents.</li> </ul> |
| (xxvii)  | The cost of the Project (capital<br>cost and recurring cost) as well<br>as the cost towards<br>implementation of EMP should be<br>clearly spelt out.                                                                                                                          | The cost of the project (capital cost and recurring cost)<br>is given <b>Section-2.10.3 of Chapter-2</b> .<br>The budget of monitoring, implementation of<br>mitigation and environment management plan to<br>mitigate the potential adverse impact during<br>development and operation phase of the airport are<br>given in the <b>Table-10.8 in Section-10.4 of</b><br><b>Chapter-10.</b>                                                                                                                                                                                       |
| (xxviii) | Any further clarification on<br>carrying out the above studies<br>including anticipated impacts<br>due to the project and mitigative<br>measure, project proponent can<br>refer to the model ToR available<br>on Ministry website<br>"http://moef.nic.in/Manual/Airp<br>ort". | complied.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |



Date: 11th May, 2020

The Secretary, Ministry of Environment, Forests and Climate Change (MoEF & CC), Indira Paryavaran Bhawan, Ali Ganj, Jor Bagh Road, New Delhi- 110 003.

## Subject: Application of TOR for proposed Navi Mumbai International Airport (NMIA) in Taluka Panvel, Raigad District of Maharashtra

### AUTHORISATION LETTER

In terms of authority given by the Board of Directors of the Company by its resolutions passed at its meetings held on 26<sup>th</sup> February 2018 and 15<sup>th</sup> May 2018, I, G V Sanjay Reddy, Managing Director of the Company, do hereby authorise **Mr. Charudatta Deshmukh Director – Urban Planning**, to make application for TOR/ Environmental Clearance on behalf of the Company including filing any official, formal communication, clarifications, other related documents and papers, as may be necessary and correspondence with MoEFCC (Government of India) and participating in meetings with Infrastructure and CRZ Committee (EAC II), MoEFCC, Government of India and making commitments thereof in respect of our above proposal for establishment of proposed Navi Mumbai International Airport (NMIA) in Taluka Panvel, Raigad district of Maharashtra.

Specimen Signature of Mr. Charudatta Deshmukh, Director – Urban Planning

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Attested by me For Navi Mumbai International Airport Private Limited

G V Sanjay Reddy Managing Director

Navi Mumbal International Airport Pvt Ltd Chhatrapati Shivaji International Airport 1st Floor, Terminal 1B Santacruz (E), Mumbal 400 099, India ENERGY RESOURCES AIRPORTS TRANSPORTATION HOSPITALITY LIFE SCIENCES



## - 8' SEP 2020

प.म.तिक ८००

सक्षम अधिकारी

प्रधान मुद्रांक कार्यालय, मुंबर

श्री. सा. टी. आंबेकर

#### AFFIDAVIT

I, Charudatta Deshmukh, Director – Urban Planning, Navi Mumbai International Airport Pvt Ltd, having my place of work at Terminal 1-B, Chhatrapati Shivaji Maharaj International Airport, Santacruz (E), Mumbai 400 099, do hereby solemnly declare and affirm as under:

a. That the work done at the project site by NMIAL, is without any deviation and as per previous EC obtained vide F. No. 10-53/2009-IA.III dated 22 November 2010 and Extension of Validity obtained vide F. No. 10-53/2009-IA.III dated 20 December 2017. Ministry of Environment, Forest and Climate Change (MOEF & CC) has recently transferred EC & CRZ Clearence of the project in the name of NMIAL vide letter No. 10-53/2009-IA.III dated 17<sup>th</sup> August 2020.

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Jannexure-I फल्स प्रतिज्ञापत्रासाठी /Only For Afficav. १) भुदांक विक्री नोंदवही अनु. क्रॅमांक/दिसांक १) भुदांक विक्री वें पेणाऱ्याचे नांव व रहिवाशांचा क्या व सह १ रदाने घारक मुद्रांक विक्रेत्याची सही व परवाना क्रमांक १ रदाने घारक मुद्रांक विक्रेत्याची सही व परवाना क्रमांक १ रदाने घारक प्रदांक विक्रेत्याची सही व परवाना क्रमांक १ रदाने घारक ८००००११ विक्रेचे ठिकाण/पत्ता सात्रा क्रमांक ८००००११ विक्रेचे ठिकाण/पत्ता: सौ. कॉच्यन हर्षद बोंगाळे विक्रेचे ठिकाण/पत्ता: सौ. कॉच्यन हर्षद बोंगाळे १ र क्रबिस्वासमोर/न्वायालयासमोर प्रतिज्ञापत्र सार भोदेश दि. ०१/०७/२००४ नुसार) ज्या कारणासाठी भूत द महिन्यात वापरणे बंधनकारक आह

- b. That Pre-Development Works consisting of tree cutting and site clearance, R & R, land development, shifting of utilities and recoursing of tidally influenced water bodies, as informed from time to time by City and Industrial Development Corporation of Maharashtra Limited ("CIDCO") to NMIAL, has been undertaken at the project site as per the EC & CRZ Clearence for the project, by CIDCO in its capacity as Project Proponent for EC & CRZ Clearence granted to the project on 22<sup>nd</sup> November 2010 and for Extension of Validity dated 20<sup>th</sup> December 2017, and as Nodal agency appointed by Government of Maharashtra for development of NMIA Project.
- c. There is no litigation on the project at NGT. However, there is a Public Interest Litigation filed namely, PIL No. 57 of 2019 which is pending in respect of the project before the Hon'ble High Court of Judicature at Bombay, the same is yet to be admitted and there have been no interim or final Orders passed yet.
- d. That it is a fresh proposal and has not been taken up before EAC/SEAC/SEIAA.
- e. That the land for the project (Site area of 1160 Ha) is to be procured by CIDCO, and is to be handed over to NMIAL. Presently CIDCO has granted NMIAL Right Of Way for 1155.99 Ha of the land, and right of way over the balance 4.01 Ha of land is to be granted to NMIAL, after the R & R is completed by CIDCO.
- f. There is no difference in the documents submitted i.e., Form I, IA, Conceptual Plan, EIA/EMP report and presentation being made.
- g. (i) The validity of current EC shall be expiring on 21<sup>st</sup> November 2020 and NMIAL, being Concessionaire for the project, is responsible for obtaining and keeping in force and effect Applicable Permits for construction, operation and maintenance within project Site area. In view of this, and forthcoming expiry date of current EC, NMIAL has applied for fresh EC to MOEF & CC.
- (ii) Further, the proposal being for an airport project falling under Category A as specified in Item No. 7(a) of the Schedule to the EIA Notification dated 14 September 2006 vide S. O. 1533 (E), as also having its land partially under the CRZ Notification dt 06<sup>th</sup> January 2011, has been submitted to the EAC (Infra- II), MOEF & CC as the competent authority for grant of Terms of Reference for EIA studies.

I hereby confirm that the contents of this affidavit are true to the best of my knowledge.

For Navi Mumbai International Airport Pvt. Ltd.,

Name: Charudatta Deshmukh Designation: Director – Urban Planning

Date: 18.09.2020 Place: Mumbai

## ANNEXURE-IV STATUTORY CLEARANCES

| Sr.<br>No. | Approval                                                                                                                                                                                                                         | Letter Reference Number                                | Date of Approval                | Annexure |  |  |  |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|---------------------------------|----------|--|--|--|
| 1          | Approval from Ministry of Civil Aviation<br>(MoCA), Govt. of India                                                                                                                                                               | No.AV.24011/1/95-VB(Vol.VI)                            | 6 <sup>th</sup> Jul 2007        | IV [A]   |  |  |  |
| 2          | Approval from State Cabinet, Govt. of Maharashtra                                                                                                                                                                                | CID-3307/1549/LT-144/07/N10                            | 30 <sup>th</sup> Jul 2008       | IV [B]   |  |  |  |
| 3          | Approval from Ministry of Defence, Govt of India                                                                                                                                                                                 | No. 3(15)/07/D(Air-II)                                 | 11 <sup>th</sup> Oct 2010       | IV [C]   |  |  |  |
| 4          | Environmental and CRZ Clearance granted to NMIA (MoEF)                                                                                                                                                                           | F. No. 10-53/20091AM1                                  | 22 <sup>nd</sup> November 2010  | IV [D]   |  |  |  |
| 5          | Wildlife Clearance (from the Wildlife Division, MoEF&CC, Gol)                                                                                                                                                                    | F. No. 6-43/2007 WL-I                                  | 1 <sup>st</sup> August, 2013    | IV [E]   |  |  |  |
| 6          | Permission for Removal of Mangroves<br>(Order from Hon'ble Bombay High Court)                                                                                                                                                    | Notice of Motion No. 419 of 2011 in PIL No. 87 of 2006 | 29 <sup>th</sup> October, 2013  | IV [F]   |  |  |  |
| 7          | Forest Clearance Stage I (From MoEF&CC, Gol)                                                                                                                                                                                     | No. 8-95/2012-FC (Stage I)                             | 17 <sup>th</sup> December, 2013 | IV [G]   |  |  |  |
| 8          | Wildlife Clearance (from the Wildlife<br>Division, MoEF&CC, Gol")-Amendment                                                                                                                                                      | F. No. 6-48/2015-WL<br>(Amendment)                     | 30 <sup>th</sup> June, 2015     | IV [H]   |  |  |  |
| 9          | Consent to Establishment (Maharashtra<br>Pollution Control Board)                                                                                                                                                                | 1.0/BO/CAC-Cell/EIC-RD-3145-<br>15/CE/CAC-12995        | 14 <sup>th</sup> October, 2015  | IV [I]   |  |  |  |
| 10         | Forest Clearance Stage II (From MoEF&CC, Gol)                                                                                                                                                                                    | No. 8-95/2012-FC (Stage II)                            | 24 <sup>th</sup> April, 2017    | [L] VI   |  |  |  |
| 11         | Extension of Environmental and CRZ<br>Clearance of NMIA (from MoEF&CC)                                                                                                                                                           | F. No. 10-53/2009-IA.III                               | 20 <sup>th</sup> December 2017  | IV [K]   |  |  |  |
| 12         | Approval/NOC from Water Supply Dept.<br>CIDCO for Water Supply to NMIA                                                                                                                                                           | CIDCO/EE(Hetwane)/2018/322                             | 3 <sup>rd</sup> August, 2018    | IV [L]   |  |  |  |
| 13         | In-Principle Approval for Construction of<br>Navi Mumbai International Greenfield<br>Airport at Navi Mumbai by Director<br>General of Civil Aviation (DGCA), Govt. of<br>India                                                   | AV.20024/40/2003-AL                                    | 28 <sup>th</sup> August, 2018   | IV [M]   |  |  |  |
| 14         | Security Vetting/Clearance of the Master<br>Plan of Navi Mumbai International<br>Airport                                                                                                                                         | CAS-6/2018/Div-Ops-I/Navi<br>Mumbai (E-135357)         | 28 <sup>th</sup> August, 2018   | IV [N]   |  |  |  |
| 15         | Approval of Airports Authority of India<br>(AAI) for Siting of ATC, NAVAIDS / DVOR,<br>CNS/ ATM of NMIA                                                                                                                          | NM-18011/1/2018/CNS-O&M                                | 31 <sup>st</sup> October 2018   | IV [O]   |  |  |  |
| 16         | Verification & Validation certificate of<br>OLS Survey of NMIA received from AAI<br>on 10 Dec' 18.                                                                                                                               | AAI/ASC/06/2018                                        | 10 <sup>th</sup> December 2018  | IV [P]   |  |  |  |
| 17         | Approval/NOC from MSETCL for Power<br>Supply to NMIA                                                                                                                                                                             | MSETCL/CO/STU/EHV Cons/<br>NMIA/NO13379                | 27 <sup>th</sup> December, 2018 | IV [Q]   |  |  |  |
| 18         | Permission from Maharashtra Maritime<br>Board (MMB), GOM for Installation of<br>Runway Approach Lights for Northern<br>Runway Of NMIA-Gadhi River.                                                                               | MMB/CEO/HGR/T-194/NMIA-<br>Runway Light/NOC/8252       | 27 <sup>th</sup> December, 2018 | IV[R]    |  |  |  |
| 19         | Approval of CWPRS for NMIA Drainage<br>Master Plan (The hydraulic design of<br>drainage channels proposed in CIDCO<br>Report on "Storm Water Management<br>system for five villages abutting to the<br>south boundary of NMIA",) | A.P.Y.P/CIDCO/2019 /434 /318                           | 18 <sup>th</sup> July,2019      | IV [S]   |  |  |  |
| 20         | Approval from Bureau of Civil Aviation<br>Security (BCAS), Govt. Of India for<br>Security Vetting of Terminal-1 Building                                                                                                         | CAS-6/2018/Div-Ops-I/Navi<br>Mumbai (E-135357)         | 26 <sup>th</sup> July, 2019     | IV [T]   |  |  |  |

| Sr.<br>No. | Approval                                                                                                                                                                                                                                                                                                   | Letter Reference Number      | Date of Approval                 | Annexure |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------|----------|
|            | on NMIA                                                                                                                                                                                                                                                                                                    |                              |                                  |          |
| 21         | NOC from Chief Fire Officer of CIDCO for<br>Proposed Location of Fire Stations-<br>(ARFF) of NMIA                                                                                                                                                                                                          | CIDCO/FIRE/HQ/542/2019       | 30 <sup>th</sup> September, 2019 | IV [U]   |
| 22         | Fire NoC from Fire Dept. CIDCO for<br>Construction of Terminal-1 Building on<br>NMIA                                                                                                                                                                                                                       | CIDCO/FIRE/HQ/665/2019       | 20 <sup>th</sup> December 2019   | IV [V]   |
| 23         | Approval from FRRO Mumbai, Bureau of<br>Immigration (BoI), for Provision of space<br>for Immigration Department in Terminal-<br>1 of NMIA                                                                                                                                                                  | No.<br>9445/FRRO/MUM/AP/2019 | 30 <sup>th</sup> December, 2019  | IV [W]   |
| 24         | Approval/NoC from Airports Authority of<br>India (AAI) for Phase -1 Building of NMIA                                                                                                                                                                                                                       | NOC RECEIVED FOR 63 BLDGS.   | 23 <sup>rd</sup> June, 2020      | IV [X]   |
| 25         | Approval of CWPRS for NMIA Drainage<br>Master Plan (Revised SWD system report<br>(June 2019) prepared by NMIAL and<br>submitted to CWPRS vide email dated<br>20.06.2019 and requested. CWPRS vide<br>email dated 03.07.2019 to carry out<br>additional review study of SWD report<br>(2019) of M/s NMIAL.) | A.P.Y.P/NMIAPL/2020          | 23 <sup>rd</sup> June, 2020      | IV [Y]   |
| 26         | Transfer of EC & CRZ Clearance in the name of NMIAL from CIDCO                                                                                                                                                                                                                                             | F. No. 10-53/2009-IA-III     | 17 <sup>th</sup> August, 2020    | IV [Z]   |

[A] : Approval from Ministry of Civil Aviation (MoCA), Govt. of India

No.AV.24011/1/95-VB(Vol.VI) Government of India Ministry of Civil Aviation AD Section

> 'B' Block, Rajiv Gandhi Bhavan Safdarjung Airport New Delhi, Dated 6<sup>th</sup> July, 2007

#### OFFICE MEMORANDUM

Subject:- Setting up of an International Airport at Navi Mumbai.

JMI

1. The undersigned is directed to refer to Chief Minister, Maharashtra, letter No.CIDCO/T&C/ACTE/046/012, dated 13.2.2007 on the above mentioned subject and to say that the competent authority has given 'in principle' approval for the setting up of a Greenfield airport through Public Private Partnership (PPP) at Navi Mumbai, Maharashtra subject to the following conditions:

(a) At an appropriate stage, an Empowered Group of Ministers, assisted by an Inter-Ministerial Group, to look into all the relevant issues, including the following:-

- the legal questions, including the bidding and contractual aspects, with a view to protecting the Central Government from any liability due to non-performance by the State Government or any other reason;
- (ii) the concerns of the Ministry of Defence; and
- (iii) the drainage and flood control dimension in view of urban and infrastructure related bressures in the area and lessons from the recent Mumbai floods

(b) Ministry of Civil Aviation will set up a Steering Committee comprising of officials of the State Government, Ministry of Civil Aviation, City & Industries Development Corporation of Maharashtra Limited (CIDCO) and Airports Authority of India which will oversee the structure and implementation of the project including funding proposal, preparation of tender and other documents, bidding and selection of the strategic partner.

(c) The private partner will be selected through a transparent and competitive bidding process.

(d) Para 3.4.1 of the State Support Agreement (SSA) executed with Mumbai International Airport Private Limited (MIAPL), a Right of First Refusal (ROFR) has been given to MIAPL in respect of a second airport within its vicinity. The relevant extract is reproduced below:

"The Right of First Refusal (ROFR) with regard to a second airport within a 150 km (One Hundred and Fifty Kilometer) radius of the Airport will be given to the JVC by following a competitive bidding process, in which the JVC can also participate if it wishes to exercise its ROFR as set forth below. In the event, the JVC is not the successful bidder but its bid is within the range of 10% of the most competitive bid received, the JVC will have the ROFR by matching the first ranked in terms of the selection criteria for the second airport, provided the JVC has satisfactory performance without any material default (being a default entitling the counter party to suspend obligations and/or terminate the agreement) under any Project Agreement at the time of exercising the ROFR. Provided however, nothing in this Clause 3.4.1 shall apply to any proposal by GOI to develop a second airport at Chakan, Pune or at any other place in its vicinity."

The above clause will be suitably incorporated in the tender document for selection of the private partner. There are no other rights granted to MIAPL with regard to the second airport at Mumbai.

2. Government of Maharashtra is requested to take further necessary action in the matter.

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≤d/-• (Anna Roy) Director

Government of Maharashtra (Shri Jhony Joseph, Chief Secretary) <u>Mumbai.</u>

1. The Managing Director, CIDCO, CIDCO Bhavan, CBD-Belapur, Navi Mumbai with reference to letter No.CIDCO/T&C/ACTE/002/011/2007 dated 17.1.2007.

2. The-Chairman, AAI, R.G. Bhavan, New Delhi.

(Anna Roy) Director

#### SYNOPSIS

Agenda Item No. 5

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Sub: Development of Navi Mumbai International Airport

Objective: To develop Navi Mumbai International Airport on the basis of public-private partnership.

Issue: To appraise the Board about in principal approval of Union Cabinet, GOI and Project details.

Proposal: To seek the Board's approval for Navi Mumbai International Airport further directives for the future course of actions for implementation.

Initiated By

(S. Sinha) Addl. Chief Transportation Engineer. **P/1** 

## DRAFT AGENDA NO:CIDCO/T&C/ACTE/2007/ FOR THE 487<sup>th</sup> MEETING OF THE BOARD OF DIRECTORS OF CITY & INDUSTRIAL DEVELOPMENT CORPORATION OF MAHARASHTRA LTD. TO BE HELD ON <u>17<sup>th</sup> AUGUST</u>, 2007.

Item No. \_\_\_\_\_

## Sub: Development of Navi Mumbai International Airport.

Agenda Note:

#### 1. Background:

1.1 Mumbai is the capital of Maharashtra, a highly industrialist estate and one of the leading beneficiaries of foreign and domestic investment since onset of economic liberalization. Mumbai is the financial and commercial hub of India and the head quarter of most domestic and international banks, financial institutions, multi-national, national and insurance companies in India. The city is the main centre for capital market related activities and is home to the country's two largest stock exchanges and served by the Chatrapati Shivaji International airport, Mumbai (CSIA).

1.2 Mumbai airport has two intersecting runways on which cross-runway operation takes place. Both the domestic and international operation are carried out on the main runway (09-27) 3469 Mts. long and secondary (14-32) 2907 Mts. long. The second runway is used to the extent of 10% of the time mainly when the main runway is under routine maintenance or during the peak hours. The domestic flight operates from Santacruz Terminal and International flight operations from Sahar Terminal. Presently, the airport handles 20 million passengers of which 60% are domestic and rest international and being operated by Joint Venture Company, Mumbai International Airport Pvt. Ltd. (MIAL)

Considering the severe limitations in expansion of airport both on air side and land side owing to paucity land coupled with high growth of air traffic being observed, the airport is experiencing congestion and it is expected that it will reach to saturation by the year 2013-14 as per the finding MIAL thereby necessitating the need for development of 2nd airport for Mumbai.

P/3

1.3. The need for a second airport for Mumbai has been under review by the Government of India and the Government of Maharashtra for quite some time. The developments date back to 1998 when the Government of India constituted a Committee for a second airport in the Mumbai Region to examine the issue. Assisted by a sub-committee who was assigned the task of evaluating the Navi Mumbai Airport proposal, along with Rewas-Mandhwa and Mahapan in Sindhudurg district and evaluated the Rewas- Mandhwa site as the most suitable site. The Navi Mumbai site, while considered suitable for a domestic airport, was determined unsuitable international operation as no parallel runway had been proposed.

The City and Industrial Development Corporation of Maharashtra (CIDCO) then revised its original proposal incorporating the provision for a parallel runway and made a presentation for development of Navi Mumbai International Airport (NMIA). The proposal of CIDCO was considered financially viable, environmentally less disturbing, supported by the local people. Thereafter CIDCO, through Government of Maharashtra (GOM), submitted the proposal enclosing a pre-feasibility report detailing air travel demand, project facilities, phasing, costing and financial viability with dual runway to the Ministry of Civil Aviation (MOCA), Government of India (GOI). The Ministry of Civil Aviation, Government of India, in turn through the Airport Authority of India, constituted a technical leam to examine the pre-feasibility report. The team concluded that the Navi Mumbai site is operationally feasible for locating the second International Airport for Mumbai, and suggested carrying studies such as geological/geo-technical, hydrological, traffic and environmental studies, etc

1.4. A techno-economic feasibility study was conducted in 2001, by CIDCO, inter-alia, to address the issues raised by the above MOCA's technical team which includes Geological/geo-technical, hydrological, aeronautical, traffic and environmental studies and submitted the report to AAI. All the clarifications sought by the AAI have been reconciled and finally narrowed down to only two points i.e. the provision of parallel independent runway with a spacing of 1035 Mt. and carrying out the Simulation study to establish the conflict free operation of Mumbai and Navi Mumbai Airport. CIDCO carried out the exercise and accommodated parallel independent runways with 1035 spacing between the centertine of two runways.

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The simulation study for accessing the interoperability of Mumbai international Airport and the proposed Navi Mumbai international Airport was carried out jointly by CIDCO & AAI by equally sharing the cost through Technical Cooperation Bureau (TCB) of International Civit Aviation Organization (ICAO) with their sub contractor NAV CANADA in two parts i.e. the first being a fast time simulation using TAAM, second part a real-time simulation. The study concluded that with appropriate procedures in place, simultaneous and independent operation of both airports is safe and feasible.

**1.5** Upon the positive finding of the simulation study, the process of granting Union Cabinet approval in the Ministry of Civil Aviation, Govt. of India, commenced. As a first step, the site visit of Senior Official of MOCA, Govt. of India, was made on 4<sup>th</sup> November, 2006 followed by a meeting on 8<sup>th</sup> November, 2006 wherein it was suggested to work out the land and fand development cost along with the re-settlement and Rehabilitation cost owing peculiar site condition. Accordingly, "Land development, R& R and Land cost" report was submitted to MOCA indicating the land development cost as Rs.1224 Cr., R & R cost as Rs.248 Cr. and land cost as Rs.554 Crs.

In pursuance of above submission, a meeting between Hon. Chief Minister of Maharashtra and Hon. Minister of State, MOCA. was held on 18<sup>th</sup> December, 2006 in presence of Senior officials of MOCA., AAL, GoM, and CIDCO wherein it was realised that the project cost in first phase after loading the full land development cost, R&R cost and land cost, would shoot upto the level at which expectation of quality bid is remote. To bring the project viability to acceptable level, a need was felt the land cost to be recovered on deferred payment basis and land development costs should be absorbed by project proponent. Finally, it was decided to carry out detail & quick study on project detail, cost & viability to know the source funding and viability gap amount to be shared by project proponents.

## 2.0. Project Detail:

2.1. Navi Mumbai International Airport is situated on NH4B at a distance of 35 km. from Santacruz airport near Panvel in the geographical centre of Navi Mumbai having longitude 73° 04' 18" and latitude 18° 59' 33°. Total area Airport zone is about 1615 Ha. consisting of on-airport area of 1140 Ha. and off-airport area 475 Ha. for accommodating the required

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physical, social, commercial infrastructure to support the Navi Mumbai International Airport. The on-airport area (1140 Ha.) is more or less rectangular and oriented to east and west direction. Access from the east is from the existing 4 lane National Highway 4B abutting the eastern boundary of airport and a 4 lane concrete road called Aamra Marg touches the western boundary of Airport.

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The State Highway SH54 traverse adjacent to the southern side of airport. The airport is accessible by the present commuter railway line called Mankhurd-Belapur-Panvel Railway Line from adjacent Khandeshwar Railway Station. Besides the above, the proposal is to directly connect the airport by taking spur from Nerul-Uran commuter railway, by an Urban-Expressway from Mumbai-Trans Harbour Link (MTHL), by water transportation from Gateway of India as well as other city roads network of Navi Mumbai.

The physiography of the entire airport area is a mixed one i.e. hilly (11%), firm land (29%) and MUD flat (60%) owing to coastal area. The ground level varies +1 to +1.5 m. above sea level for MUD flat to + 2.5m. above sea level for firm land and finally + 82 m. for hilly area. Thus, land development component is substantial for airport development.

2.2. The airfield is designed to accommodate the new large aircraft (A380) compatible to ICAO standard of Aerodrome Code 4-F with independent runways. The terminal building for air passengers is planned on modular concept starting from 1,25,000 sq.m. in 2012-13 and increasing up to 5,00,000 sq. mt. in 2030-31. The aircraft stand has been planned for domestic and international for the ultimate stage of 125 of different aircraft mix in 2030-31.

2.3. The total project cost of the airport is Rs.9970 Crore consisting of Rs.4200 Cr. in phase-I, Rs.1896 Cr. in Phase-II, Rs.1600 Cr. in Phase-III and finally Rs.2272 cr in Phase-IV. The above cost includes the shifting of extra H.T. Line, diversion and training of Ulwe & Gadhi rivers, R & R cost and extra H.T. Line cost besides the other components of airport.

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2.4. Airport derives its revenue from the several activities including aircraft operation, passengers, rent & service, concession and cargo handling and the same is classified primarily as aeronautical and non-aeronautical revenue. The activities related to the operation and landing of aircraft, passengers and freight contribute to aeronautical revenue whereas the non-aeronautical revenue is obtained from commercial activities in the terminal and city side in the form of concession fee, rent from concessionaires, property rent & charges for services, airport car parking, advertisements, etc. The airport revenue expected is Rs.536 Cr. In 2013-14, Rs.1421 Cr. in 2020-21 and Rs.2380 Cr. in 2025-26 and Rs.3506 Cr. in 2030-31.

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2.5. The airport expenses consist of cost of airport construction, operation and maintenance services, utilities and insurance, administration and management support against other miscellaneous expenses and contingencies. The airport expenses for Navi Mumbai International Airport project excluding cost the airport construction is expected to be Rs. 206 Cr. in 2013-14 and Rs. 283 Cr. in 2020-21, Rs. 361 Cr. in 2025-26 and Rs. 454 Cr. in 2030-31. With the airport construction cost, airport revenue & expense forecast and real estate development, the financial internal rate of return works out to 16.17%, thereby showing that the project is financially viable and self-sustaining.

2.6. Due-diligence of above project viability carried out with help of Financial Advisor who in turn review CIDCO's assumptions on the project feasibility and prepare a financial model for the proposed Navi Mumbai International Airport. The Advisor envisages a phased development program for project implementation. Phase-I is scheduled for operation in November 2012 to handle 10 million passengers per annum followed by 20 million passengers per annum by the year 2018 in Phase-II. The Phase-III expansion is for 30 million passengers in 2023 and ultimately to 40 million passengers per annum in 2028. The consultant as proposed two project structures (models). In case of project structure - I, the project cost of Phase-I is Rs. 4197 cr., Phase-II is Rs. 1940 crore, Phase-III is Rs. 1461 crore and Phase-IV is Rs. 2119 crore. Similarly for project structure - II project cost has been worked out has Rs. 3521 crores for Phase-I, Rs. 1923 crore for Phase-II Rs. 1461 crore for Phase-III and Rs. 2119 crore for Phase-I IV.

2.7. The financial model carried out shows project I.R.R. of 15.83% in case of project structure-I and 17.91% in case of Project structure - II. These analyses further reinforce that Naivi Mumbai International Airport is financially viable and attractive for development through public-private partnership mode. The Navi Mumbai International Airport does not require any viability gap funding and no financial support is required from CIDCO and State Govt.

#### 3.0. Project status:

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3.1. CIDCO through Government Of Maharashtra submitted the "Project Feasibility and Business plan" report to Ministry Of Civil Aviation, Government Of India in February 2007 seeking Union Cabinet approval for development of Navi Mumbai International Airport on public-private partnership basis. The Ministry Of Civil Aviation, Government Of India has recently granted "in principle" approval vide their Office Memorandum no AV.24011/1/95-VB (Vol. VI) dated 6<sup>th</sup> July, 2007 and content of same is reproduce below:

1. The undersigned is directed to refer to Chief Minister, Maharashtra, letter No.CIDCO/T&C/ACTE/046/012, dated 13.2.2007 on the above mentioned subject and to say that the competent authority has given 'in principle' approval for the setting up of a Greenfield airport through Public Private Partnership (PPP) at Navi Mumbai, Maharashtra subject to the following conditions :

- (a) At an appropriate stage, an Empowered Group of Ministers, assisted by an Inter-Ministerial Group, to look into all the relevant issues, including the following :-
  - i) the legal questions, including the bidding and contractual aspects, with a view to protecting the Central Government from any liability due to nonperformance by the State Government or any other reason;
  - ii) the concerns of the Ministry of Defence; and
  - iii) the drainage and flood control dimension in view of urban and infrastructure related pressures in the area and lessons from the recent Mumbai floods.
- (b) Ministry of Civil Aviation will set up a Steering Committee comprising of officials of the State Government, Ministry of Civil Aviation, City & Industries Development Corporation of Maharashtra Limited (CIDCO) and Airports Authority of India which will oversee the structure and implementation of the project including funding proposal, preparation of tender and other documents, bidding and selection of the stralegic partner.

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- (c) The private partner will be selected through a transparent and competitive bidding process.
- (d) Para 3.4.1 of the State Support Agreement (SSA) executed with Mumbai International Airport Private Limited (MIAPL), a Right of First Refusal (ROFR) has been given to MIAPL in respect of a second airport within its vicinity. The relevant extract is reproduced below:

"The Right of First Refusal (ROFR) with regard to a second airport within a 150 km (One Hundred and Fifty Kilometer) radius of the Airport will be given to the JVC by following a competitive bidding process, in which the JVC can also participate if it wishes to exercise its ROFR as set forth below. In the event, the JVC is not the successful bidder but its bid is within the range of 10% of the most competitive bid received, the JVC will have the ROFR by matching the first ranked in terms of the selection criteria for the second airport, provided the JVC has satisfactory performance without any material default (being a default entitling the counter party to suspend obligations and / or terminate the agreement) under any Project Agreement at the time of exercising the ROFR. Provided however, nothing in this Clause 3.4.1 shall apply to any proposal by GOI to develop a second airport at Chakan, Pune or at any other place in its vicinity."

The above clause will be suitably incorporated in the tender document for selection of the private partner. There are no other rights granted to MIAPL with regard to the second airport at Mumbai.

Government of Maharashtra is requested to take further necessary action in this matter.

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**3.2.** The Ministry Of Civil Aviation, Government Of India subsequently constituted a Steering Committee vide office order No.AV.24011/1/95-VB(Vol.VI) date 26<sup>th</sup> July, 2007 to oversee the structure and implementation of the construction of an International Airport at Navi Mumbai with the following composition :

| 1. | Secretary, Ministry of Civil Aviation      | - | Chairman |
|----|--------------------------------------------|---|----------|
| 2. | Chief Secretary, Government of Maharashtra | - | Member   |
| 3. | Managing Director, CIDCO                   | - | Member   |

| 4. Secretary (Aviation & Special Projects),<br>Government of Maharashtra. | •   | Member   |
|---------------------------------------------------------------------------|-----|----------|
| 5. Divisional Commissioner, Konkan Division.                              | · - | Member   |
| 6. Chairman, Airports Authority of India.                                 | -   | Member   |
| 7. Director General, Civil Aviation                                       | -   | Member   |
| 8. Joint Secretary,<br>Ministry of Civil Aviation (dealing with Airports) | -   | Convenor |

The terms of reference of the Steering Committee will be:-

(a) to oversee the structure and implementation of the project including funding proposal

(b) preparation of tender and other documents

(c) bidding and selection of the strategic partner

The first meeting of Steering Committee was held on 31<sup>st</sup> July, 2007 in Mumbai wherein the various matter related project formulation, pre- implementation schedule land acquisition, etc. were discussed

#### 4.0. Project Formulation:

**4.1.** In anticipation of approval of project, Board vide its Resolution No 9523 had accorded the administrative approval of Rs19.25 cr as pre-operative expense recoverable from the project towards carrying out various studies for formulating project. Accordingly an initial actions on the critical tasks were initiated on Re-settlement and Rehabilitation Policy, Hydraulic Model study at CWPRS at Pune, Environment Impact Assessment study, and appointment prime consultant for project development & bring it to bidding stage.

(a) Re-settlement and Rehabilitation Policy: The NMIA project is going to affect number of households, minor business activities and structures in the airport area and the same are required to be re-located. Re-settlement of project affected person is required to be an integral part of NMIA project. A preliminary estimates indicates that the approx. 3000 to 4000 families in 10 settlements from 7 village will have to be re-located due to NMIA project. Accordingly, keeping in view R & R policy of GOM and National Policy of Re-settlement & Rehabilitation (R&R) for

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- (b) project affected families-2003, the policy for Re-settlement and Rehabilitation has been formulated for NMIA project and it is in the process of approval.
- (c) Hydraulic Model study: CIDCO during Techno-economic feasibility study stage carried out one-dimensional mathematical study at CWPRS Pune in 2001, the finding is that development of airport will not cause any significant rise in food level in Panvel creek. To study and analyze flood situation in depth, it is proposed to carry out one-dimensional mathematical study for entire streams with fresh hydrographic, hydrology and topographical data as well as two- dimensional mathematical study for airport area including its surrounding nodes. The proposal is waiting for award to C.W.P.R.S., on completion of quality check data collected from various agencies as well as by the dept.
- (c) Environment Impact Assessment study: Having obtained in principal approval of MOCA, Environmental clearance is required to be obtain from Ministry of Environment and Forest GOI for NMIA. The proposal for awarding constancy work for Environment Impact Assessment (EIA) study to I I T Mumbai is already process. However it is felt necessary to hold a meeting in consultation MOCA, GOM with MOEF owing to airport site falling in CRZ-I &CRZ-II. Thereafter application to MOEF will be made for approval of Terms Of Reference for EIA and I I T will commence EIA study.
- (d) Appointment prime consultant: Assistance of prime consultant of international repute is necessary carry out master planing workc and preparation detail project report as well as prepare such necessary procurement documents as will be required at various stages in the process of development NMIA, till the selection of strategic partner through public bidding process. The consultant will cast the airport plan, prepare preliminary design, outline specifications, workout phase, wise cost estimate, carryout financial analysis, make airport business plan, prepare EOI & RFP document, bid processing & evaluation and finally selection of strategic partner. The Terms of Reference has been finalized and casting of Request of Proposal is under preparation.

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#### 5.0. Project Execution:

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In accordance with "in principal" approval granted by MOCA., the NMIA shall be setup through Public-Private Partnership basis. A Special Purpose Vehicle (SPV) is required to be formed at appropriate time as Private Company under the Companies Act, 1956 in which 26% equity will be held by CIDCO and AAI and the rest with the strategic partner to be selected through the public bidding processing. The Special Purpose Company (SPC) will design, built, finance, own, operate and transfer back the project assets to CIDCO or Govt. of Maharashtra after recovering their investment upon completion concession period.

#### 6.0. Project pre-Implementation Schedule:

A pre-implementation schedule for NMIA project is broadly prepared and indicated below starting from the month in principal approval is granted by MOCA to commencement of work airport at site. The total period required is eight (1.8) months consisting of activities such as approval from the CIDCO Board and GOM, selection of prime consultant, preparation of airport plan, detail project report, bid document, bid processing & evaluation, selection of private developer, financial closure design and selection EPC contractors. All though pre-implementation schedule appears to be ambitious but achievable provided every things goes well as planned and committed commitment from concern departments of GOM & GOI.

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### 7.0. Project Benefits:

The Navi Mumbai Airport would act as a powerful instrument in the growth of Maharashtra, particularly to Mumbai, Nashik, Pune & Ahmednagar belt. Enhanced aviation facilities, particularly, in Cargo will open up huge opportunity for export of agriculture produce, floriculture and high tech value industries to world market. The presence of airport would make the export/import of time critical cargo economical, efficient, and fast from proposed Navi Mumbai Special Economic Zone. Availability of high level of aviation service and convenience would bring high quality business and investment in the region.

#### 8.0 Project Issues:

Owing to peculiar site conditions, the NMIA Project requires special attention from Corporation as well as Govt. of Maharastra for tackling critical issues related to the project for timely execution. The issue listed below are required to be handled by forming a Task Force headed by senior officials of GOM and members from concerned departments. The progress of each of the task forces is required to be monitored by High power committee/ periodically. The Task Force that are required to be constituted are:

| ii) TASK FORCE II : REHABILI             | <b>ATION &amp; RESETTLEMENT</b> |
|------------------------------------------|---------------------------------|
| iii) TASK FORCE III : SHIFTING           | OF EHT LINE                     |
| iv) TASK FORCE IV : DIVERSION<br>MEASURE | OF RIVER & FLOOD CONTROL        |
|                                          | AL LINKAGE TO AIRPORT           |

9.0 Having brought out the details of Navi Mumbai International airport project, Board is now requested to consider above proposal and if approved pass the following resolution with or without modification:

RESOLUTION NO:

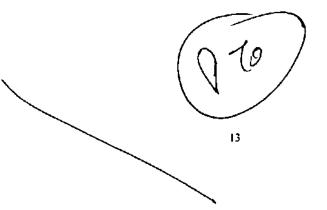
"Resolved that the Board do and hereby approve the proposal of development of Navi Mumbai international airport through Public-Private Partnership (PPP) basis". "Resolved further that the development of Navi Mumbai International Airport shall be in accordance with in -principle approval granted by MOCA coptained in para 3".

"Resolved further that, the proposal for obtaining the approval of State Government for setting up Navi Mumbai International Airport at Navi Mumbai shall be made by the Corporation"

"Resolved further that the Vice Chairman and Managing Director / Joint Managing Director be and is hereby authorised to implement the foregoing resolution and do hereby act, deed or thing as may be necessary for or consequential to the implementation there of and will keep the Board apprised of development of NMIA project from time to time".

Initiated By

(S. Sinha) Addi. Chief Transportation Engineer.



The Vice Chairman & Managing Director and ACTE explained the subject to the Board thread-bare. The Board was however of the view that the Steering Committee as brought out in the letter of MOCA should only oversee the work of the project, whereas CIDCO should work as implementing Agency, and this view point may therefore be brought to the notice of the Government of Maharashtra for its consideration.

After discussion, the Board passed the following Resolution:

#### RESOLUTION NO.: 9687

"RESOLVED THAT the Board do and hereby approve the proposal of development of Navi Mumbai International Airport through Public-Private Partnership (PPP) basis."

"RESOLVED FURTHER THAT the development of Navi Mumbai International Airport shall be in accordance with in-principle approval granted by MOCA and as contained in para 3 of the Agenda Note."

"RESOLVED FURTHER THAT the proposal for obtaining the approval of the State Government for setting up Navi Mumbai International Airport at Navi Mumbai shall be made by the Corporation."

"RESOLVED FURTHER THAT the Rehabilitation package referred to in the Agenda Note may also be brought before the Board for its consideration, and approval, after its finalization in due consultation with all Stake-holders."

"RESOLVED FURTHER THAT the Vice Chairman & Managing Director / Joint Managing Director be and are hereby authorized to implement the foregoing Resolutions and to do such act, deed or thing as may be necessary for or consequential to the implementation thereof and will keep the Board apprised of developments of NMIA project from time to time."



## [B] : Approval from State Cabinet, Govt. of Maharashtra

# Kind Attens, Shis'. S. Sinha Acres

महाराष्ट्र शामन महाराष्ट्र शामन तगर विद्यार विभाग नासन निर्णय क्रमकि : सिआयर्डा-२३०७/१५४९/मन्द्र हेर्ट-२७७/नॉप-३०, ज् महारात्य, मुंबई- ४०० ०३२, दिनांक: २० जूल-२००८------

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े भ) संचित्र, प्र.स. च वि.प्र. (सूवर्ण त्रिकोण), साम्रान्य प्रशासन विभाग, मधालय, मुंबई

६) मुख्य सचिवांचे उप सचिव. N IT SHALL PAR 6) मा. राज्यमंत्री (नगर विकास) यांचे खालगी सचिव, ८) प्रणान संचिव (१), नगर यिकास विभाग याचे स्वीय सहाय्यक

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[C] : Approval from Ministry of Defence, Govt of India

## No. 3(15)/07/D(Air-II) Government of India

Ministry of Defence

New Delhi, the 11<sup>th</sup> Oct. 2010.

To

M/s City and Industrial Development Corporation of Maharashtra Limited "NIRMAL", 2<sup>nd</sup> Floor, Nariman Point, Mumbai – 400 021.

## Subject : <u>Navi Mumbai International Airport (NMIA) Project</u> — <u>Ministry of Defence Clearance.</u>

Sir.

I am directed to refer to your letter No. CIDCO/T&C/ACTE/2010/768 dated 19<sup>th</sup> April, 2010 on the above subject and to say that this Ministry has no objection from aviation angle for the construction of Greenfield Airport at Navi Mumbai, Tal. Panvel, Maharashtra by M/s City & Industrial Development Corporation of Maharashtra Ltd subject to the following conditions:-

- a) All aircraft movements from the proposed airports should have valid Air Defence Clearance.
- b) Military aircraft intending to use the proposed airport shall be exempt from landing /housing charges.
- c) Radio nav-aids installed at this airport shall be made available for military aircraft operation on request from IAF / IN.
- d) Prior to the airport becoming operational, the details such as type of airspace, watch hours, VHF frequencies, nav-aids and contact details shall be notified to CATCO, HQ SWAC, Gandhinagar and D Ops (Nav), Air HQ(VB), New Delhi.
- e) No additional airspace shall be requested from IAF to facilitate formulation of arrival/departure procedures for the airport.
- Instrument/Radar or Visual procedures for arrival/departures shall be so designed such that they do not conflict with operations within VAR 37.
- g) Creation of any new ATS routes to serve the aerodrome shall be clear of VAR 37.
- h) Necessary co-ordination procedures shall be formulated with Pune ATC prior to operationalisation of the aerodrome. A dedicated communication line with Pune ATC shall be provided by the developer.
- i) A separate parking area for military aircraft shall be earmarked for use whenever required.
- j) Infrastructure for accommodating IAF Enclave, AFMLU and Ground Crew shall also be provided.
- k) This NOC is for setting up of the proposed airport. A separate NOC shall be obtained for acquisition of defence land, if any.

 1) The proposed site is at a distance of 14.6 nm from the INS Shikra heliport at Mumbai. INS Shikra would therefore fall within the approach cone of the parallel runway 08/26 of the proposed airport. Air space issues would need to be resolved to ensure that there is no adverse effect on military operations from INS Shikra. A naval representative should be included in the project management team from the planning stage itself so as to address the issues of air space, VFR routing of low level helicopters to and from INS Shikra, IFR arrival and departures of new generations helicopters at of NOC's for INS Shikra. accord construction of structures/buildings around the heliport and the proposed airport.

- m) A feasibility study needs to be conducted by MoCA/DGCA to assess the impact of the proposed airport on military helicopter operations.
- n) Feasibility of acquiring suitable land space in the NMIA project should also be explored so as to keep the option of having a NAE at proposed airport at Navi Mumbai for operation of naval aircraft.
- o) Required clearances from DGCA and AAI may be obtained.

2. You are also requested to obtain No Objection from other concerned Government/Ministries/Organizations/Agencies as required.

Yours faithfully, (Anjali Singh

Director (Air-I) Tel: 23011872

Copy to :-

Ministry of Civil Aviation Shri Alok Sinha, JS Rajiv Gandhi Bhavan, Safdarjung Airport, New Delhi – 110 003 [D] : Environmental and CRZ Clearance granted to NMIA (MoEF)

F.No.10-53/2009-IA.III Government of India Ministry of Environment & Forests (IA-III Division)

> Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi - 110 003,

Dated: 22<sup>nd</sup> November, 2010

To

Vice Chairman & Managing Director, City & Industrial Dev. Corpn. of Maharashtra Ltd., CIDCO Bhawan, CBD-Belapur, Navi Mumbai-400 614.

## Subject: Environmental and CRZ Clearance for establishment of Navi Mumbai International Airport by M/s. City & Industrial Development Corporation of Maharashtra Ltd. - Reg.

This has reference to your letter no. CIDCO/T&C/ACTE/MD/2009/567 dated 16.06.2009 and subsequent letters dated 06.07.2010, 07.08.2010, 10.10.2010 and 12.11.2010 seeking Environmental and CRZ Clearance under the Environment Impact Assessment Notification, 2006 and Coastal Regulation Zone (CRZ) Notification, 1991. The proposal has been appraised as per prescribed procedure in the light of provisions under the Environment Impact Assessment Notification, 2009 and CRZ Notification, 1991 on the basis of the mandatory documents enclosed with the application viz., Questionnaire, EIA/EMP and recommendations of Coastal Zone Management Authority, the additional clarifications furnished in response to the observations of the Expert Appraisal Committee constituted by the competent authority in its meetings held on  $20^{\text{th}} - 22^{\text{nd}}$  July 2009,  $21^{\text{st}} - 23^{\text{rd}}$  July 2010,  $18^{\text{th}} - 20^{\text{th}}$  August 2010,  $21^{\text{st}} - 23^{\text{rd}}$ 

2. It is interalia, noted that the proposed site of Airport is situated on National Highway No. 4B at a distance of approx. 35 kms. from the existing airport near Panvel in the geographical centre of Navi Mumbai having longitude of 73°.4'.18" and latitude 18°.59'.33". The main access to the proposed airport from the east is existing 4 lane National Highway 4B abutting the eastern boundary of the airport and 4 lane concrete road called Aamra Marg touches the western boundary of the airport. The proposed airport is also accessible by present commuter railway line called Mankhurd-Belapur-Panvel commuter railway line from the Khandeshwar Railway Station.

3. The proposal of Navi Mumbai International Airport is proposed to be established on an area of 1160 ha. The airfield of Navi Mumbai International Airport is designed to accommodate the new large aircraft (A-380 and equivalent) compatible to ICAO Standard of aerodrome 4-F. The ultimate capacity of airport will be 60 MPPA which will reach in four stages

Inward No. 0 61111 Date :

commencing from 10 MPPA in 2014. The Airport accommodates two parallel independent runways with the spacing of 1.55 kms. for simultaneous and independent operation with the provision of full length parallel taxi way along runways. The length of runway is of 3700 mts. X 60 mts. with runway safety area of 150 mts. X 60 mts., approach lighting of 900 mts., terminal building of domestic and international including Cargo admeasuring about 5,00,000 sq.mt. with other facilities such as; parking stands, GSE storage area, ATC Tower, airport ground lighting, airport lighting, cargo apron, maintenance and hanger along with other allied facilities etc. The other project activities involved are land development by cutting of hill and filling, development of airport in phases, re-coursing of the tidally influenced water body outlets from Ulwe, shifting of EHVT line, development of non-aeronautical activities, off-site physical infrastructure in terms of roads, interchange, water supply, power, etc., re-settlement & re-habilitation, and development of utility lines required for airport zone. The estimated basic cost (2008-09) of the project is Rs. 8722 Cr. spread over 4 phases i.e. in the first phase Rs 4424 Cr. in 2015 for 10 MPPA and Rs.1934 Cr. in 2020 for 25 MPPA in second phase; and Rs.1728 Cr. in 2025 for 45 MPPA in 3rd phase and finally Rs.636 Cr. in 4th phase for 2030 for 60 MPPA.

4. The non-aeronautical activities related to airport have been planned in the south of airport on an area of 276 ha. Further an area of 60 ha. will be required for diversion of tidally influenced water body of Ulwe River and 279 ha for off site infrastructure for roads, and crossings/intersection improvements.

5. A ToR for the project was issued on 04.08.2009. The Expert Committee also visited the site on 23<sup>rd</sup> December, 2009 and an additional TOR was issued on 8<sup>th</sup> February 2010. The public hearing was conducted on 5<sup>th</sup> May 2010 at Panvel Taluka, Dist. Raigad by Maharashtra Pollution Control Board (MPCB), Maharashtra and final EIA/EMP was submitted by CIDCO on 6<sup>th</sup> July 2010 for the issue of Environmental and CRZ Clearance. The recommendations of MCZMA were also submitted on 6<sup>th</sup> July 2010.

6. The Expert Appraisal Committee, after due consideration of the relevant documents submitted by the project proponent, additional clarifications furnished in response to its observations and various representations received on the project, have recommended for the grant of Environmental and CRZ Clearance for the project. Accordingly, the Ministry hereby accords necessary Environment and CRZ Clearance for the above project as per the provisions of Environment Impact Assessment Notification, 2006 and CRZ Notification 1991 and their subsequent amendments, subject to strict compliance of the terms and conditions as follows:

#### 7. Specific Conditions:

#### I. Construction Phase

(i) "Consent for Establishment" shall be obtained from State Pollution Control Board under Air and Water Act and a copy shall be

submitted to the Ministry before start of any construction work at the site.

- (ii) CIDCO shall rehabilitate about 3000 families of 10 settlements from 7 villages falling within the airport zone as per the R & R policy of the Government of India or the Government of Maharashtra, which ever is more beneficial to the project affected persons.
- (iii) CIDCO shall obtain necessary permission from Hon'ble High Court of Bombay for cutting or damaging of mangroves and clearance under Forest Conservation Act 1980 as per the orders in respect of notice of Motion no. 417 of 2006 in PIL no. 87/2006, as required.
- (iv) The plantation and protection of mangroves over an area of 615 ha (245 hectares of good quality Mangroves Park shall be developed at Vaghivli on the north of the airport area + 60 hectare area located on the west side of the airport site around Moha creek and Panvel Creek + 310 hectares area on the northeast of the airport site between Gadhi River, Mankhurd Panvel Rail corridor and National Highway 4B shall be declared as No-development zone and CIDCO shall under take the development as Mangroves park/green area) would be developed and maintained in the shape of Biodiversity Mangrove Parks well before the airport project is initiated and its progress reported to the high level committee mentioned below at (xxxiii). CIDCO shall formally amend the land use in the sectioned development plan of Navi Mumbai following the due procedure under MRTP Act to achieve this objective.
- (v)The proposed re-coursing of tidally influenced water body outlets from Ulwe river has a large cross sectional area at the middle with the river/creek on either end remaining unchanged with its natural course. The whole system should function as was functioning earlier without airport project. Surface runoff should not be let into the channel just because the area of cross section is large. The whole airport area will be reclaimed and the level raised to 7m whereas the existing level all around the airport will continue to be low in its natural state. There will be flow all around due to surface runoff. This additional quantity must be collected by appropriate drainage system and let into Gadhi River and not into the re-coursing channel. The recourse channel may be able to take it but not the river or creek on either side of the channel. This aspect shall be examined by CIDCO in details to avoid the flooding of the low-lying areas besides inducting other hydrological and environmental studies.
- (vi) The entire system shall be studied as one composite system with appropriate boundary conditions to reflect the worst conditions – minimum 100 years to be specified and compliance ensured such as -flooding, surface runoff not only from the airport but also from surrounding areas as well, normal flow, tidal flow due to tidal surge having a long return period, possible obstructions to flow,

tributaries joining the main river etc so as to take appropriate protection and remedial measures. Due to construction of recourse Channels and also due to tail end of the Gadhi & Ulwe Rivers into Panvel Creek, there is a need to prepare a Comprehensive Master Plan for Surface drainage and Flood protection, keeping in view the proposed developments. CIDCO shall submit the above Master Plan to the Ministry.

- (vii) Systemic and periodic monitoring mechanism need to be put in place by CIDCO to assess the impact on sub-surface flow/ impact on aquifers as well as surface water bodies in different seasons. Necessary additional environmental protection measures to be adopted to address the impact of proposed development in coastal sub-subsurface flow as well as impact on aquifers.
- (viii) CIDCO shall prepare a Management Plan to handle the runoff from the airport and to ensure that runoff associated risks/ impacts such as siltation in receiving water body are avoided and are taken care within airport area during monsoons.
- (ix) On the northern part of the airport there is a secondary channel of the Gadhi River which will be filled up for the airport runway construction. This will be replaced by a shorter channel along the northern boundary of the airport. The channel shall be designed appropriately through overall modeling study so that the channel provides tidal water to the mangrove park and moderate tidal flows under worst environmental conditions. Need for widening and deepening of Gadhi River may also be studied simultaneously, if required. The revised widths and depths of recourse channels shall be determined with modified drainage and worst rainfall/tide conditions including appropriate factor of safety.
- (x) The flow channels and the low lying mangrove area which will receive water from diverted recourse/ Channels should remain undisturbed. No road, embankment or any other construction shall be permitted. Any island formed due to deposition of sediment in front of Panvel creek shall be periodically removed.
- (xi) A detailed map shall be submitted by CIDCO to the Ministry with quantification of affected mangrove area with density i.e. initial proposal & modified proposal and proposed mangrove forestation with species. The work on the proposed compensatory mangrove park should commence well before the construction of the airport is undertaken. The mangrove irrigation systems and diverse species selections for all the four areas may be scientifically made. The river front development in all the areas not protected by adequate mangrove buffer along the Panvel creek and Gadhi river may be considered through studies.

(xii) Whatever EIA data was submitted and presented was related to a situation for "no airport condition". The project proposal has under

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gone many changes in terms of converting the lagoon as Mangrove Park, shifting of non-aeronautical activities to the south etc. Updated EIA report with all the modifications and commitments given by CIDCO shall be submitted to the MoEF, MPCB and to MCZMA. This updated EIA report will serve as the preliminary baseline data. CIDCO shall submit the second report (EIA Report II) after finalization of all the facilities followed by Comprehensive EIA prepared with approved layout of the airport, new report hydrological scenario, altered topography and land use. The Comprehensive EIA report should also include ecological aspects answering quires raised by BNHS and several other points raised during the meeting. After completion of Phase I of the project, the CIDCO shall conduct the "Environmental Audit" with a reputed organization and the audit shall also include the "Validation of the conclusions drawn in the EIA Report" and to submit to MoEF, MPCB and to MCZMA and shall be uploaded on the website.

- (xiii) The water quality of the River Gadhi, Ulwe, the Panvel Creek and the ground water is to be monitored on quarterly basis for TOC, Pb, Cd and Hg at all the locations identified in the EIA study for a period of at least 2 years from the commencement for the construction work and the quarterly reports to be submitted to Ministry of Environment and Forests Govt. of India and Maharashtra State Pollution Control Board.
- (xiv) The waste water generated from the aircraft maintenance hangers may contain hazardous materials like lead, chromium, Sulphates, Phenolic compounds, V.O.C's etc. The surface runoff from the airport area shall also contain oils, grease, Sulphates etc, which cannot be sent directly to sewage treatment plant for the treatment. A separate treatment plant for managing the waste water shall be specified and adopted.
- (xv) Based on the geological profile underneath the proposed airport, suitable consolidation factor shall be arrived to assess the additional noise/ vibration levels that would be produced during impact of landing & take off the air crafts simultaneously on both the runways. Further, the partially quarried hills in the vicinity will become a rebound shell for noise. CIDCO shall examine the details of noise/ vibration levels those are likely to be increased both during day and night time and the mitigative measures shall be installed to reduce the (noise/ vibration levels) impacts.
- (xvi) Standard instrument arrival and departure procedure shall be designed to minimise the noise levels within the permissible limits for the area falling in the funnel near the airport on either side.
- (xvii) Energy conservation to the extent of 20% shall be incorporated in the bidding documents including water conservation (reuse/recycle, rain water harvesting and water efficient fixtures) and other green

building practices for various buildings proposed within the airport complex. CIDCO shall consider ECBC Guidelines 2009 to achieve the energy – efficient design.

- (xviii) CIDCO shall prepare a detailed traffic management plan to take care of increased vehicular traffic which should also cover/ clearly delineate widening/ increasing the existing roads and associated road infrastructure approving/ installation of road safety features/ pedestrian facility/FOB/under passes etc (that can be done by carrying out road safety audits). Measures shall be taken to prevent encroachment along/within the ROWs on connecting/ main arterial roads.
- (xix) Necessary road (National and State Highways) and rail connectivity shall also be upgraded to handle the increased passenger and cargo traffic, in addition to metro for transition of passengers. The proposal of Havorport shall not be taken up on the north part of the airport area as this shall damage the mangroves.
- (xx) The measures should be taken to improve public transportation including dedicated road / MRTS corridors to access to Airport, may also be considered for the same. Energy Efficient dedicated rail based public transport facility; suburban/ metro train in particular, may be created between the Santa Cruz and the Navi Mumbai Airport in addition to all other links connecting various parts of Mumbai city.
- (xxi) Traffic Management during construction phase should be clearly planned so that the traffic situation is not further worsened on the existing connecting roads. Installations of Noise barrier/ Green Belts should be clearly indicated in the plan (After identifying critical locations).
- (xxii) To avoid accidental damage (fire, hazardous material waste handling, oil spills, wastewater disposal) in the adjacent ecologically fragile surroundings and mangrove area – a risk assessment plan and disaster management plan should be prepared and with periodic compliance of safety measures in place to avoid loss due accidental damage that could have been otherwise avoided. Further CIDCO shall appoint a dedicated professional team/cell to handle disaster and associated risks.
- (xxiii) In addition to the above -CIDCO shall ensure that all the risks (such as fire, hazardous material waste handling, oil spills, waste - both liquid/solid wastes) associated/ resultant risk during various stages of development (like planning, construction, operation) are managed within the airport area. In case of any unforeseen event as stated above the liability - environmental and social will rest with the

developer/CIDCO, the decision of the high level Committee, stipulated below will be full and final for liability fixations.

- (xxiv) The compliance report of the monitoring committee shall be made 'public' (put online and/or also displayed for wider dissemination of compliance) at all stages (planning, construction, operation) to ensure effective monitoring and compliance of conditions.
- (xxv) Environment Management Plan or associated monitoring plan shall ensure that mitigation measures detailed out in terms of role, responsibility, budgetary provisions, timeline for completion, frequency of monitoring and compliance etc.
- (xxvi) In order to meet all the essential aeronautical requirements and the further airport expansions, no property development shall be undertaken within the proposed aeronautical Airport Zone area (1160ha).
- (xxvii) The Master plan/Development plan of Navi Mumbai shall be revised and recasted in view of the airport development to avoid and unplanned haphazard growth around the airport. The landuse should take care of bird menace including that from the Mangrove Parks.
- (xxviii) All other nearby villages, if not required to be relocated should be provided with best possible infrastructure so that they compare well with the adjoining ultra modern airport infrastructure.
  - (xxix) CRZ provisions shall be applicable on the tidally influenced diverted channels of Ulwe and Gadhi Rivers and CIDCO shall finalise the Airport plans accordingly.
  - (xxx) Any cutting or filling up the airport site will create significant turbidity problem. CIDCO shall examine the impact on the marine life. The details will be put up on the website every 3 months.
  - (xxxi) CIDCO shall conduct the baseline survey of avian fauna before the start of construction and the details shall be put up every 3 months on the website in association with BNHS.
  - (xxxii) The Environmental Clearance/ CRZ Clearance is recommended below is only for the Navi Mumbai Airport project. CIDCO shall obtain the Environmental and CRZ clearance separately for off airport facilities and other off infrastructure projects after finalising the locations and details as may be required under the EIA Notification 2006 and the CRZ Notification.
- (xxxiii) Taking a cue from the man-made 26/11 incident arising out of external threat to our country, a strategic airport safety and security plan covering also surrounding inhabited areas of the airport shall be prepared and put in place in consultation with appropriate government departments

- (xxxiv) A high level advisory and monitoring committee which should include International experts of repute, reporting directly to the highest Airport Management Authority shall be constituted by CIDCO to plan, execute and maintain the environmental issues/ recommendations mentioned above. The monitoring shall be done at various stages (planning, construction, operation) of project for compliance of conditions. Budgetory provisions shall be made to the satisfaction of this Committee. The committee shall meet at least once in three months and the decisions taken in the meetings shall be put up on the web site for public information.
- (xxxv) Regular modeling study of air, noise shall be carried out due to the increase in traffic
- (xxxvi) The solid waste shall be properly collected, segregated and disposed as per the provision of Solid Waste (Management and Handling) Rules, 2000.
- (xxxvii) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- (xxxviii)A First Aid Room will be provided in the project both during construction and operation of the project.
- (xxxix) Disposal of muck during construction phase should not create any adverse effect on the neighboring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
  - (xl) Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.
  - (xli) Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.
  - (xlii) Installation and operation of DG set shall comply with the guidelines of CPCB.
  - (xliii) The diesel generator sets to be used during construction phase should be low sulphur diesel type and should conform to

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Environment (Protection) Rules prescribed for air and noise emission standards.

- (xliv) The diesel required for operating DG sets shall be stored in underground tanks and if required, clearance from Chief Controller of Explosives shall be taken.
- (xlv) Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.
- (xlvi) Ambient noise levels should conform to residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB/ MPCB.
- (xlvii) Fly ash should be used as building material in the construction as per the provisions of Fly Ash Notification of September, 1999 and amended as on 27<sup>th</sup> August, 2003.
- (xlviii) Ready mixed concrete must be used in building construction.
- (xlix) Storm water control and its re-use as per CGWB and BIS standards for various applications.
- (l) Water demand during construction should be reduced by use of premixed concrete, curing agents and other best practices referred.

(li) Use of glass may be reduced by upto 40% to reduce the electricity consumption and load on airconditioning. If necessary, use high quality double glass with special reflective coating in windows.

- (lii) The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of fire fighting equipments, etc. as per National Building Code including protection measures from lightening etc.
- (liii) Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.

## II. Operation Phase

i) Diesel power generating sets proposed as source of back up power for elevators and common area illumination during operation phase should be of enclosed type and conform to rules made under the

Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with Maharashtra Pollution Control Board.

- ii) Noise should be controlled to ensure that it does not exceed the prescribed standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.
- iii) The green belt of the adequate width and density preferably with local species along the periphery of the plot shall be raised so as to provide protection against particulates and noise.
- iv) Weep holes in the compound walls shall be provided to ensure natural drainage of rain water in the catchment area during the monsoon period.
- v) Rain water harvesting for roof run- off and surface run- off, should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease. The borewell for rainwater recharging should be kept at least 5 mts. above the highest ground water table.
- vi) The ground water level and its quality should be monitored regularly in consultation with Central Ground Water Authority.
- vii) Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.
- viii) Energy conservation measures like installation of CFLs/TFLs for the lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Use CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination. Use of solar panels may be done to the extent possible.
- ix) Efforts should be made to use solar energy to the maximum extent possible.

## III. <u>General Conditions</u>:

(i) In the event of any change in the project profile a fresh reference shall be made to the Ministry of Environment and Forests.

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- (ii) This Ministry reserves the right to revoke this clearance, if any, of the conditions stipulated are not complied with to the satisfaction of this Ministry.
- (iii) This Ministry or any other competent authority may stipulate any additional conditions subsequently, if deemed necessary, for environmental protection, which shall be complied with.
- (iv) Full support should be extended to the officers of this Ministry's Regional Office at Bhopal and the offices of the Central and State Pollution Control Board by the project proponents during their inspection for monitoring purposes, by furnishing full details and action plans including the action taken reports in respect of mitigative measures and other environmental protection activities.

8. These stipulations would be enforced among others under the provisions of water (Prevention and Control of Pollution) Act, 1974 the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and Municipal Solid Wastes (Management and Handling) Rules, 2000 including the amendments and rules made thereafter.

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

10. The project proponent should advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded CRZ Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at <u>http://www.envfor.nic.in</u>. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Bhopal.

11. Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No.460 of 2004, if applicable to this project.

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

13. The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall

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update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO<sub>2</sub>, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

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

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

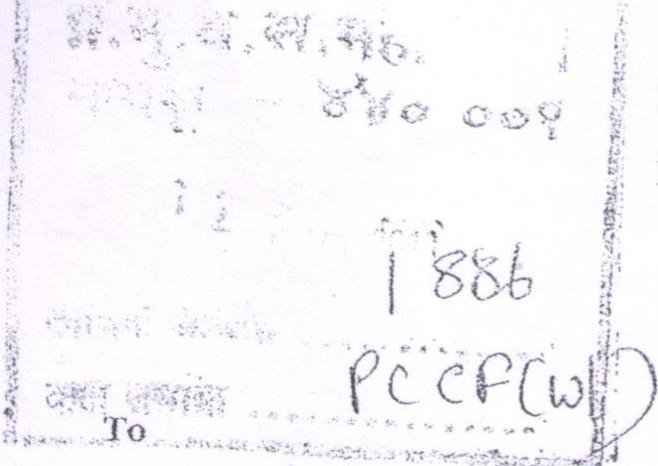
(Bharat Bhushan) Director (IA-III) 22.11.2010

Copy to:

- 1. The Secretary, Department of Environment, Govt. of Maharashtra, Mantralaya, Mumbai 400 032.
- 2. The Joint Secretary (AS), Ministry of Civil Aviation, Rajiv Gandhi Bhawan, Safdarjung Airport, New Delhi 110003.
- 3. The Chairman, CPCB, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi 32.
- 4. The Chairman, Maharashtra Coastal Zone Management Authority, Room No.217 (Annexe), Mantralaya, Mumbai – 400 032.
- The Chairman, Maharashtra Pollution Control Board, Kalpataru Points, 3<sup>rd</sup> & 4<sup>th</sup> floor, Opp. Cine Planet, Sion Circle, Sion (E) Mumbai-400 022.
- 6. The Chief Conservator of Forests, Ministry of Environment and Forests, Regional Office, Western Region, Kendriya Paryavaran Bhavan, Link Road No. 3, Ravishankar Nagar, Bhopal – 462016 (M.P.)
- 7. Guard File.
- 8. Monitoring Cell.

(Bharat Bhushan) **Director (IA)** 

[E] : Wildlife Clearance (from the Wildlife Division, MoEF&CC, Gol)



The Principal Secretary (Forests), Department of Forests, Government of Maharashtra, Manatralaya Mumbai, Nagpur-400032.

Sub: Minutes of the 29<sup>th</sup> meeting of Standing Committee of NBWL.

F. No. 6-43/2007 WL-I (29th Meeting) Government of India Ministry of Environment and Forests Wildlife Division \*\*\*\*

Paryavaran Bhawan CGO Complex, Lodhi Road. New Delhi-110003 Dated:01.08.2013.

Sir,

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During the 29th meeting of Standing Committee of NBWL held on 6th June 2013 under the chairpersonship of Hon'ble Minister of State (Independent Charge) for Environment and Forests, the following proposals pertaining to your State were considered. The relevant portions of the decision taken in respect of the

Proposal for construction of Navi Mumbai International Airport (NMIA) at Panvel aluk, District. Raigad in Maharashtra in 10 km eco-sensitive zone/Area (ESA) of Karnala Bird

The Member Secretary informed the committee that this proposal was discussed during the 28th Meeting of Standing Committee of NBWL and after discussions, the committee had decided that a team comprising of Dr. Asad Rahmani and Shri Kishor Rithe would conduct site inspection and submit a report to the Standing Committee of NBWL for consideration. Subsequently, Dr. Asad Rahmani of Bombay Natural History Society (BNHS) informed the MoEF that BNHS had accepted the study from project proponent CIDCO and hence he would be unable to be a part of site inspection team as it would be a conflict of interest for him. Therefore, Additional Director General of Forest (Wildlife), Dr. Divyabhanusinh Chavda and Kishor Rithe were directed to conduct the site inspection vide letter (no.6-34/2013WL) dated 3rd May 2013. However, Dr. Chavda could not join the site inspection team due to his other engagements.

The site inspection was conducted on 9<sup>th</sup> and 10<sup>th</sup> May 2013 and after inspection, the team had recommended the proposal with certain conditions. An important observation that came out during the site inspection was that Shri.Debi Goenka of the Conservation Action Trust, Mumbai had filed a Public Interest Litigation (PIL) on mangrove protection which will be applicable to mangrove area to be destroyed by

The committee, after discussions, unanimously decided to recommend the proposal subject to the following conditions, as stipulated in the site inspection report:

As there are several project proposals coming to SC-NBWL around KBS, it is recommended that the CWLW should compile the information and proceed to assess the cumulative impact of those projects on KBS landscape (which includes several PAs mentioned by CWLW and surrounding wildlife habitats (together with forest, wetlands and mangroves), and plan about compensating/mitigating the damages collectively. For any further project in 10km ESZ of KBS, this condition must be given due ertier.

Air traffic at NMIA should not use the airspace above the KBS as promised during the meeting. The annual report "Baseline Survey of Avian fauna at and around NMIA" produced by BNHS has, though and an entry of sufficient enough, suggested conservation measures in 10 km radius of NMIA. The potential wilding habituits (wilding conservation measures. wildlife habitats (wetlands, forest and mangroves) which comes in 10km ESZ of KBS should also be

In order to have alternate site for migratory birds visiting wetland within proposed NMIA site, Sewri coast wetland should be considered to be developed. The Sewri coast wetland of 1037.3 ha is a marshland protected from Arabian sea near the mouth of Thane creek. Thousands of flamingoes along with many other migratory water birds about 150 species (in are globally threatened) inhabit this marsh partly covered by mangrove. The Government of Maharashtra should nominate the same for जन्माल म. र. जामपुर

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iv. As per the Hon'ble High Court order dated 27 January 2010 the mangrove is a protected forest. As the project involves mangrove forest land, the state Government should see if any approval from the Hon'ble High Court is required. Mangrove eco-system has a unique aquatic fauna which carries a great importance. There is dense mangrove cover towards north side of the proposed NMIA site and parts of it also occur inside the NMIA site. To compensate for the loss of important mangrove forest portion inside the NMIA site, the mangrove forest bordering NMIA site (including the mangrove Park) should be declared as a mangrove sanctuary.

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- v. The project proponent should pay 3% of project cost for a fixed deposit with the wildlife department so that the interest amount can be spent on conservation of mangrove in the entire Mumbai wildlife circle.
- vi. The government of Maharashtra has presently notified only 12.11 sq.km area as KBS though there are more wildlife potential forest lands available between the KBS and the NMIA site. As those lands will be vulnerable for encroachments, we recommend that the state government should notify all such forest patches between the KBS and the NMIA as sanctuary before granting the final clearance. This will not only help to stop further encroachments on forest lands around NMIA site (unlike encroachments around existing Mumbai airport) but also will help to reduce the risk of having any air traffic accident due to garbage attracted bird movements.
  - Looking at the encroachments around SGNP and the existing Mumbai airport, the Government of Maharashtra need to ensure that the families be relocated at relocation site-2 (55 Ha) at Dapoli which requires 40 ha land and at relocation site-3 at Vahai on Amra Marg should not further encroach upon any forest land around these sites or in 10 km ESZ of KBS. There are 10 settlements from 7 revenue villages which need to be acquired for NMIA project and to be relocated at these three sites.
- viii. The project proponent should construct the boundary wall specially for relocation site-2 (along with 100 ha non-aeronautical activity area) during the construction of the project. This will also help to minimise the garbage issue which attracts birds and other wild animals and also stop encroachments on surrounding forest areas.
- ix. Project proponent should allocate enough display space at the prominent location in the NMIA (As per the requirement of CWLW Maharashtra) free of cost to depict and highlight / publicise the importance of protected areas of Maharashtra to the tourists arriving at NMIA till the lifetime of NMIA.
- x. CWLW Maharashtra should incorporate the measures in the Management plan of KBS.

vii.

2. Proposal to set up an 80,000 TPA capacity plant for manufacturing Viscose Staple Fibre at Additional Patalganga Plot No.M1 and M2 at village: Sarsai, Dist.: Raigarh, Maharashtra.

The Member Secretary gave a brief introduction about the proposal. Mr. Kishore Rithe mentioned that the area of Karnala bird sanctuary is just 12.11 sq.km and several other projects have been proposed around this small sanctuary. The SC-NBWL has just recommended the Navi Mumbai airport too. Though the project is proposed in MIDC area, state has to reconsider about such polluting industries in this MIDC specially after recommending the Navi Mumbai international airport in ESA of Karnala. The project location is just 1.5 km from the boundary of KBS and it has a captive power plant (which will use 265 tonne of coal per day) inside it. The CWLW has already expressed concerns on the fact that the plant will release solid waste of 1095 tonne/year and shudge waste of 3200 up to 58,400 tonne/year from coal fired boiler. The treated industrial effluents released into saline water zone of the Patalganga River which flows near the sanctuary. The plant would seriously impact the nearby Patalganga river and wetlands such as Apta lake and Jambhavali river where sanctuary animals/birds do visits. He said that we should reject this proposal on this ground.

Dr. Asad Rahmani mentioned that since the nearby areas of the sanctuary is Maharashtra State Industrial Development Corporation area, not much wildlife is seen in the vicinity but discharge of effluent in Patalganga is a serious issue.

The representative of the user agency informed that the project had already obtained Environmental Clearance and that their plant had the capacity for double effluent treatment before discharging into the sea and it is being ensured that no toxic materials are released into the river. He added that as far as gaseous emissions were concerned, it was mainly Hydrogen Sulphide and Carbon-di-Sulphide. He added that there would be a 16 MW power plant with coal being imported from Indonesia as well as taken from India and lime injection systems will be established to reduce Sulphur emission.

Contd.../3

Ms. Prerna Bindra expressed her concern about monitoring of affluent and its impacts, and desired to know who would be monitoring the effluent and gaseous discharges. Dr. M.K.Ranjitsinh desired to know about the proposed system for solid waste management, especially of fly ash. He gave the example of the Union Carbide factory in Bhopal where the monitoring of emissions was a failure. He suggested that the monitoring committee should have members of State Board for Wildlife, a good NGO and representatives of State Wildlife Department. Project proponents explained that the world class environmental safeguards are being used in the project and assured that any conditions laid in this respect will be abided. The technical aspects were

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Chief Wild life Warden clarified that the project is within the already established MIDC industrial area and any effluents of the project are not affecting the WLS.

Taking note of the observations of the members, Chairperson asked for the final views of members. Shri Kishor Rithe was of the view that the project should be rejected. It was decided to take a view on this matter

3.

Diversion of 1.65 ha of forestland from Karnala Bird Sanctuary for widening of existing 2 lane to 4 lane divided carriageway configuration for Panyel-Indapur (km 0.000 to km 84.000) section of NH-17, Maharashtra (Both within Karnala Bird Sanctuary and within 10 kms from

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The Member Secretary gave a brief account of the proposal. He added that he has seen the site during his inspection of Navi Mumbai airport site. This proposal was initially not recommended by the Chief Wildlife Warden as there was other alternative routes available. He suggested that this may not be agreed to as alternate routes which is outside the Sanctuary is available.

Shri Kishor Rithe stated that he had inspected the site as a member of the state Board for Wildlife and the widening of the road from 2 lane to 4 lane within the sanctuary cannot be considered as alternate route is also available. The CWLW of Maharashtra may circulate the site inspection report of the state committee to the

After discussion, the committee unanimously decided to reject the proposal and request the NHAI to follow alternate route outside Sanctuary.

The above recommendation(s) are subject to the existing directives of Hon'ble Supreme Court and provisions of Forests (Conservation) Act, 1980.

Yours faithfully

(Vivek Saxena) Deputy Inspector General of Forests (WL)

The Chief Wildlife Warden, Government of Maharashtra, Ram Giri Road, Civil Line, Van Bhawan, 1 The Chief Conservator of Forests, Ministry of Environment & Forests, Regional Office(WZ), E-5, Arera 2. The Joint Secretary, I.A. Division, MoEF. 3. The Inspector General of Forests, FC Division, MoEF. 4.

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(Vivek Saxena) Deputy Inspector General of Forests (WL) IV[F] : Permission for Removal of Mangroves (Order from Hon'ble Bombay High Court) kambli

## IN THE HIGH COURT OF JUDICATURE AT BOMBAY

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## ORDINARY ORIGINAL CIVIL JURISDICTION

## NOTICE OF MOTION NO.419 OF 2011

PUBLIC INTEREST LITIGATION NO.87 OF 2006

The Bombay Environmental Action Group & Anr.

Petitioners

Vs.

The State of Maharashtra & Ors.

...Respondents

And

City & Industrial Development Corporation of Maharashtra

...Applicant

Mr.G.S.Hegde i/b. G.S. Hegde & Co., for applicant. Ms. Gulnar Mistry i/b. M.V. Jayakar & Co., for the petitioners. Mr. R.A. Rodrigues with Mr. N.J. Prajapati for respondent Union of India. Ms. Sharmila Mode for respondent-B.M.C. Ms. Sharmila Deshmukh for respondent-MCZMA.

> CORAM: MOHIT S. SHAH, C.J. & M.S.SANKLECHA, J. DATE : 29 OCTOBER 2013

P.C.:

This notice of motion has been taken out by CIDCO, Navi Mumbai for modification of the order dated 6 October 2005 and for permission to develop the Green Field Airport at Navi Mumbai without having to seek clearance under the Forest Conservation Act, 1980. kambli

2. Learned counsel for CIDCO has now tendered additional affidavit dated 3 October 2013 placing on record the order dated 11-12 July 2013 passed by Government of India in the Ministry of Environment & Forests Department ,(FC Division) recommending the proposal of CIDCO Ltd. Navi Mumbai for diversion of 250.0635 hectors of forest land in Navi Mumbai for establishment of Navi Mumbai International Airport in Alibag Forest Division in District Raigad of Maharashtra. The recommendation is subject to certain standard conditions and also additional conditions, which are as under:-

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1. Afforestation of mangroves species over an area equivalent in extent to mangroves forest area being diverted has to be raised and maintained by the user agency at their own cost in consultation with the State Forest Department. It will be in addition to the mangrove area to be raised under CRZ approval.

2. All conditions imposed by the Standing Committee of the National Board for Wildlife will be complied with.

3. A specific plan shall be prepared by the user agency through a reputed organization like WII, SACON, BNHS, etc. and its recommendations shall be implemented by the User Agency to mitigate the impact of the project on avifauna under the supervision of the State Forest Department at the cost of project.

4. A Monitoring Committee will monitor the implementation of different measures stipulated herein and will submit six monthly report to the Ministry in this regard. The Committee will be comprised of Principal Chief Conservator of Forests as Chairman, representative of the Regional Office, Bhopal, representative of Bombay Natural History Society and representative of CIDCO and Conservator of Forests (territorial), who will be the Member Secretary of the Monitoring Committee.

5. The R & R Plan approved by the State Government shall be submitted before Stage-II approval.

6. State Government shall ensure that settlement of displaced people does not take place in the forest land.

NMW-419-11

7. In future, user agency shall not submit any proposal for extension of the project or any other project ancillary/related to this project in the forest land between the present project site and Karnala Bird Sanctuary.

3. In the meantime, at the 29<sup>th</sup> meeting of the Standing Committee of the National Board for Wildlife held on 6 June 2013 the following decision was recorded thereafter in its minutes on 20 July 2013:-

> 5(1) Proposal for construction of Navi Mumbai International Airport (NMIA) at Panyel Talukaa, District Raigad in Maharashtra in 10 km eco-sensitive zone/Area (ESA) of Karnala Bird sanctuary (KBS)

> The Member Secretary informed the committee that this proposal was discussed during the 28th Meeting of Standing Committee of NBWL and after discussion the committee had decided that a team comprising of Dr.Asad Rahmani and Shri Kishor Rithe would conduct site inspection and submit a report to the Standing Committee of NBWL for consideration. Subsequently, Dr.Asad Rahmani of Bombay Natural History Society (BNHS) informed the MoEF that BNHS had accepted the study from project proponent CIDCO and hence he would be unable to be a part of site inspection team as it would be conflict of interest for him. Therefore, Additional Director General of Forest (Wildlife), Dr.Divyabhanusinh Chavde and Kishor Rithe were directed to conduct the site inspection vide letter (no.6-34/2013WL) dated 3 May 2013. However, Dr.Chavda could not join the site inspection team due to his other engagements.

> The site inspection was conducted on 9<sup>th</sup> and 10<sup>th</sup> May 2013 and after inspection, the team had recommended the proposal with certain conditions. An important observation that came out during the site inspection was that Shri Debi Goenka of the Conservation Action Trust, Mumbai had filed a Public Interest Litigation (PIL) on mangrove protec tion which will be applicable to mangrove area to be destroyed by proposed project of NMIA.

> The committee, after discussion, unanimously decided to recommend the proposal subject to the following conditions, as stipulated in the site inspection report:

i. As there are several project proposals coming to SC-NBWL around KBS, it is recommended that the CWLW should compile the information and proceed to assess the cumulative impart of the those projects on KBS landscape (which includes several Pas mentioned by CWLW and surrounding wildlife habitats (together with forest, wetland and mangroves), and plan about compensating/mitigating the damages collectively. For any further project in 10km ESZ of KBS, this condition must be given due consideration.

ii. Air traffic at NMIA should not use the airspace above the KBS as promised during the meeting. The annual report "Baseline Survey of Avian fauna at and around NMIA" produced by BNHS has, though not sufficient enough, suggested conservation measures in 10 km radius of NMIA. The potential wildlife habitats (wetlands, forest and mangroves) which comes in 10km ESZ of KBS should also be considered for implementing conservation measures.

lii. In order to have alternate site for migratory birds visiting wetland within proposed NMIA site, Sewri coast wetland should be considered to be developed. The Sewri coast wetland of 1037.3 ha is a marshland protected from Arabian sea near the mouth of Thane creek. Thousands of flamingos along with many other migratory water birds about 150 species (11 are globally threatened) inhabit this marsh partly covered by mangrove. The Government of Maharashtra should nominate the same for Ramsar site.

iv. As per the Hon'ble High Court order dated 27 January 2010 the mangrove is a protected forest. As the project involves mangrove forest land, the State Government should see if any approval from the Hon'ble High Court is required. Mangrove eco-system has a unique aquatic fauna which carries a great importance. There is dense mangrove cover towards north side of the proposed NMIA site and parts of it also occur inside the NMIA site. To compensate for the loss of important mangrove forest portion inside the NMIA site, the mangrove forest bordering NMIA site (including the mangrove Park) should be declared as a mangrove sanctuary.

v. The project proponent should pay 3% of project cost for a fixed deposit with the wildlife department so that the interest amount can be spent on conservation of man grove in the entire Mumbai wildlife circle. kambli

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due to garbage attracted bird movements.

The government of Maharashtra has presently notified only 12.11 sq.km area as KBS though there are more wildlife potential forest lands available between the KBS and the NMIA site. As those lands will be vulnerable for encroachments, we recommend that the state government should notify all such forest patches between the KBS and NMIA as sanctuary before granting the final clearance. This will not only help to stop further encroachments on forest lands around NMIA site (unlike encroachments around existing Mumbai airport) but also will help to reduce the risk of having any air traffic accident

NMW-419-11

Looking at the encroachments around SGNP and the vii. existing Mumbai airport, the Government of Maharashtra need to ensure that the families be relocated at relocation site-2 (55 Ha) at Dapoli which requires 40 ha land and at relocation site-3 at Vahai on Amra Marg should not further encroach upon any forest land around these sites or in 10 km ESZ of KBS. There are 10 settlements from 7 revenue villages which need to be acquired for NMIA project and to be relocated at these three sites.

viii. The project proponent should construct the boundary was specially for relocation site-2 (along with 100 ha nonaeronautical activity area) during the construction of the project. This will also help to minimise the garbage issue which attracts birds and other wild animals and also stop encroachments on surrounding forest areas.

ix. Project propo0nent should allocate enough display space at the prominent location in the NMIA (As per the requirement of CWLW Maharashtra) free of cost to depict and highlight/ publicise the importance of protected areas of Maharashtra to the tourists arriving at NMIA till the lifetime of NMIA.

Х. CWLW Maharashtra should incorporate the measures in the Management plan of KBS.

Thus, the Standing Committee of National Board for Wildlife recorded its recommendation to the proposal subject to ten conditions stipulated hereinabove.

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NMW-419-11

4. Learned counsel for CIDCO submits that in view of the above recommendations of the National Board for Wildlife at the meeting of the Standing Committee held on 6 June 2013 and recommendations of the Forest Advisory Committee in the Ministry of Environment & Forests (MOEF) at the meeting held on 11-12 July 2013, there is no impediment to the permission being granted to CIDCO for removal of mangroves from 108.50 Learned counsel for CIDCO states that MOEF had already hectors. amended the CRZ Notification of 1991 thereby permitting the development of Airport in June 2009 and by letter dated 22 November 2010 the MOEF had also given environmental and CRZ clearance for the proposed Airport at CIDCO had delineated an area of 108.50 hectors of Navi Mumbai. mangroves for clearing the same to enable development of Airport and associated off-site infrastructure. As per the approval of MOEF, CIDCO is permitted to clear the mangroves in 108.50 hectors subject to development of 245 hectors of mangroves and protect 370 hectors of mangroves. CIDCO has also produced the plan at Exh.F to the affidavit in support of the notice of motion showing the area from which the mangroves are to be cleared and compensatory aforestation is to be done.

4. In view of the above, having heard the learned counsel for parties, we permit CIDCO to clear mangroves from 108.50 hectors subject to condition that CIDCO shall plant and develop 245 hectors of mangroves at the site indicated in Exh.F and also to protect 370 hectors of mangroves as indicated in Exh.F to the affidavit dated 18 August 2011 in support of Notice of Motion No.419 of 2011. CIDCO is directed to comply with all conditions stipulated by Forest Advisory Committee as well as the Standing Committee of National Board for Wildlife in the aforesaid approvals/recommendations.

5.

Notice of motion, accordingly, stands disposed of.

## CHIEF JUSTICE

(M.S.SANKLECHA, J.)



[G] : Forest Clearance Stage I (From MoEF&CC, Gol)

#### F. No. 8-95/2012-FC Government of India Ministry of Environment & Forests (FC Division) \*\*\*

Paryavaran Bhawan, C.G.O Complex, Lodhi Road, New Delhi - 110510. Dated: 17<sup>th</sup> December, 2013.

То

The Principal Secretary (Forests), Government of Maharashtra, Mantralaya, Mumbai.

#### Sub: Diversion of 250.0635 ha of forest land in favour of General Manager (Airport) CIDCO Ltd., Navi Mumbai for establishment of Navi Mumbai International Airport in Alibag Forest Division in District Raigad of Maharashtra- regarding.

Sir,

I am directed to refer to the State Government's letter no. FP/MII/Others/663/2012 dated 20.11.2012 on the above subject seeking prior approval of the Central Government under the Forest (Conservation) Act, 1980 and to say that the proposal has been examined by the Forest Advisory Committee constituted by the Central Government under section-3 of the said Act.

After careful examination of the proposal of the State Government and on the basis of the recommendation of the Forest Advisory Committee, the Central Government hereby conveys the 'in-principle' approval for diversion of 250.0635 ha of forest land in favour of General Manager (Airport) CIDCO Ltd., Navi Mumbai for establishment of Navi Mumbai International Airport in Alibag Forest Division in District Raigad of Maharashtra subject to fulfilment of the following conditions:

- i. Legal status of the diverted forest land shall remain unchanged
- ii. Compensatory Afforestation over the non-forest land equal in extent to the forest land (i.e. over 250.0635 ha) being diverted shall be raised and maintained by the State Forest Department at the cost of the User Agency.
- iii. The non-forest land identified for raising compensatory afforestation shall be transferred and mutated in favour of the State Forest Department before issue of the Stage-II clearance.
- The land identified for the purpose of CA shall be clearly depicted on a Survey of India toposheet of 1:50,000 scale.
- v. The non-forest land transferred and mutated in favour of the State Forest Department shall be notified by the State Government as RF under Section-4 or PF under Section-29 of the Indian Forest Act, 1927 or under the relevant Section(s) of the local Forest Act, 1927 latest within a period of six months from the date of issue of Stage--II approval. The Nodal Officer shall report compliance in this regard along with a copy of the original notification declaring the non-forest land under Section 4 or Section 29 of the

Indian Forest Act, 1927, as the case may be, within the stipulated period to the Central Government for information and record;

- vi. The User Agency shall transfer the cost of raising and maintaining the compensatory afforestation, at the current wage rate, to the State Forest Department. The scheme may include appropriate provision for anticipated cost increase for works scheduled for subsequent years.
- vii. User Agency shall deposit the Net Present Value (NPV) of the diverted forest land with the State Forest Department as per the orders of the Hon'ble Supreme Court dated 30.10.2002, 01.08.2003 and 28,.03.2008 in I.A. No. 566 in WP(C) No. 202/1995 and the guidelines issued by this Ministry vide letter No. 5-1/98-FC(Pt.II) dated 18.09.2003 and 22.09.2003 in this regard.
- viii. Additional amount of the NPV of the diverted forest land, if any, becoming due after finalization of the same by the Hon'ble Supreme Court of India on receipt of the report from the Expert Committee, shall be charged by the State Government from the User Agency. The User Agency shall furnish an undertaking to this effect.
- ix. All the funds received from the User Agency under the project shall be transferred to Ad-hoc CAMPA in saving accounts pertaining to the State concerned.
- x. Afforestation of mangrove species over an area equivalent in extent to mangrove forest area being diverted has to be raised and maintained by the user agency at their own cost in consultation with the State Forest Department. It will be in addition to the mangrove area to be raised under CRZ approval.
- xi. The User Agency will undertake comprehensive soil conservation measures at the project cost in consultation with the State Forest Department.
- xii. The User Agency will assist the State Government in conservation and preservation of flora and fauna of the area in accordance with the plan prepared by the Chief Wildlife Warden of the State.
- All conditions imposed by the Standing Committee of the National Board for Wildlife, communicated vide MoEF's letter no. 6-43/2007-WL (29<sup>th</sup> Meeting) dated 1.08.2013, will be complied with.
- xiv. A Monitoring Committee will monitor the implementation of different measures stipulated herein and will submit six monthly report to the Ministry in this regard. The Committee will be comprised of Principal Chief Conservation of Forests as Chairman, representative of the Regional Office, Bhopal, representative of Bombay Natural History Society and representative of CIDCO and Conservator of Forests (territorial), who will be the Member Secretary of the Monitoring Committee.
- xv. The R&R Plan approved by the State Government shall be submitted before Stage-II approval.
- State Government shall ensure that settlement of displaced people does not take place in the forest land.
- xvii. Any trees shall be felled only when it becomes necessary and that too under strict supervision of State Forest Department, and at the cost of the User Agency.

- xviii. No labour camp shall be established on the forest land. The User Agency shall also provide fuels preferably alternate fuels to the labourers and staff working at the site so as to avoid any damage to the nearby forest areas.
  - xix. In future, user agency shall not submit any proposal for extension of the project or any other project ancillary/related to this project in the forest land between the present project site and Karnala Bird Sanctuary.
  - xx. The boundary of the diverted forest land shall be demarcated on the ground with four feet high cement concrete pillar with its serial number and forward and back bearing inscribed on it.
- xxi. The layout and plan shall not be changed without prior approval of the Central Government.
- xxii. The User Agency shall obtain the Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986, if required;
- xxiii. Ex-situ conservation of endemic species of flora/fauna lost/disturbed in the process of execution of the project may be ensured.
- xxiv. No damage to the flora and fauna of the area shall be caused.
- xxv. The user agency in consultation with the State Government shall create and maintain alternate habitat/home for the avifauna, whose nesting trees area to be cleared in this project. Birds nests artificially made out of eco-friendly material shall be used in the area, including forest area and human settlements, adjoining the forest area being diverted for the project.
- xxvi. The forest land shall not be used for any purpose other than that specified in the proposal and shall, under no circumstances, be transferred to any one without prior approval of the Central Government.
- xxvii. All other conditions proposed by the State Government at the time of submission of the proposal to the Central Government shall be complied with by the User Agency.
- xxviii. The State Government shall complete settlement of rights, in terms of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, if any, on the forest land to be diverted and submit the documentary evidence as prescribed by this Ministry in its letter No. 11-9/1998-FC (pt.) dated 03.08.2009, in support thereof
  - xxix. Rehabilitation of project affected families, if any, shall be done as per the National Rehabilitation policy / State Rehabilitation policy whichever is better in consultation with the State Forest Department at the cost of user agencies.
  - xxx. The user agency shall submit the annual self compliance report in respect of the above conditions to the State Government and to the concerned Regional Office of the Ministry regularly.
  - xxxi. Any other condition that the concerned Regional Office of this Ministry may stipulate, from time to time, in the interest of conservation, protection and development of forests & wildlife; and

- xxxii. The User Agency and the State Government shall ensure compliance to provisions of the all Acts. Rules, Regulations and Guidelines, for the time being in force, as applicable to the project.
- xxxiii. Any other condition that the Addl. PCCF (Central), Regional Office, Bhopal may impose from time to time for the protection and improvement of flora and fauna in the forest area.

After receipt of the compliance report on the fulfilment of the above mentioned conditions from the State Government, formal approval will be considered in this regard under Section-2 of the Forest (Conservation) Act, 1980. The transfer of forest land to the User Agency shall not be affected by the State Government till formal order approving the diversion of forest land is issued by the Central Government.

Yours faithfully,

(Priya Ranjan) Sr. Assistant Inspector General of Forests

Copy to:-

- 1. The Principal Chief Conservator of Forests, Government of Maharashtra, Nagpur.
- 2. The Addl. PCCF (Central), Regional Office, Bhopal, MoEF.
- 3. The Nodal Officer (FCA), O/o the PCCF, Government of Maharashtra, Nagpur.
- User Agency (M/s Rewas Ports Ltd., Jai Center, 1<sup>st</sup> Floor, 34 P D'Mello Road, Opp Red Gate, Mumbai 400 009.
- 5. Monitoring Cell, FC Division, MoEF, New Delhi.
- 6. Guard File.

(Priya Ranjan) Sr. Assistant Inspector General of Forests

[H] : Wildlife Clearance (from the Wildlife Division, MoEF&CC, Gol")-Amendment

## F.No.6-48/2015 WL (34th Meeting) **Government of India** Ministry of Environment, Forests & Climate Change Wildlife Division \*\*\*\*

Indira Paryavaran Bhawan Jor Bag Road, Aligani New Delhi-110003 Dated: 30.06.2015.

The Principal Secretary (Forests) **Department of Forests Government of Maharashtra** Manatralaya Mumbai Nagpur-400032.

Sub: Minutes of the 34<sup>th</sup> Meeting of Standing Committee of NBWL. Sir,

During the 34<sup>th</sup> Meeting of Standing Committee of NBWL held on 2<sup>nd</sup> June 2015 under the Chairmanship of Hon'ble Minister of State (Independent Charge) for Environment, Forests and Climate Change, the following proposals pertaining to your State were considered. The relevant portion of the decision taken in respect of the proposals is reproduced below:

#### "1. Proposal for rationalisation of the boundary for Maldhok Bird Sanctuary, Maharashtra.

The Member Secretary informed the Committee that the state government had conveyed that it had decided to adhere to the earlier proposal of rationalising boundaries of the Maldhok Bird Sanctuary.

Dr.H. S. Singh suggested that the Ministry must take concrete steps to conserve Great Indian Bustard (GIB) before deciding on the rationalisation proposals. He added that Ministry should prepare an integrated plan for breeding and conservation of GIB covering the States of Gujarat, Maharashtra and Rajasthan. The Project may be funded from CAMPA and must be submitted immediately and action must start on it before it is too late.

Member Secretary informed that an action plan is already in place and action on this plan is on way in the states. The chair suggested that the states take a holistic view of GIB conservation and also suggested to WII to provide inputs in preparing an integrated scheme for GIB conservation plan in consultation with Rajasthan, Gujarat and Maharashtra. After discussions, the committee asked the Ministry to prepare integrated GIB conservation plan within a month and propose rationalisation based on the requirement of the conservation plan.

#### Navi Mumbai International Airport (NMIA): Amendment to condition (iv) of the 2. recommendation of SC-NBWL (8.5 km from Karnala WL sanctuary)

The member secretary briefed the Committee on the representation of CIDCO seeking waiver of the condition (iv), stipulated by SC-NBWL, to declare adjoining NMIA area as mangrove sanctuary. He added that Govt. of Maharashtra had also recommended the CIDCO's request basing it on the BNHS study. The said study has stated that adjoining NMIA site should be made unattractive to birds in view of aircraft safety, human safety and airport safety.

Director, WII explained the case with an identical case of Brisbane Airport and emphasized that the air ports adjoining the mangroves should be made unattractive to birds.

After discussions, the Standing Committee recommended to waive the aforesaid condition in view of human safety and considering that Government of Maharashtra's decision to declare alternative site, namely, Thane Creek as Flamingo Sanctuary for conservation.

# Widening of existing 2 lane to 4 lane divided carriageway for Panvel-Indapur (Km 0.000 to km.84.000) section of NH-17 in the State of Maharashtra. Proposal for diversion of land within sanctuary and the eco-sensitive zone.

The member secretary briefed the committee on the proposal and its rejection by SC-NBWL in its  $17^{th}$  meeting held on  $22^{nd}$  December 2009 and also in its  $29^{th}$  meeting held on  $6^{th}$  June 2013 (submitted for diversion of 1.65 ha of sanctuary area). The proposal involves diversion of forest land within and outside (ESZ) of the Karnala bird sanctuary. In both these meetings, SC-NBWL had advised NHAI to take alternative alignment outside the sanctuary. In the  $31^{st}$  meeting of SC NBWL held on 12- $13^{th}$  August 2014, the proposal had been recommended for outside sanctuary area (within 10 km from boundary of sanctuary) by the SC-NBWL, with conditions stipulated by SBWL, that restricted the widening upto 1 km distance, on both sides, from the boundary of sanctuary area.

Now, a copy of the earlier proposal has been resubmitted for reconsideration with the recommendation of State Government for permitting widening within the Karnala Bird Sanctuary. The State Government has mentioned that the stretch of 3.5 km (1.5 km within the sanctuary and 1 km each on both ends of road outside the sanctuary) will be the permanent bottleneck for traffic and will hinder the traffic speed on the highway.

The chair opined that widening within the sanctuary will smoothen the traffic and reduce the foul emissions from recurring traffic jams, which are harmful for the birds and other wildlife. After discussions, the Standing Committee recommended the project and directed that a team comprising of a representative of WII, NHAI and Chief Wildlife Warden of Maharashtra would undertake a site visit, agree on feasible mitigation measures including those for reptiles, within and outside sanctuary along the proposed 3.5 km stretch, within a month.

# 4. Proposed Residential & Commercial Project under Slum rehabilitation authority, Mulund near Veena Nagar opposite LBS Marg, Mulund (West) Ta. Kurla, Maharashtra

The member secretary briefed the committee on the proposal. Dr. Sukumar added that the Committee should take a different view for the urban development activities around the national parks/sanctuaries located in urban settings.

After discussions, the committee deferred the proposal in view of non-finalization of ESZ proposal of Sanjay Gandhi National Park.

The above recommendation(s) are subject to the existing directives of Hon'ble Supreme Court and provisions of Forests (Conservation) Act, 1980.

Yours faithfully L. Raja Sekhar (Rajasekhar Ratti) Scientist 'C'/Deputy Director (WL)

## Copy to:

3.

- 1. The Chief Wildlife Warden, Government of Maharashtra, Ram Giri Road, Civil Line, Van Bhawan, Nagpur-440 001.
- 2. The Addl.Pr. Chief Conservator of Forests, Ministry of Environment & Forests, Regional Office(WZ), E-5, Arera Colony, Link road-3, Bhopal-462016.
- 3. The General Manager, National Highways Authority of India (Ministry of Shipping, Road Transport and Highways) G-5 & 6, Sector-10, Dwarka, New Delhi-110075.
- 4. The Managing Director, CIDCO, CIDCO Bhavan, CBD Belapur, Navi Mumbai- 400614
- 5. The Director, Ariisto Developer, 701 7<sup>th</sup> Floor Dev Bhoomi, Andheri, Mumbai.
- 6. The Joint Secretary, I.A. Division, MoEF & CC.
- 7. The Inspector General of Forests, FC Division, MoEF & CC.

R. Rajasekhaz

(Rajasekhar Ratti) Scientist 'C'/Deputy Director (WL) [I] : Consent to Establishment (Maharashtra Pollution Control Board)

## MAHARASHTRA POLLUTION CONTROL BOARD

Fax

4010437/4020781 Phone • /4037124/4035273 24044532/4024068 /4023516 : enquiry@mpcb.gov.in Email • http://mpcb.gov.in Visit At :



Kalpataru Point, 3rd & 4th floor, Sion- Matunga Scheme Road No. 8, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E), Mumbai - 400 022

Consent order No :- Format1.0/BO/CAC-cell//EIC-RD-3154-15/CE/CAC- 2995 Date- 14/10/2015

To,

The Superintendent Engineer (AP-R/R) NIMA Project, CIDCO, Tower No. 10, 3rd Floor, Commercial Complex, Belapur Railway Station, CBD Belapur, Navi Mumbai-400 614.

Subject: Consent to Establish for construction of PHASE-I of Proposed Navi Mumbai International Air Port project in RED category.

Ref

- 1. Environmental and CRZ Clearance granted by MoEF, Gol vide no. F.No. 10-53/2009-IA.III dtd. 22.11.2010
- 2. Your application approved in 7<sup>th</sup> CAC Meeting of 2015-2016 held on 06.10.2015.

Your application CE1510000019 Dated: 28.09.2015

For: Consent to Establish under Section 25 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 5 of the Hazardous Wastes (M, H & T M) Rules 2008 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

- The consent to establish is granted for commissioning of the unit or 5 years whichever is earlier. 1.
- 2. The proposed capital investment of the PHASE-I project is Rs. 4424 Crs. (As per undertaking submitted by applicant) (As per EC estimated cost of whole project is Rs. 8722 crs spread over 4 phases)
- 3. The Consent to Establish is valid for construction of PHASE-I (for 10 Million Passengers Per Annum (MPPA)) of Navi Mumbai International Airport by City & Industrial Development Corporation of Maharashtra Ltd. at longitude of 73°.04'.18" and latitude of 18°.59'.33", Survey of India Topo sheet no. 47-A/16,A/13,E/4,F/1 in Panvel Taluka Dist. Raigad, Maharashtra (as per EC) on total plot area of 1160 Ha. And total construction BUA of 6,73,000 sq.m. as per construction commencement certificate issued by local body.

The Consent to Establish is valid for development/construction of:

| Sr. No. | Components                                   |
|---------|----------------------------------------------|
| 1       | Land development                             |
| 2       | Construction of Terminal Building            |
| 3       | Construction of Control Tower & ATM Building |
| 4       | Construction of Runway of length 4. Km       |
| 5       | Construction of Air Cargo Building           |
| 6       | Construction of Access Roads                 |

SRO Raigad-I/I/O/L/66105067 " M/s. CIDCO Ltd. Navi Mumbai International Airport Project"

Page 1 of 8

| 7  | Construction of associated Apron & taxi way                                       |
|----|-----------------------------------------------------------------------------------|
| 8  | Construction of Parking areas                                                     |
| 9  | Construction of area drainage system                                              |
| 10 | Provision of utilities such as Power supply, water supply & Sanitation (STP, SWM) |
| 11 | Construction of Compound wall & Security fence                                    |
| 12 | Airport maintenance hangars etc.                                                  |
|    |                                                                                   |

## 4. Conditions under Water (P&CP), 1974 Act for discharge of effluent:

-

| Sr. | Description          | Permitted                                                                                                                                                                                                                                                           | Standards to be    | Disposal                                                                                                                                                                                                                                    |
|-----|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| no. |                      | quantity of                                                                                                                                                                                                                                                         | achieved           |                                                                                                                                                                                                                                             |
|     |                      | discharge (CMD)                                                                                                                                                                                                                                                     |                    |                                                                                                                                                                                                                                             |
| 1.  | Trade effluent       | The waste water<br>generated from<br>the aircraft<br>maintenance<br>hangers and the<br>surface runoff<br>from the airport<br>area shall be<br>treated in<br>separate<br>treatment plant.<br>Applicant shall<br>submit the<br>comprehensive<br>plan for the<br>same. | As per Schedule –I | The treated effluent shall be<br>100% recycled for secondary<br>purposes such as toilet flushing,<br>air conditioning, firefighting etc.                                                                                                    |
| 2.  | Domestic<br>effluent | 1300                                                                                                                                                                                                                                                                | As per Schedule –I | The treated effluent shall be<br>80% recycled for secondary<br>purposes such as toilet<br>flushing, air conditioning,<br>firefighting etc. and remaining<br>shall be used on land for<br>gardening purpose within<br>project premises only. |

## 5. Conditions under Air (P& CP) Act, 1981 for air emissions:

| Sr.<br>no. | Description of stack / source | Number of Stack | Standards to be achieved |
|------------|-------------------------------|-----------------|--------------------------|
| 1.         | D.G. Set (5x500 KVA)          | 5               | As per Schedule -II      |

## 6. Conditions under Municipal Solid Waste (Management and Handling) Rule,2000:

| Sr. no | Type Of Waste     | Quantity & UoM | Treatment                                                      | Disposal                 |
|--------|-------------------|----------------|----------------------------------------------------------------|--------------------------|
| 1      | 1 Wet Waste 10 T/ |                | MSW waste generated shall be segregated into Dry and Wet waste | As per MSW<br>Rule, 2000 |
| 2      | Dry waste         |                | and shall be treated and disposed<br>as per MSW Rule, 2000     |                          |

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# 7. Conditions under Hazardous Waste (MH & TM) Rules, 2008 for treatment and disposal of hazardous waste:

SRO Raigad-I/I/O/L/66105067 " M/s. CIDCO Ltd. Navi Mumbai International Airport Project"

Page 2 of 8

## Sr. N Type Of Waste

## Category Quantity UOM Treatment

ent Disposal

There shall be no generation of Hazardous waste

- 8. The Board reserves the right to review, amend, suspend, revoke etc. this consent and the same shall be binding on the industry.
- 9. This consent should not be construed as exemption from obtaining necessary NOC/permission from any other Government authorities.
- PP shall submit an affidavit in Board's prescribed format within 15 days regarding the compliance of conditions of EC/ CRZ clearance and C to E.
- 11. The applicant shall comply with the conditions stipulated in Environmental and CRZ Clearance granted by MoEF, Gol vide no. F.No. 10-53/2009-IA.III dtd. 22.11.2010.
- 12. The waste water generated from the aircraft maintenance hangers may contain hazardous materials like lead, chromium, sulphates, phenolic compounds, V.O.C.'s etc. The surface runoff from the airport area shall also contain oils, grease, sulphates etc, which cannot be sent directly to sewage treatment plant for the treatment. A separate treatment plant or managing the waste water shall be specified and adopted. Applicant shall submit the comprehensive plan for the same within 3 months.
- 13. PP shall obtain necessary amendment in EC for the additional Construction BUA of 1,73,000 sq.m., as EC is granted for BUA only 5,00,000 sq.m. and you have proposed to construct total BUA of 6,73,000 sq.m.
- 14. The applicant should not take any effective steps for implementation of the <u>additional BUA of</u> <u>1,73,000 sq.m.</u> before obtaining Environmental Clearance as per EIA Notification 2006 and amendments thereto. As per Para 2 of EIA notification dated-14/09/2006, the effective steps include starting of any construction work or preparation of land by the project management. However as clarified by the MoEF vide office memorandum no. J-1103/41/2006-IA.II(I); Dated-19/8/2010, fencing of the site to protect it from getting encroached & construction of temporary shed(s) for the guard(s) & acquisition of land shall not be treated as an effective steps.
- 15. The applicant shall not take any effective step for remaining Phase-II, III & IV of Airport without obtaining Consent to Establish from Board.

For and on behalf of the Maharashtra follution Control Board

(Dr. P. Anbalagan, IAS) (Member Secretary)

**Received Consent fee of -**

| Sr. No. | Amount(Rs.) | DD. No. | Date       | Drawn On             |
|---------|-------------|---------|------------|----------------------|
| 1       | 33,45,000/- | 319534  | 11.02.2015 | Indian Overseas Bank |
| 2       | 55,03,000/- | 355053  | 26.08.2015 | Indian Overseas Bank |

## Copy to:

- 1. Regional Officer, Raigad and Sub-Regional Officer MPCB, Raigad-I
  - -- They are directed to ensure the compliance of the consent conditions.
- 2. Chief Accounts Officer, MPCB, Mumbai.
- 3. CC/CAC desk- for record & website updation purposes.

### Schedule-I

Terms & conditions for compliance of Water Pollution Control:

- 1) A] As per your application, you have proposed to provide Sewage Treatment Plants (STPs) with the design capacity of 1500 CMD based on SBR Technology.
  - B] The Applicant shall operate the effluent treatment plant (STP) to treat the sewage so as to achieve the following standards prescribed by the Board or under EP Act, 1986 and Rules made there under from time to time, whichever is stringent.

| Sr No. | Parameters        | Standards prescribed by Board                    |
|--------|-------------------|--------------------------------------------------|
|        |                   | Limiting Concentration in mg/I,<br>except for pH |
| 01     | BOD (3 days 27oC) | 30                                               |
| 02     | Suspended Solids  | 50                                               |
| 03     | COD               | 100                                              |
| 04     | Residual Chlorine | 1ppm                                             |

- C) The treated effluent shall be 80% recycled for secondary purposes such as toilet flushing, air conditioning, firefighting etc. and remaining shall be used on land for gardening purpose within project premises only.
- 2) A] The waste water generated from the aircraft maintenance hangers may contain hazardous materials like lead, chromium, sulphates, phenolic compounds, V.O.C.'s etc. The surface runoff from the airport area shall also contain oils, grease, sulphates etc, which cannot be sent directly to sewage treatment plant for the treatment. A separate treatment plant or managing the waste water shall be specified and adopted. Applicant shall submit the comprehensive plan for the same within 3 months.

B] The treated effluent shall be 100% recycled for secondary purposes such as toilet flushing, air conditioning, firefighting etc.

- 3) The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or and extension or addition thereto.
- 4) The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
- 5) In case, the water consumption of the project is not covered under the water consumption of local body, in that situation, the project proponent shall submit the CESS Returns in the prescribed format given under the provision of Water (Prevention & Control of Pollution) Cess Act, 1977 and Rules made there under for various category of water consumption.

In case the water consumption is duly assessed under the quantity of water consumption of local body, the project proponent shall submit certificate to that effect from the concern local body with the request not to assess CESS on their water consumption, being already assessed on the water consumption of local body.

| Sr. no. | Purpose for water consumed                                                                     | Water consumption quantity (CMD) |
|---------|------------------------------------------------------------------------------------------------|----------------------------------|
| 1.      | Industrial Cooling, spraying in mine pits or boiler feed                                       | 0.00                             |
| 2.      | Domestic purpose                                                                               | 1600                             |
| 3.      | Processing whereby water gets polluted & pollutants are<br>easily biodegradable                | 0.00                             |
| 4.      | Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic | 0.00                             |

SRO Raigad-I/I/O/L/66105067 " M/s. CIDCO Ltd. Navi Mumbai International Airport Project

Page 4 of 8

## Schedule-II

## Terms & conditions for compliance of Air Pollution Control:

 As per your application, you have proposed to install the Air pollution control (APC)system and also proposed to erect following stack (s) and to observe the following fuel pattern-

| Sr.<br>No. | Stack<br>To                            | Attached  | APC<br>System         | Height in<br>Mtrs. | Type of Fuel | Quantity<br>UoM | & | 5 % | SO <sub>2</sub><br>Kg/Day |
|------------|----------------------------------------|-----------|-----------------------|--------------------|--------------|-----------------|---|-----|---------------------------|
| 1          | 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | et (5x500 | Acoustic<br>Enclosure | 4.5* each          | HSD          |                 |   | 1   | -                         |

- The Applicant shall provide Specific Air Pollution control equipments as per the conditions of EP Act, 1986 and rule made there under from time to time / Environmental Clearance.
- 3. The applicant shall operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:

| SPM/TPM | Not to exceed | 150 mg/Nm <sup>3</sup> . |  |
|---------|---------------|--------------------------|--|
|---------|---------------|--------------------------|--|

- 4. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacemenalteration well before its life come to an end or erection of new pollution control equipment.
- 5. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).
- 6. The applicant shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient noise standards.

## Schedule-III Details of Bank Guarantees

## Proposed BG:

| Sr.<br>No. | Consent<br>(C to<br>E/O/R)<br>C to E | Amt of BG<br>Imposed | Submission<br>Period**                   | Purpose of BG  | Compliance<br>Period              | Validity<br>Date++                           |
|------------|--------------------------------------|----------------------|------------------------------------------|----------------|-----------------------------------|----------------------------------------------|
| 1          |                                      | to E Rs. 10 lakh     | Within 15<br>days of issue<br>of consent | 10 mar a ser q | Up to validity of<br>this consent | Validity of<br>this<br>Consent + 4<br>months |

\*\* The above Bank Guarantee(s) shall be submitted by the applicant in favour of Regional Officer at the respective Regional Office within 15 days of the date of issue of Consent.

++ The Bank Guarantee(s) shall be valid for a period upto: Validity of consent + 4 months

Jacos Hurapolius

SRO Raigad-I/I/O/L/66105067 " M/s. CIDCO Ltd. Navi Mumbai International Airport Project"

#### Schedule-IV

#### Conditions during construction phase

| а | During construction phase, applicant shall provide temporary sewage disposal and MSW facility for staff and worker quarters.                                                                              |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| b | During construction phase, the ambient air and noise quality should be closely monitored to achieve<br>Ambient Air Quality Standards and Noise by the project proponent through MoEF approved laboratory. |
| с | Noise generating activity shall be carried out during day time only.                                                                                                                                      |

#### **General Conditions:**

- 1) The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.
- 2) Industry should monitor effluent quality, stack emissions and ambient air quality monthly/guarterly.
- a) the applicant shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
- 4) Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.
- 5) The applicant shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
- 6) The firm shall submit to this office, the 30th day of September every year, the Environmental Statement Report for the financial year ending 31st March in the prescribed Form-V as per the provisions of rule 14 of the Environment (Protection) (Second Amendment) Rules, 1992.
- 7) The industry shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the HW(MH&TM) Rules 2008, which can be recycled/processed/reused/recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc should go for that purpose, in order to reduce load on incineration and landfill site/environment.
- 8) The industry should comply with the Hazardous Waste (M,H & TM) Rules, 2008 and submit the Annual Returns as per Rule 5(6) & 22(2) of Hazarsous Waste (M,H & TM) Rules, 2008 for the preceding year April to March in Form-IV by 30<sup>th</sup> June of every year.
- 9) The industry should comply with the Bio-Medical Waste (M & H) Rules, 1989 and amendments thereto, Batteries (M & H) Rules, 2001 and amendments thereto and E- waste (M & H) Rules, 2012.
- 10) An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.
- 11) The applicant shall obtain Consent to Operate from Maharashtra Pollution Control Board before actual commencement of the Unit/ Activity.
- 12) Industry shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act,1981 and Environmental Protection Act,1986 and industry specific standard under EP Rules 1986 which are available on MPCB website(<u>www.mpcb.gov.in</u>).
- 13) The industry shall constitute an Environmental cell with qualified staff/personnel/agency to see the day to day compliance of consent condition towards Environment Protection.
- 14) Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.

Page 7 of 8

SRO Raigad-I/I/O/L/66105067 " M/s. CIDCO Ltd. Navi Mumbai International Airport Project"

- 15) Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
- 16) The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
- 17) Conditions for D.G. Set
  - a) Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
  - b) Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
  - c) Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper sitting and control measures.
  - d) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
  - e) A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use
  - f) D.G. Set shall be operated only in case of power failure.
  - g) The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
  - h) The applicant shall comply with the notification of MoEF dated 17:05.2002 regarding noise limit for generator sets run with diesel
- 18) The industry should not cause any nuisance in surrounding area.
- 19) The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
- 20) The applicant shall maintain good housekeeping.
- 21) The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a statement on available open plot area, number of trees surviving as on 31<sup>st</sup> March of the year and number of trees planted by September end, with the Environment Statement.
- 22) The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
- 23) The applicant shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipments provided for without previous written permission of the Board. The industry will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.
- 24) The industry shall submit official e-mail address and any change will be duly informed to the MPCB.
- 25) The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification dt. 16.11.2009 as amended.
- 26) Ready mix concrete plant if provided for building construction purpose, then applicant shall apply separately for consent from the Board.
- 27) Cutting of trees is not permitted, however in unavoidable conditions necessary permission shall be obtained from local body/Tree Authority.
- 28) The kitchen shall be provided with exhaust system with exhaust system chimney with oil catcher connected to chimney through ducting.
- 29) Applicant shall prepare onsite emergency plan and get the same approved from relevant Authorities.
- 30) The applicant shall take the proper remediation measures to ensure that the ground water and soil contamination is prevented and follow due diligence during construction stage.



Page 8 of 8

SRO Raigad-I/I/O/L/66105067 " M/s. CIDCO Ltd. Navi Mumbai International Airport Project



IV[J] : Forest Clearance Stage II (From MoEF&CC, Gol)

### F. No. 8-95/2012-FC Government of India Ministry of Environment, Forests and Climate Change (Forest Conservation Division)

Indira Paryavatan Bhawan, Aliganj, Jorbagh Road, New Delhi - 110003 Dsted: 95April, 2017

To,

### The Principal Secretary (Forests), Government of Maharashtra, Mantralaya, Mumbai,

### Sub: Diversion of 250.0635 ha of forest land in favour of General Manager (Airport), CIDCO Ltd., Navi Mumbai for establishment of Navi Mumbai International Airport in Alibag Forest Division in District Raigad of Maharashtra- regarding.

Sir.

I am directed to refer to the State Government of Maharashtra's letter No. FP/MH/Others/663/2012 dated 20.11.2012 on the subject cited above seeking prior approval of the Central Government under the Forest (Conservation) Act, 1980. After careful consideration of the proposal by the Forest Advisory Committee (FAC) constituted under Section-3 of the said Act, *Inprinciple approval/Stage-I Clearance* was granted vide this Ministey's letter of even number dated 17.12.2013 subject to fulfilment of certain conditions. The State Government has furnished compliance report in respect of the conditions stipulated in the approval and has requested the Central Government to grant final approval.

In this connection, I am directed to say that on the basis of the compliance report furnished by the Government of Mahirashtra vide their letters No. 17/NC/II/LD.12060/(49)/2373/15-16 dated 18.03.2016, No. FLD-1315/C.R.352/part-2/F-10 dated 07.09.2016, No. FLD-1315/C.R.352/part-2/F-10 dated 07.09.2016, No. FLD-1315/C.R.352/part-2/F-10 dated 03.11.2016 and no. Desk-17/NC/II/LD.12060/(49)/2372/16-17 dated 21.03.2017 , and recommendation for deletions of condition no. (ax) and modification of condition No.(xix) of stage-I clearance dated 17.12.2013 by Forestry Advisory Committee in its meeting held on 12.07.2016 and approval of completent authority for the same, the *Final /Stage-II approval* of the Central Government is hereby granted under Section-2 of the Forest (Conservation) Act, 1980 for diversion of 250.0635 ha of forest land in favour of General Manager (Airport), CIDCO Ltd., Navi Mumbai for establishment of Navi Mumbai International Airport in Allbag Forest Division in District Raigad of Maharashtra subject to fulfilment of the following conditions:

Legal status of the diverted forest land shall remain unchanged;

- (ii) Compensatory afforestation (CA) over the non-forest land equal in extent to the forest land being diverted (i.e. over 250.0635 ha) shall be raised within three years from the date of issue of stage -II clearance and maintained thereafter as per approved plan by the State Forest Department at the cost of the User Agency. The CA will be done at the rate of 1000 plants per ha. (i.e. 2,50,063 plants) over the non-forest land. However, as now forest land identified for CA has only 120.75 ha plantable area which can accommodate only 67,073 plants. The remaining 1,82,990 plants shall be planted over degraded forest land under the control of State Forest Department as identified in the compliance report aubmitted by State Govt, vide their letter no. Desk-17/NC/II/LD.12060(49)/2372/16-17 dated 21.03.2017;
- (iii) The State Govt, shall ensure that afforestation of mangrove species over an area equivalent in extent to mangrove forest area being diverted has to be raised within three years from the date of stage -II clearance and maintained at the cost of user agency in consultation with the

Du

State Forest Department. It will be in addition to the mangrove area to be raised under CRZ approval;

- (iv) In future, user agency shall not submit any proposal for extension of project or any other project ancillary/related to this project in forest land falling in eco sensitive zone of Karnala bird sanctuary;
- (v) The non-forest land transferred and mutated in favour of the State Forest Department shall be notified by the State Government as RF under Section-4 or PF under Section-29 of the Indian Forest Act, 1927 or under the relevant Section(s) of the local Forest Act, 1927 latest within a period of six months from the date of issue of Stage-II approval. The Nodal Officer shall report compliance in this regard along with a copy of the original notification declaring the non-forest land under Section 4 or Section 29 of the Indian Forest Act, 1927, as the case may be, within the stipulated period to the Central Government for information and record;
- (vi) The User Agency will undertake comprehensive soil conservation measures at the project cost in consultation with the State Forest Department;
- (vii) The User Agency shall obtain the Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986, if required;
- (viii) The User Agency will assist the State Government in conservation and preservation of flora and fauna of the area in accordance with the plan prepared by the Chief Wildlife Warden of the State;
- (ix) The State Govt. shall ensure to comply with all the conditions imposed by the Standing Committee of the National Board for Wildlife, communicated vide MoEF's letter no. 6-43/2007-WL (29th Meeting) dated 1.08.2013;
- (x) The User Agency shall pay the additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India;
- (xi) The Monitoring Committee as constituted vide order no. FLD-1312/CR 352(part-IIV F-10 dated 25.07.2014 by Govt. of Maharashtra shall monitor the implementation of different measures stipulated and submit six monthly report to the Ministry/Regional Office Nagpur;
- (xii) The approved R&R Plan shall be implemented by the State Government;
- (xiii) Rehabilitation of project affected families, if any, shall be done as per the National Rehabilitation policy / State Rehabilitation policy whichever is better in consultation with the State Forest Department at the cost of user agency;
- (xiv) State Government shall ensure that settlement of displaced people does not take place in the forest land;
- (xv) Any tree felling shall be done only when it is unavoidable and that too under strict supervision of the State Forest Department;
- (xvi) The layout plan of the proposal shall not be changed without the prior approval of the Central Government.
- (xvii) No labour camp shall be established on the forest land,
- (xviii) The User Agency shall provide fuels preferably alternate fuels to the labourers and the staff working at the site so as to avoid any damage and pressure on the nearby forest areas;
- (xix) The State Govt, shall ensure that the User Agency implement the conservation plan prepared by BNHS in connection with conservation of flora & fauna;
- (xx) The user agency will abide by the applicable recommendations of the State Government including State Forest/Wildlife Departments;
- (xxi) The forest land shall not be used for any purpose other than that specified in the proposal;

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- (xxii) The forest land proposed to be diverted shall under no circumstances be transferred to any other agency, department or person without prior approval of the Central Government;
- (xxiii) No damage to the flora and fauna of the adjoining area shall be caused;
- (xxiv) The State Government shall ensure the complete compliance on settlement of rights, in terms of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, if any, on the forest land to be diverted and submit the documentary evidence as prescribed by this Ministry in its letter No. 11-9/1998-FC (pt.) dated 03.08.2009 read with 05.07.2013, in support thereof. The State Government shall accept the conditions put in Gram Sabha Resolution. The State Government shall provide undertaking to MoEF&CC, before commencement of work, that the State Government will comply with all provisions of FRA -2006 as specified by Ministry of tribal affairs;
- (xxv) The User Agency shall submit the annual self compliance report in respect of the above stated conditions to the State Government, concerned Regional Office and to this Ministry by the end of March every year;
- (xxvi) Any other condition that the concerned Regional Office of this Ministry may stipulate, from time to time, in the interest of conservation, protection and development of forests & wildlife; and
- (xxvii) The user agency shall comply all the provisions of the all Acts, Rules, Regulations, Guidelines & Hon'ble Court Order (s) pertaining to this project, if any, for the time being in force, as applicable to the project.

Yours faithfully,

(Sandeep Sharma) Assistant Inspector General of Forests

Copy to:

- 1. The Principal Chief Conservator Forests, Government of Maharashtra, Nagpur,
- Addl. Principal Chief Conservator of Forests (Central), Ministry of Environment & Forests, Regional Office (WZ), Kendriya Paryavaran Bhawan, E-5, Arera Colony, Link Road-3, Ravi Shankar Nagar, Bhopal-462016.
- 3. The Nodal Officer, O/o the PCCF, Government of Maharashtra, Nagpur.
- 4. User Agency (Executive Engineer, Raigad Irrigation No-2, Konkan Bhavan, Navi Mumbai.
- 5. Monitoring Cell.
- 6. Guard file.

(Sandeep Sharma) Assistant Inspector General of Forests

[K] : Extension of Environmental and CRZ Clearance of NMIA (from MoEF&CC

### F.No.10-53/2009-IA.III Government of India Ministry of Environment, Forest and Climate Change (IA-III Section)

Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 3

Date: 20<sup>th</sup> December, 2017

To,

### The General Manager (Environment),

City and Industrial Development Corporation of Maharashtra Ltd (CIDCO), Navi Mumbai International Airport Office, 3<sup>rd</sup> Floor, Tower No.10, Belapur Railway Station Complex, C.B.D. Belapur, Navi Mumbai-400614 (Maharashtra) Fax: 022-22022509/66500933 Email: consultant.env@cidcoindia.com

### Subject: Environmental and CRZ Clearance for establishment of Navi Mumbai International Airport at Mumbai by M/s City and Industrial Development Corporation of Maharashtra Ltd – Extension of validity of Environmental and CRZ Clearance - reg.

Sir,

This has reference to your online proposal No. IA/MH/MIS/235/2009 dated 6<sup>th</sup> September, 2017 submitted to this Ministry for extension of validity of Environmental and CRZ Clearance granted vide letter No. 10-53/2009 dated 22<sup>nd</sup> November, 2010 for 'Establishment of Navi Mumbai International Airport at Mumbai' in favour of M/s City and Industrial Development Corporation of Maharashtra Ltd, in terms of the provisions of the Environment Impact Assessment (EIA) Notification, 2006 under the Environment (Protection) Act, 1986 and CRZ Notification, 2011.

2. The proposal for grant of extension of validity of Environmental and CRZ Clearance to the above referred project was considered by the Expert Appraisal Committee (Infra-2) in its 24<sup>th</sup> meeting held in 30-31 October, 2017.

3. The EAC in its 24<sup>th</sup> meeting held in 30-31 October, 2017 has recommended the project for grant of extension of the validity of EC&CRZ clearance issued vide letter dated 22<sup>nd</sup> November, 2010 for a period of three years. As per recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby extend the validity of Environmental and CRZ Clearance up to 21<sup>st</sup> November, 2020. The following additional conditions were also recommended.

- (i) A certified report on the sources and availability of water from the local body supplying water along with the permission received by them for the same shall be submitted. This report shall specify the total annual water availability with the organization (local body), the quantity of water already committed to other development projects, the quantity of water committed for this project and the balance water available for distribution. This should be specified separately for ground water and surface water sources and ensure that there is no impact on other users.
- (ii) A detailed traffic management and a traffic decongestion plan, to ensure that the current level of service of the roads within a 05 kms radius of the project site is maintained and improved upon, shall be drawn up through an organization of

repute and specializing in Transport Planning within the next 6 months. This should be based on the cumulative impact of all development and increased inhabitation being carried out or proposed to be carried out by the project or other agencies in this 05 kms radius from the site under different scenarios of space and time and shall be implemented to the satisfaction of the State Urban Development and Transport Departments with the consent of all the concerned implementing agencies.

- (iii) Treated effluents shall also be used for irrigation and in Road side plantation after taking due permission from the concerned authorities/ Forest department
- (iv) The project proponents shall satisfactorily address to all the complaints that have been received against the project and submit a compliance report to the Ministry
- (v) The extension of validity is being granted for the original proposals for which Environmental and CRZ Clearance was granted earlier. The project proponents will not make any changes in the project nature, structure or configuration and limit themselves to activities for which the Environmental and CRZ Clearance has been given earlier.

4. All other conditions stipulated in the Environmental and CRZ Clearance granted vide letter No. 10-53/2009 dated 22<sup>nd</sup> November, 2010, shall remain unchanged.

5. This issues with the approval of the Competent Authority.

(Kushal Vashist) Director

### Copy to:

- 1) The Principal Secretary, Environment Department, Government of Maharashtra, 15<sup>th</sup> Floor, New Administrative Building, Mantralaya, Mumbai 400 032.
- 2) The Joint Secretary (AS), Ministry of Civil Aviation, Rajiv Gandhi Bhawan, Safdarjung Airport, New Delhi 110 003.
- 3) The APCCF (C), MoEF&CC, Regional Office (WCZ), Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur 440001.
- 4) The Chairman, Maharashtra Coastal Zone Management Authority, Room No. 217 (Annexe), Mantralya, Mumbai 400 032.
- 5) The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi 110 032.
- The Chairman, Maharashtra Pollution Control Board, Kalpataru Point, 3<sup>rd</sup> and 4<sup>th</sup> floor, Opp. Cine Planet, Sion Circle, Mumbai - 400 022.
- 7) Monitoring Cell, MoEF&CC, Indira Paryavaran Bhavan, New Delhi.
- 8) Guard File/ Record File/ Notice Board.

(Kushal Vashist) Director

IV[L] : Approval/NOC from Water Supply Dept. CIDCO for Water Supply to NMIA

### No. CIDCO / EE(Hetawane) / 2018 / <u>322</u>

3 August, 2018

### Τo,

**The Director – Urban Planning** Navi Mumbai International Airport Pvt. Ltd. Chhatrapati Shivaji International Airport, 1<sup>st</sup> Floor, Terminal-1B, Santacruz (E),

<u> Mumbai – 400 099 (India)</u>

### Sub : Water Supply Connection to NMIAL, Navi Mumbai.

Ref : Your letter No. NMIA/05/2018/09 dt. 25/05/2018.

#### Sir,

With reference to the above, for grant of water supply connection to NMIAL, Navi Mumbai, for your phase wise & ultimate water demand this is to inform you that, the water supply connection to NMIAL is under consideration subject to fulfilling the following conditions & submission of documents:

- A. You will agree to pay Water Distribution Betterment Charges (WDBC) on area of Airport.
- B. You will agree to pay Water Deposit of 120 days for ultimate water demand at the prevailing commercial rate.
- C. You will agree to pay the Water Charges at the prevailing rate under Commercial Category.
- D. You will agree to pay Water Connection Charges as per site conditions, at the prevailing rate.

### List of Documents to be submitted are as below:

- Application Form. (Enclosed)
- نتر) Agreement for water supply connection.
- iii) No objection certificate from Airport Authority (GM Transportation, CIDCO).
- , iv) Occupancy Certificate / Possession Receipt / Commencement certificate of Project.
- v) Drainage Connection Certificate/Recycle plant completion certificate.
- vi) Copy of approved plan 3 Nos. with cross section, location of under-ground & over-head tank with signature of architect & Licensed Plumber.

Page 1 of 2

Jo D

- Vii) \_\_\_\_ Location plan duly signed by the owner & Licenses Plumber in triplicates.
- viii) Certificate for completion of plumbing work by Licensed Plumber/Consultant.
- , ix) Statement showing total built up area, capacity of underground & over-head water tank, size of tanks.
- () Undertaking for payment of water charges on Rs. 100/- Stamp Paper.
- (xi) Copy of resolution / power of attorney in case of person representing an organization / a person other than owner signing the water connection documents.
- xii) Plot agreement (copy of Lease Deed / Concessioner Agreement).
- xiii) In case of multistoried building above (Ground + Four Storied) following details should be submitted:
  - a. Fire Fighting NOC
  - b. Plumbing Approval / Plumbing Design
- xiv) You will obtain necessary permission required from statutory competent authorities for taking connection from main line and laying of pipeline from tapping point to your premises.

You are requested to submit the documents mentioned above at the earliest, so as to process your request for grant of Water Supply Connection from the Competent Authority. Copy of the Application Form (in prescribed format) is enclosed herewith for your ready reference.

Thanking you, Encl. a.a.

08. ~ 18 Yours faithfully,

Executive Engineer (Hetawane) CIDCO Ltd. 5<sup>th</sup> Floor, Raigad Bhavan, CBD-Belapur, Navi Mumbai -400 614.

OlC

1911/2 2018

STE- (I & A) ..... for information please.

for information please.

[M] : In-Principle Approval for Construction of Navi Mumbai International Greenfield Airport at Navi Mumbai by Director General of Civil Aviation (DGCA), Govt. of India

### GOVERNMENT OF INDIA

CIVIL AVIATION DEPARTMENT

OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION OPP. SAFDARJUNG AIRPORT, NEW DELHI – 110003.

TELEFAX: 091-011-24653883 TELEX: 31-74127 EPBX 24622495/ Ext.265

Dated:

Reference No.:

भारत सरकार नागर विमानन विभाग महानिदेशक नागर विमानन का कार्यालय सफदरजंग एयरपोर्ट के सामने नई दिल्ली - ११० ००३

सख्या :AV.20024/40/2003-AL दिनांक :28.08.2018

Navi Mumbai International Airport Pvt. Ltd. 1<sup>st</sup> floor, Terminal 1-B CSI Airport, Santacruz (E) Mumbai-400099

### [Kind Attn: Shri Charudatta Deshmukh, Director-Urban Planning]

Subject: In-principle approval for construction of Navi Mumbai International Greenfield Airport at Navi Mumbai.

Sir,

Reference is invited to your letter no. letter no. NMIAL/11/2018/24 dated 09th June, 2018 and e-mail dated 27th August, 2018 on the subject cited above.

The Competent Authority has accorded in-principle approval for construction of Navi Mumbai International Airport at Navi Mumbai with following conditions:

- Being Greenfield Airport, comply with all relevant provisions of CAR on Aerodrome Design and Operations and ensure obtaining all the requisite Statutory Clearances before applying for aerodrome license.
- Submit the details of independent consultants/engineers to be appointed for NMIA to check the quality of construction being applied and progress of the construction of the airport in accordance to accepted Master Plan to demonstrate & satisfy the quality assurance system being applied for the construction of aerodrome, procurement and installation of equipment etc.
- Architectural and infrastructure related requirement for the optimal implementation of security requirement shall be integrated in the design of the aerodrome as per the BCAS guidelines issued in this regard from time to time.
- Shall ensure that the ATC Tower does not infringe the transitional surface at the airport and carry out aeronautical study to determine that the object would not adversely affect the safety or significantly affect the regularity of operations of aeroplanes. For other identified obstacles, adhere strictly to the mitigation measures proposed in Master Plan to keep the OLS free of obstacles.

मनोज उमार गर्ग (मनोज कुमार गर्ग) 28.08.2018 उपनिदेशक-प्रचालन (विमानसेत्र मानक) कृते महानिदेशक (नागर विमानन)

प्रतिलिपिः ऑफिस ऑफ डी.डी.जी. (पश्चिम क्षेत्र), डीजीसीए, मुंबई-जानकारी हेत्।

e under der Rich

[N] : Security Vetting/Clearance of the Master Plan of Navi Mumbai International Airport

CAS-6/2018/Div-Ops-1/Navi Mumbai (E-135357) भारत सरकार/Government of India (नागर विमानन मंत्रालय)/(Ministry of Civil Aviation) नागर विमानन सुरक्षा ब्यूरो/Bureau of Civil Aviation Security खंड, 1-11-111 तल, जनपथ भवन, जनपथ/A' Wing - 1, 11, 111 Janpath Bhawan, Janpath ..., नई दिल्ली-110001/New Delhi-110 001

Date: - 28th August, 2018.

Τо,

The Regional Director, BCAS, Mumbai Region, Mumbai.

Subject: Security Vetting/Clearance of the Master Plan of Navi Mumbai International Airport - regarding.

Sir.

Kindly refer to your letter No. CAS (M)-2017/Div-II/F-50/ Sec- Vetting (E-124675) dated 10/07/2018 enclosing a report dated 09.07.2018 of the Standing Committee.

In terms of Rule 5(3) of the Aircraft (Security) Rules 2011, the undersigned is directed 2, to convey the "In-Principal" approval of the Director General, BCAS for security clearance/vetting of Master Plan of Navi Mumbai International Airport subject to . condition that security vetting approval for Phase I design and construction of new facilities to be obtained before commencement of airport operations as construction is planned in phased manner, as has been recommended by the above said Standing Committee (constituted as per O.M No. CAS-7(16)/2006/Div.(Airport Infra) dated 29.01.2014), subject to implementation of extant rules and regulations issued by BCAS from time to time and subject to compliance of the observations of the said Standing Committee.

This issues with the approval of DG, BCAS. 3.

Yours faithfully.

Muƙ Joint Director (ops). Phone: 011-23311443. mukundmohan.bcas@gov.in

#### Copy to:

- 1. The MoCA: Shri Satish Chander, Under Secretary, Rajiv Gandhi Bhawan, New Delhi.
  - 2. The Chairman, AAI, RG Bhawan, New Delhi.
  - 3. The DIG(CASO), CISF, Mumbai Airport
  - 4. The GM & Head Security, MIAL

IV[O] : Approval of Airports Authority of India (AAI) for Siting of ATC, NAVAIDS / DVOR, CNS/ ATM of NMIA



#### भारतीय विमानपत्तन प्राधिकरण AIRPORTS AUTHORITY OF INDIA

File No: NM-18011/1/2018-CNS-O&M (efile)

То

Dated: 31.10.2018

M/s Navi-Mumbai International Airport Ltd O/o Airport Director, Terminal 1B, CSI Airport, Santacruz, Mumbai-400099 (Maharashtra)

### (Kind attention: Mr. Charudatta Deshmukh, Director Urban Planning)

# Sub: CNS Facilities final location data of Navi-Mumbai Airport-reg

Sir,

Reference may please be made to the MOM dated 25.10.2018, copy attached, on the above mentioned issue. For proposed Navi Mumbai International Airport (NMIA), site selection work of CNS Facilities was entrusted to the CNS-OM Dte., by then Member (ANS). All Sites have been selected after assessing through simulation studies. In view of terrain around the NMIA site, we have not found even a single site for Navigation & Surveillance facility which can meet the full service volume criteria for radio coverage defined in ICAO Annex-10 Volume-I. Best suitable sites have been selected after coordinating with FPDAM section, multiple meetings with GVK executives and simulation studies. Sites for proposed ASR/MSSR, VOR, ILS & SMR were finalized in a meeting held at CHQ, Delhi on 17/10/2018.

The following is submitted:

- 1. The details of proposed sites of ASR/MSSR (03 sites), VOR-1, ILS and SMR are finalized and attached as Annexure-1.
- 2. The Localizer shall be installed with wide aperture antenna not below 24 elements.
- 3. The sites are finalized by CNS simulation study conducted by CNS-O&M directorate based on the data provided by M/s GVK and site survey conducted by team of AAI and MIAL executives. The proposed structures data which were provided as per the list attached as Annexure-2, is included in the simulation study.
- 4. The sites are finalized as per site elevation provided, however, there may be some change in the elevation, equipment configuration, height and coordinates during the installation at site. Therefore, it is suggested to keep the margin of 2-3 meter in the proposed heights of CNS Facilities.

राजीच गॉम्सी भवन Rajiv Gandhi Bhavan

HURRENTI RAIS USAL AS REACH - HARRENT Soldarjung Auport, New Delhi 110003

44414 91-11-24832950 Phone 91-12-24632950 गोपस ११-११-३4632990 Fan ११-१४-24632990

- The M/s GVK shall provide all the clearances for all the sites as per the siting mentioned in CNS manual Vol-III (available on AAI Website) and ICAO Annex-10.
- 6. It is also suggested to conduct site survey of ASR/MSSR site at Matheran hill in view of existing obstacles near proposed site. The ADS-B is also proposed at this location.
- 7. The M/s GVK shall start the process to include the finalized data in NOCAS System of Airports Authority of India through proper channel.
- The site of Second VOR of Rwy 26R/08L will be finalized after site visit, (tentatively in 1<sup>st</sup>/2<sup>nd</sup> Week of November, 2018) and simulation studies.

(PAN SINGH) GM (CNS-HRM)

#### Encl.: As above

Copy to:

- 1. OSD to Member (ANS)-for kind information please.
- 2. ED(ASM),CHQ
- 3. ED (CNS-P)-I/II, CHQ.
- 4. GM(NS), CHQ
- 5. GM(NOC)
- 6. OM(CNS), CSIA, Mumbai

CC:

- 1. Mr. Prabhat Mahapatra, VP-Airside, GVK, CSIA, Mumbai.
- 2. Ms. Ashwani Thorat, Asst. VP-Airport Planning, GVK, Mumbai.

### Annexure-I

| Facility                           | X-<br>Dista | Y-<br>Dista | WGS-84 Coordinates |                    | Remarks                                                    |
|------------------------------------|-------------|-------------|--------------------|--------------------|------------------------------------------------------------|
| DVOR-1                             | 1760        | 280         | 18° 58' 55.758" N  | 073° 03' 59.527" E | Counterpoise Hgt 15.21 M<br>AMSL                           |
| ASR/MSSR-<br>I(Outside<br>Airport) |             |             | 19° 00' 14.841" N  | 073° 01' 21.922" E | Pedestal 24M AMSL                                          |
| ASR/MSSR-2<br>(Inside<br>Airport)  |             |             | 18° 59' 43.082" N  | 073° 04' 12.222" E | Pedestal 34.25 AMSL                                        |
| ASR/MSSR-3<br>Matheran Hill        | 1           |             | 18° 59' 19.695" N  | 073° 15' 56.540" E | Pedestal 828M AMSL                                         |
| Loc Rwy26L                         |             |             | 18° 58' 55.339" N  | 073° 02' 42.231" E | 305 M from Rwy 26 L End                                    |
| Loc Rwy OBR                        |             |             | 18° 59' 14.810" N  | 073° 05' 15.035" E | 505 M from Rwy 08R End                                     |
| Loc Rwy OBL                        |             |             | 19° 00' 04.873" N  | 73° 05' 01.092"E   | Site Elevation 9.25M Ams)                                  |
| Loc Rwy 26R                        |             |             | 18° 59' 46.262"N   | 73° 02' 35.053"E   | Site Elevation 9.25M Ams                                   |
| GP Rwy 08R                         |             |             | 18° 58' 54.069"N   | 73° 03' 03.275"E   |                                                            |
| GP Rwy 26L                         |             |             | 18° 59' 07.453"N   | 73° 04' 48.306"E   | Site Elevation 8.50M Amsl<br>Site Elevation 7.75 M<br>Amsl |
| GP Rwy 08L                         |             |             | 18° 59' 52.761"N   | 73° 02' 55.005"E   | Site Elevation 7.75 M                                      |
| GP Rwy 26R                         |             |             | 19° 00' 06.147"N   | 73° 04' 40.045"E   | Site Elevation 7.75 M                                      |
| SMR-North                          |             |             | 18° 59' 35.132"N   | 73° 02' 45.150"E   | Pedestal Hgt 40M AMSL                                      |
| SMR-South                          | -           |             | 18° 59' 25.425"N   | 73° 04' 15.026"E   | Pedestal Hgt 41M AMSL                                      |

#### **AIRPORTS AUTHORITY OF INDIA**

#### **DIRECTORATE OF CNS-OM**

#### Date 24.10.2018

## Minutes of meeting held on 17<sup>th</sup> October, 2018 for site selection of proposed ASR/MSSR, VOR and Localizer Rwy26L/08R at NAVI-MUMBAI International Airport

A meeting was held at AAI, CHQ, Rajiv Gandhi Bhawan on 17<sup>th</sup> October, 2018 under the Chairmanship of Sh. Vineet Gulati, Member (ANS), between officials from Airports Authority of India and M/s GVK to finalize the site of ASR/MSSR, VOR and Localizer Rwy26L at NAVI-MUMBAI International Airport

#### Section -A

The following Executives were present in the meeting:

#### From AAI

- 1. Sh. A K Banerjee, ED(CNS-O&M) CHQ
- 2. Sh. Pan Singh, GM(CNS-HRM), CHQ
- 3. Sh. Ravi Kant, GM(N&S), CHQ
- 4. Sh. Satyajit Dutta, GM(ATM), CHQ
- 5. Sh. N V Atale, Officiating GM (ATM-FPD), CHQ Sh.
- 6. Sh. Rajesh Sinha, Jt. GM(CNS), CHQ
- 7. Sh. Mohammad Siraj Khan, Jt.GM(ATM-FPD)
- 8. Sh. Sanjeev Shah, DGM(CNS-NOC), CHQ
- 9. Sh. Khushiyal Singh, AGM(CNS), CHQ
- 10. Ms. Archana Paharia, AGM(CNS), CHQ

#### From GVK

- 1. Sh. Prabhat Mahapatra, Vice President (Airside), GVK, Mumbai
- 2. Ms. Ashwini Thorat, Asstt. VP-Airport Planning, GVK, Mumbai

#### Section-B

- Meeting started with a presentation by Sh. Khushiyal Singh on the proposed locations of VOR for RWY 26L/08R, Localizer Rwy26L and ASR/MSSR, wherein he intimated that the simulation has been carried out for 08 no. of VOR and 09 no. of ASR/MSSR sites to assess the performance from coverage point of view. The coverage results were also provided to FPD Section to assess the simulation result from Flight Procedure and operational point of view. It was also informed that in case of failure of Matheran Site Radar (if finalized), there may be a shadow behind the hill and surveillance coverage may not be available.
- 2. Mr. Rajesh Sinha, Jt.GM (CNS) advised to place an ADS-B also at Matheran hill alongwith the ASR/MSSR to avoid the blackout in case of failure of Matheran ASR/MSSR. Member (ANS) directed CNS to include proposed ADS-B in the scope of work of Navi-Mumbai Airport.

1 | Page

- After CNS presentation, Mr. Mohammad Siraj Khan, Jt. GM (ATM-FPD) gave a presentation on Procedure Assessment based on the coverage provided by CNS. Both, CNS & FPD Section-concluded that for NAVI-Mumbai Airport, Selected sites will not provide full coverage for surveillance and ILS also, due to geography of the area and mainly due to Matheran Hill.
- After a detailed discussion from Coverage and Procedure point of view, participants agreed to finalize the following sites:

| Facility                           | X-<br>Dista<br>nce<br>1760 | Y-<br>Dista<br>nce<br>280 | WGS-84 Coordinates |                    | Remarks                                                                   |
|------------------------------------|----------------------------|---------------------------|--------------------|--------------------|---------------------------------------------------------------------------|
| DVOR#1                             |                            |                           | 18° 58' 55.758" N  | 073° 03' 59.527" E | Some minor changes in<br>coordinates.<br>Counterpoise Hgt 15.21<br>M AMSL |
| ASR/MSSR#1<br>(Outside<br>Airport) |                            |                           | 19° 00' 14.841" N  | 073° 01' 21.922" E | Pedestal 24M AMSL                                                         |
| ASR/MSSR#2<br>(Inside<br>Airport)  |                            |                           | 18° 59' 43.082" N  | 073° 04' 12.222" E | Pedestal 34.25 AMSL                                                       |
| ASR/MSSR#3                         | 1                          |                           | 18" 59' 19.695" N  | 073" 15' 56.540" E | Pedestal 828M AMSL                                                        |
| Loc Rwy26L                         |                            |                           | 18" 58' 55.339" N  | 073° 02' 42.231" E | 305 M from Rwy 26 L End                                                   |
| Loc Rwy OBR                        |                            |                           | 18° 59' 14.810" N  | 073° 05' 15.035" E | 505 M from Rwy 08R End                                                    |

- Mr. Ravi Kant, GM (NS), advised to validate the simulated coverage and procedures during the flight calibration. This will help to analyses the difference, if any, in the simulated and actual coverage of the concerned facility.
- 6. Mr. Prabhat Mahapatra, VP- GVK requested AAI to explore the possibility of having ILS CAT-II/III for Rwy26L & Rwy 08R. AAI informed that possibility to have ILS Cat-II/III on Runway 26L/08R was ruled out in view of Navigational coverage and Flight procedure design as the ILS have to be designed with a descend angle of 3.3 Degree. However, Runway 08R can have 3 degree ILS and hence Cat-II/III ILS may be possible subject to meeting other criteria.
- 7. As AAI informed that serviceability of Matheran ASR/MSSR is essential for aircraft to execute ILS procedures for Runway, NMIAL requested AAI to design flight procedure for the Runways that can be used only in case Matheran ASR/MSSR is unserviceable. These procedures though not very efficient, yet will be special procedures to be used only in case of unserviceability of Matheran ASR/MSSR and will ensure business continuity. AAI agreed to do the needful.
- 8. It was also enquired whether, AAI has carried out the simulation study for second DVOR for Rwy 26R/08L. In this regard it was informed that the preliminary simulation has been done. Mr. Ravi Kant, GM (NS) suggested that since it is a new site and before reaching on some conclusion the site needs to be surveyed by CNS team to find out its suitability as per siting criteria. It was agreed by M/s NMIAL and asked AAI to plan their site visit accordingly.

21P

- it was also decided that previous site ( 300/395 Meter from Rwy 26L C/L) marked for DVOR shall be preserved and marked for GBAS in future as per siting criteria.
- 10. It was informed by AAI that Multi Radar Criteria shall not be implemented for RADAR site at Matheran, since it's a complementary of Airport Site Radars for both NMIA and CSIA.

With the above deliberations and discussion, the meeting ended with vote of thank by

undersigned.

1

GM (CNS-HRM)

Address to all participants through email.

3 | Page

IV[P] : Verification & Validation certificate of OLS Survey of NMIA received from AAI on 10 Dec' 18.



# भारतीय विमानपत्तन प्राधिकरण AIRPORTS AUTHORITY OF INDIA

10

V&V No: AAI/ASC/06/2018

Date 10/12/2018

## Verification & Validation Certificate for Aeronautical Survey Data

Verification & Validation of OLS surveyed data of Proposed Navi Mumbai International Airport provided by NMIAL was carried out by Aeronautical Survey Section of AAI from 11/10/2018 to 18/10/2018.

Aeronautical Survey Data provided by NMIAL meets Aeronautical Data Quality requirements as per DGCA CAR section 9. Series I part 1.

Validity of the certificate is for two years from the date of issuance. Any change to this data will make the Certificate void.

(R. K. Singla) GM (ATM-Survey) For ED (ATM)



# IV[Q] : Approval/NOC from MSETCL for Power Supply to NMIA





### MAHARASHTRA STATE ELECTRICITY TRANSMISSION COMPANY LIMITED CIN No. : U40109MH2005SGC153646

Name of Office: Office of the Chief Engineer (State Transmission Utility)

Office Address: Prakashganga, 4<sup>th</sup> floor / 'A' Wing, Plot C -19, E - block, BKC, Bandra (E), Mumbai:- 400051.

Contact No.: (0) 022 - 2659 5176, (P) 022 - 2659 5175, Fax: 022 - 26591222

E-Mail Id: cestu@mahatransco.in , cestu@maharashtrastu.com

Website: www.mahatransco.in, www.maharashtrastu.com

Ref: MSETCL/CO/STU/EHV Cons/NMIA/NU 1 3 3

# GRID CONNECTIVITY

Date: 27 DEC 2018

To,

Shri. Charudatta Deshmukh (Director- Urban Planning) M/s. Navi Mumbai International Airport Pvt. Ltd, Chhatrapati Shivaji International Airport, 1<sup>st</sup> Floor, Terminal 1B, Santacruz (E). Mumbai- 400 099. E-Mail:charudatta.deshmukh@gvk.com

Sub: Grid Connectivity of M/s. Navi Mumbai International Airport Pvt. Ltd. (NMIA/GVK) for a load of 50 MW Power at Ulwe, Taluka. Panvel, District- Raigad.

Ref:

- 1) Application of Grid Connectivity from M/s. Navi Mumbai International Airport Pvt. Ltd. No. NMIAL/18/2018/89 dtd. 19.04.18.
- 2) This office letter for Technical feasibility No. MSETCL/CO/STU/EHV-L/4410 dtd. 21.04.18
- 3) This office letter for Technical feasibility No. MSETCL/CO/STU/EHV-L/5239 dtd. 14/05/2018
- 4) Technical feasibility Letter from CE, EHV PC O&M Zone, Vashi No. CE/EHV/PC O&M/Zone/VSH/Tech/T-5/1582 dtd. 25.06.18.

Dear Sir,

With reference to the above subject, vide letter cited under ref. (1) above, you have submitted Grid Connectivity application to STU for total load demand of 50 MW (July 2020: 10 MW, June 2022: 10 MW, Dec. 2023: 10 MW, Dec. 2025: 10 MW, Dec. 2027: 10 MW) at Ulwe, Taluka. Panvel, District. Raigad.

Further, this office vide letters cited under ref. (2) & (3) above, requested to CE, EHV PC O&M Zone, Vashi to furnish technical feasibility for your proposed demand. Accordingly, CE, Vashi vide letter cited under ref. (4) above, forwarded the technical feasibility report for contract demand of 50 MW in r/o of M/s. Navi Mumbai International Airport Pvt. Ltd. (NMIA/GVK).

Sub: Grid Connectivity of M/s. Navi Mumbai International Airport Pvt. Ltd. (NMIA/GVK) for a load of 50 MW Power at Ulwe, Taluka. Panvel, District- Raigad.

In view of the above, Grid connectivity to M/s. Navi Mumbai International Airport Pvt. Ltd. (NMIA/GVK) for 50 MW at Ulwe, Taluka. Panvel, District- Raigad can be granted on following scope of work:

- a) Establishment of 220/33 kV GIS S/S at site of NMIA.
- b)Construction of 220 kV D/C line by cable laying from proposed 220/33 kV Ulwe Node S/S of MSETCL to 220 kV GIS S/S of NMIA.
- c) Construction of 4 x 220 kV GIS bays with associated arrangements at NMIA S/S & at 220 kV GIS Ulwe S/S.

It is to be noted that, the above scope of work shall be executed under DDF at the cost of M/s. NMIA under the supervision of MSETCL.

You are also requested to submit the following documents to this office.

- i) Application for Connection to intra- state transmission System.
   (as per Annexure 2 of connection application, Proforma of which is available on website : www.maharashtrastu.com)
- . ii) Site Responsibility Schedule (as per Clause 14 State grid code).
  - iii) Connection agreement to be executed between M/s. Navi Mumbai International Airport Pvt. Ltd. and MSETCL in the revised format which is available on website: <u>www.maharashtrastu.com</u> – (as per clause 14 of State Grid code)
  - iv) Copy of "Load sanction" from MSEDCL.
  - v) Work completion report as per given scope of work as mentioned above.
  - vi) Work completion report of ABT Metering Arrangement.
  - vii) Copy of Drawing & General Philosophy of Protection System approved by the Chief Engineer (Projects & Design), Prakashganga, MSETCL, Mumbai.

After receipt of above documents, this office will issue final permission for connecting your plant to grid, which will be governed by,

- 1) Part B, Part C, Part D and Part F of State Grid Code Regulations, 2006
- 2) Indian Electricity Grid Code December, 2005
- 3) Indian Electricity Act, 2003.
- 4) MERC (Open Access) Regulation, 2016.

Thanking you.

Yours Faithfully,

Jewalikar)

Chief Engineer State Transmission Utility

#### Copy s.w.r.s. to:

- 1. Chairman & Managing Director, MSETCL, Corporate Office, Mumbai.
- 2. The Director (Projects/Operations), MSETCL, Prakashganga, Mumbai.

Sub: Grid Connectivity of M/s. Navi Mumbai International Airport Pvt. Ltd. (NMIA/GVK) for a load of 50 MW Power at Ulwe, Taluka. Panvel, District- Raigad.

### Copy f.w.r.to :

- 1. The Chief Engineer, SLDC, Airoli.
- 2. The Chief Engineer (Project Schemes), MSETCL, Prakashganga, Mumbai. -It is requested to provide the work estimates for above scope of work to M/s. NMIA.
- 3. The Chief Engineer, EHV CC O&M Zone, MSETCL: Vashi.
- 4. The Chief Engineer (Commercial), MSEDCL, Prakashgad, Bandra, Mumbai.

Received on 10.01.2019 .

D.No.03

O/o. Director-Urban Planning N. M.I.A.L., CSI Airport, Mumbai - 400 000 IV[R] : Permission from Maharashtra Maritime Board (MMB), GOM for Installation of Runway Approach Lights for Northern Runway Of NMIA-Gadhi River.

### **HOME DEPARTMENT (PORTS & TRANSPORT) MAHARASHTRA MARITIME BOARD OFFICE OF THE HYDROGRAPHER**

Naushad Ali Marg, Khardanda, Khar (W), Mumbai - 400 052. Tel.: 022-26044274, Fax: 022-26045702



गृह विभाग (बंदरे व परिवहन) महाराष्ट सागरी मंडळ जलआलेखक यांचे कार्यालय नौशाद अली मार्ग, खारदांडा, खार (पश्चिम), मुंबई-- ४०० ०५२ दरध्वनी क्र.: ०२२-२६०४४२७४, फॅक्स क्र.: ०२२-२६०४५७०२

Website : https://mahammb.maharashtra.gov.in Emall : hgr.mumbai@mmb.maharashtra.gov.in

7 DEC 2018 Date:-7 No.MMB/CEO/HGR/T-194/NMIA-Runway light/ NOC/ 3252

To. Navi Mumbai International Airport Pvt.Ltd. Chhatrapati Shivaji Maharaj International Airport, 1<sup>st</sup> floor, Terminal 1B, Santacruz (E), Mumbai- 400 099.

> Sub:- Permission for Installation of Runway approach lights for Northern Runway of Navi Mumbai International Airport (NMIA) in Gadhi River

Ref :- NMIA/GVK letter No. NMIAL/24/2018/97dated 12.10.2018.

Please refer to your letter seeking permission for installation of Runway approach 1. lights for Northern Runway of Navi Mumbai International Airport in Panvel creek / Gadhi River.

Your proposal has been examined and studied at this office. The undersigned is 2. pleased to issue "No Objection" under the provisions of Indian Ports Act-1908, Maharashtra Maritime Board Act -1996 and Government of Maharashtra Home department Resolution No. PDE 0107/CR-19/Ports-2 dated 29 Jun 2007 for your proposal for installation of Runway approach lights for Northern Runway of Navi Mumbai International Airport, crossing Panvel creek/ Gadhi River.

"The proposed installation of Runway approach lights across Panvel Creek near Navi Mumbai International Airport (NMIA) area will maintain Navigational clearance with Horizontal clearance of clear 30 mtrs. and the height of runway light will be 19.25 mtrs. above Mean High Water Spring (MHWS) in the portion of the navigable channel in Panvel Creek, where the navigational channel is passing through." The geographical positions of erecting/installation five in number new runway lights in navigational channel of Panvel creek / Gadhi River are as follows:-

### **Runway approach lights**

1) Latitude:-  $19^{\circ}$  00' 06.02" N Longitude :-  $73^{\circ}$  05' 10.12" E 2) Latitude:- 19<sup>0</sup> 00' 06.15" N Longitude :- 73<sup>0</sup> 05' 11.14"E 3) Latitude:- 19<sup>0</sup> 00' 06.28" N Longitude :- 73<sup>0</sup> 05' 12.15" E 4) Latitude:- 19<sup>0</sup> 00' 06.41" N Longitude :- 73<sup>0</sup> 05' 13.17" E 5) Latitude:- 19<sup>0</sup> 00' 06.54" N Longitude :- 73<sup>0</sup> 05' 14.19"E 3. The clearance will be subject to following terms and conditions:-

### TERMS AND CONDITIONS

(a) The erecting / installation of Runway approach lights will commence only after obtaining all the other required and necessary clearances / No Objections from the statutory authorities and on complying with their requirements.

(b) NMIA should ensure that the cables / electric supply lines for runway approach lights should be strictly laid as per the above mentioned approved route by MMB be buried at a depth of 5.0 mtrs. below creek / seabed. The date of commencement and completion of the structure of approach lights within the stipulated time frame should be intimated to Maharashtra Maritime Board / Hydrographer, Regional Port Officer, Mora Group of Ports, Thane and concerned Port Inspector, Belapur Port.

Additionally, it should also be ensured that the required and stipulated horizontal clearances as mentioned in this letter must be got verified by MMB at a suitable stage during the construction / erecting of the approach lights so that any deviations observed can be brought to the notice and can be corrected to comply with the directives. It should be also additionally ensured that once the drawing of the runway approach lights is finalised, the position of the lights where the lights are planned, should be sent to MMB along with coordinates to check that the horizontal clearance as required by MMB are falling in the **navigational channel**.

(c) NMIA will undertake the construction / erecting activity without adversely affecting the smooth voyage/ movement of vessels through the waterway. Notice Boards indicating "CONSTRUCTION UNDER PROGRESS" shall be erected 250 metres upstream and 250 metres downstream from the construction site in creek for cautioning the vessels. Necessary warning signals (both by day and night) must be provided by NMIA to ensure safety of voyage of vessels whilst passing close to the construction site.

(d) The piers of the runway approach lights, forming the extremities of the Navigational Channel should be well lit and cordoned off by appropriate day and night signal as per IALA Region A buoyage system.

(e) In view of the increased traffic which is expected in this waterway, it is requested that the foundations and Piers of runway approach lights be designed for suitable **Barge Impact Force** as specified for Class V waterway.

(f) Damage if any caused to any vessel, crew, cargo or material etc. due to the construction / erecting activity will be compensated by NMIA.

(g) On completion of the entire construction / erecting of the runway approach lights, NMIA in consultation with MMB will mark at a suitable place on the runway approach lights, suitable signs indicating the general direction of traffic flow in the channel passing near the runway approach lights. These marks should be visible both during day and night. Also a certificate from your consultant that the entire work of constructing the runway approach lights has been carried out satisfactorily in accordance with the approved plan should be forwarded to MMB.

(h) NMIA will have no right or interest whatsoever in foreshore or other MMB's land / routes that have been used for construction / erecting of the runway approach lights.

(i) Under no circumstances, any debris / construction material generated during the construction / erecting of runway approach lights should not be dumped in the Panvel creek / Gadhi River.

(j) NMIA should indemnify MMB against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever and howsoever arise in respect of or in relation to the work of construction / erecting of the proposed new runway approach lights.

(k) Any other condition(s) intimated from time to time by the undersigned himself or through his representative should be strictly observed.

(l) Post construction / erecting of the runway approach lights, prior permission of MMB shall be always obtained for any maintenance work to be carried out on runway approach lights.

(m) NMIA will be required to pay necessary charges as applicable in accordance with the extant rules to Regional Ports Officer, Mora Group of Ports, Thane, if the vessels involved in the construction work and subsequently any construction activity use MMB's jetty or piers or operate in MMB' jurisdiction.

(n) The policy for "Right of Way" is **under review**. Since the runway approach lights are passing through MMB's jurisdictional area, the "**Right of Way charges**" for crossing MMB's jurisdictional area in accordance with the revised policy will be intimated latter.

(o) A processing fees of 10,000/- +GST @ 18% (Rupees Eleven thousand Eight Hundred only) should be paid to Maharashtra Maritime Board by way of Demand draft drawn in favour of "Hydrographer, Maharashtra Maritime Board, Mumbai"

(p) NMIA should convey your unequivocal acceptance to the above conditions on a stamp paper of **Rs.100/-** within 07 days, from the date of issue of this letter.

(q) In case of breach of any of the above conditions, the undersigned reserves the right to take appropriate action as deemed necessary.

Thanking you,

ive Officer Maharashtra Maritime Board

Copy to:-

- 1. Nautical Advisor, Maharashtra Maritime Board, for information.
- 2. Chief Port Officer, Maharashtra Maritime Board, for information.
- 3. Regional Ports Officer, Mora Group of Ports, Thane, for information and directive to monitor the construction of bridge.
- 4. Port Inspector, Belapur Port, for information.
- 5. Director-Urban Planning, GVK, for information.

Received on 28-12-2018

D. No. 130 O/o. Director-Urban Planning M.I.A.L., CSI Airport, Mumbai - 400 099. [S] : Approval of CWPRS for NMIA Drainage Master Plan (The hydraulic design of drainage channels proposed in CIDCO Report on "Storm Water Management system for five villages abutting to the south boundary of NMIA",)







YEARS OF CELEBRATING THE MAHATMA

जल शक्ति मंत्रालय जल संसाधन, नदी विकास और गंगा संरक्षण विभाग केन्द्रीय जल तथा विद्युत अनुसंधान शाला Government of India Ministry of Jal Shakti Department of Water Resources, River Development & Ganga Rejuvenation Central Water and Power Research Station

संख्या. : आ.प्र.यो.प्र/CIDCO/2019/ 434/318

श्री चारुदत्त देशमुख निदेशक, शहरी नियोजन नवी मुंबई इंटरनेशनल एयरपोर्ट प्राइवेट लिमिटेड छत्रपती शिवाजी अंतर्राष्ट्रीय हवाई अड्डा पहली मंजिल, टर्मिनल 1 बी सांताक्रूज (ई) मुंबई -400 099, R: 18-07-19.

Shri Charudatta Deshmukh Director, Urban Planning Navi Mumbai International Airport Pvt Ltd Chhatrapati Shivaji International Airport 1<sup>st</sup> Floor, Terminal 1B Santacruz (E) Mumbai-400 099

Sub: Technical Report on 'Storm Water Drainage Study for Navi Mumbai International Airport (NMIA), Navi Mumbai'.

Ref: NMIAPL letter no. NMIA/13/2018/27 dated 11/06/2018.

महोदय,

Please find attached the Final Technical Report No. 5724 of July 2019 on 'Storm Water Drainage Study for Navi Mumbai International Airport (NMIA), Navi Mumbai'' in duplicate.

Kindly acknowledge the receipt of report along with the feedback in the format attached herewith.

Thanking you,

सलग्न: Technical Report No. 5724 of July 2019 (2 Copies)

भवदीय.

18.07.201

(रा. सु. जगताप) संयुक्त निदेशक

सिंहगड रोड, खड़कवासला, पुणे 411024 दूरभाष/telephone: (020)24103251 ई-मेल/ Email: swh.cwprs@gmail.com



Sinhgad Road, Khadakwasla, Pune-411024 Fax: (020)24381004 वेब/ Website: www.cwprs.gov.in [T] : Approval from Bureau of Civil Aviation Security (BCAS), Govt. Of India for Construction of Terminal-1 Building on NMIA

# CAS-6/2018/Div-Ops-I/Navi Mumbai (E-135357) भारत सरकार/Government of India (नागर विमानन मंत्रालय)/(Ministry of Civil Aviation) नागर विमानन सुरक्षा ब्यूरो/Bureau of Civil Aviation Security 'अ' खंड, I-II-III तल, जनपथ भवन, जनपथ/'A' Wing – I, II, III Janpath Bhawan, Janpath नई दिल्ली-110001/New Delhi-110 001

Date: -26 July, 2019.

Τo

The Regional Director, BCAS, Mumbai Region, Mumbai

# Sub:- Security Vetting of terminal building plan phase -1 of Navi Mumbai International Airport Pvt. Ltd. (NMIAPL) - reg.

Sir

Kindly refer to e-office noting dated 09/11/2018 Security Vetting of terminal building plan Phase-I of Navi Mumbai International Airport Pvt Ltd. (NMIAPL).

2. In terms of Rule 5(3) of the Aircraft (Security) Rules 2011, the undersigned is directed to convey the 'In-Principle' approval of the Director General, BCAS for security Vetting/ Clearance for design for construction of terminal building plan Phase-I of Navi Mumbai International Airport Pvt. Ltd. (NMIAPL), as has been recommended by the said standing Committee (constituted as per O.M No. CAS-7(16) /2006/Div-I(Airport Infra) dated 29.01.2014), subject to implementation of extant rules and regulations issued by BCAS from time to time and subject to compliance of the observations of the said Standing Committee as well as those suggested by JD Ops, BCAS during site visit and inspection and suggested by JDG, BCAS during presentations (important points of keeping concessionaire's area of coverage within the prescribed limits, provision for sufficient and non-zigzag route/area for passenger movement and separate positioning of lifts in the sterile and non-sterile area) at BCAS HQ by NMIAL. The area of construction should be secured and access to it is regulated and monitored properly so that no act of sabotage is planned and put in place for future use.

3. The said committee will essentially review security arrangements within 45 days after completion of work of Phase-1 construction at Navi Mumbai International Airport Pvt. Ltd (NMIAPL) and submit a report accordingly within the time frame stipulated in the ibid O.M. for further approval for operationalization or otherwise as the case may be deemed fit.

4. The issues with the approval of DG, BCAS.

Yoursfaithfully

ł

(Mukand Mohan) Joint Director (Ops & QC), Phone: 011-23311443, Jdops1.bcas@gov.in

Copy to:

- 1. The MoCA: Shri Satish Chander, Under Secretary, Rajiv Gandhi Bhawan, New Delhi.
- 2. The Chairman, AAI, RG Bhawan, New Delhi.
- 3. The Head Security, NMIAPL.



[U] : NOC from Chief Fire Officer of CIDCO for Proposed Location of Fire Stations-(ARFF) of NMIA



# शहर व औद्योगिक विकास महामंडळ (महाराष्ट्र) मर्यादित

(सीआयएन - यु ९९९९९ एमएच १९७० एसजीसी - ०१४५७४)

#### नोंदणीकृत कार्यालय :

प्रति.

`निर्मल' दुसरा मजला, नरीमन पॉईंट, मुंबई - ४०० ०२१. दूरध्वनी : ००-९१-२२-६६५० ०९०० फॅक्स : ००-९१-२२-२२०२ २५०९

# संदर्भ क्र.सिडको/अग्निशमन/मुख्यालय/२०१९/542

मुख्य कार्यालय ः

`सिडको' भवन, सी.बी.डी. बेलापूर, नवी मुंबई ४०० ६१४. दूरध्वनी : ००-९१-२२-६७९१ ८१०० फॅक्स : ००-९१-२२-६७९१ ८१६६

दिनांक : ३०/०९/२०१९

मा. वरिष्ठ नियोजनकार (बीपी), शहर व औद्योगिक विकास महामंडळ, चौथा मजला रायगड भवन, सिबीडी बेलापुर, नवी मुंबई.

> विषय : नवी मुंबई आंतरष्ट्रीय विमानतळ येथे प्रस्तावित करण्यात आलेल्या अग्निशमन केंद्रांच्या जागा निश्चित करण्याबाबत.

(Location clearance for Fire Stations)

संदर्भ : १) मेसर्स. जी.व्ही.के ह्यांचे निर्देशक (शहरी नियोजन) ह्यांचेकडील क्र. NMIAL/85/2019/227 दि. २३/०९/२०१९.

> २) D.G.C.A (Director General Civil Aviation) ह्यांचेकडील क्र. AV.20024/40/2003-AL दि. २८/०८/२०१८ चे पत्र.

3) Air Port Service Manual (Part I) Chapter-9 (Fire Stations).

महोदया,

नवी मुंबई, उलवे येथील कोंबडभुजे ह्या ठिकाणी "नवी मुंबई आंतराष्ट्रीय विमानतळ" प्रस्तावित करण्यात आले आहे. सदर आंतराष्ट्रीय विमानतळाच्या क्र. A/२४ व A/२५ ह्या भुखंडांवर दोन अग्निशमन केंद्रे सुचविण्यात आली आहेत. प्रस्तावित अग्निशमन केंद्रांच्या Location Clearance बाबत मेसर्स. जी.व्ही.के ह्यांचे निर्देशक (शहरी नियोजन) ह्यांनी त्यांचेकडील क्र. NMIAL/85/2019/227 दि. २३/०९/२०१९ चे अर्जान्वये शहर व औद्योगि विकास महामंडळाच्या अग्निशमन विभागाकडील नाहरकत दाखल्याची मागणी केली असुन सोबत सदरचे पत्र जोडले आहे.



Air Port Fire Service Manual (Part I) Chapter-9, D.G.C.A ह्यांचेकडील क्र. AV.20024/40/2003-AL दि. २८/०८/२०१८ चे पत्र तसेच मेसर्स. जी.व्ही.के ह्यांचे निर्देशक ह्यांनी अर्जासोबत सादर केलेले Location Plan ह्यांचे अवलोकन करता खालील अटी व शर्तींवर नवी मुंबई आंतराष्ट्रीय विमानतळ येथील प्रस्तावित अग्निशमन केंद्रांच्या Location Clearance बाबत अग्निशमन विभागाकडील नाहरकत दाखला देण्यात येत आहे.

# : अटी व शर्ती :

 आपतकालीन परिस्थितीमध्ये प्रस्तावित अग्निशमन केंद्राकडील वाहनांमार्फत खाली नमुद केल्याप्रमाणे प्रतीसाद कालावधीची (Response Time) पूर्तता होणे आवश्यक आहे.

# Response Time:

- a) A response time not exceeding three minutes shall be maintained by the rescue and firefighting services for any point of each operational runway and for any other part of the movement area.
- b) The operational objective of the rescue and fire fighting services shall be to achieve a response time not exceeding two minutes to any point of each operational runway, in optimum visibility and surface conditions.
- c) The operational objective of the rescue and firefighting service should be to achieve a response time not exceeding three minutes to any other part of movement area, in optimum visibility and surface conditions.

<u>Note 1.</u>- Response time is considered to be the time between the initial call to the rescue and firefighting service, and the time when the first responding vehicle(s) is (are) in position to apply foam at a rate of at least 50 per cent of the discharge are specified.

<u>Note 2.</u>- Optimum visibility and surface conditions are defined as daytime, good visibility, no precipitation with normal response route free of surface contamination, e.g. Water, ice or snow.

- २) वर नमुद केल्याप्रमाणे फायर वाहनाच्या प्रतीसाद कालावधीची पुर्तता होत नसल्याचे निर्दशनात आल्यास
  - I. Satellite Fire Station should be provided whenever the response time cannot be achieved from a single fire station.

- II. The Fire Station should be located so that the access for rescue and fire fighting vehicles into the runway area is direct and clear, requiring a minimum number of turns.
- ३) प्रस्तावित केल्याप्रमाणे फायर वाहनाच्या प्रतीसाद कालावधीच्या पुर्ततेची चाचणी शहर व औद्यौगिक विकास महामंडळाच्या अग्निश्मन विभागामार्फत करण्यात येईल.
- ४) अग्निशमन केंद्रांच्या Location Clearance बाबत अद्यावत Air Port Service Manual तसेच D.G.C.A (Director General Civil Aviation) ह्यांचे सर्व अटी व शर्ती अर्जदार यांना बंधनकारक राहतील.

प्रकरणी उपरोक्त अटी व शर्तीच्या पुर्ततेस अधीन राहुन नवी मुंबई आंतराष्ट्रीय विमानतळाच्या फक्त प्रस्तावित अग्निशमन केंद्रांकरीताच (Air Side) सोबत जोडलेल्या नकाशानुसार शहर व औद्योगिक विकास महामंडळाच्या अग्निशमन विभागातर्फे Location Clearance देण्यात येत आहे.

अरविंद प्रभाकर मांडके () e गुख्य अग्निशम्बर

सोबत : नकाशे.

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MUD KILLE AOTH 7.0000038° Palm Beach Ro Project 10 9 8 7 - inte CST to F H Gadhi River LOCATION OF PLOT - A24 A0 Defence GP 300 x 120 50 x PAWEL OREEK G AIRO 한<u>순</u>수수수·합·순·한 12 \*\*\*\*\*\*\* (1)十四十二 -0--JAST -山 F 25 G13 S12 4 GP 300 + 120 50 GP 300 x 120 50 × 1000N 60 m LOCATION OF PLOT - A25 SOUTH ARFF FACILITY DVOR PARGAON TO JNP.T. DAPOLI 1.2.1 LAYOUT MASTER PLAN : LOCATION OF PROPOSED FIRE STATION (ARFF) FACILITY SIGNED IN TOKEN OF APPROVAL SUBJECT TO CONDITIONS MENTIONED IN NOC NO. CIDCO/FIRE/HQ/.54.2./2019 DT. 30. 9. 1. 2.019 Charudatta S. Deshmukh Director-Urban Planning Navi Mumbai International Airport Pvt. Ltd. Chhatrapati Shivaji Maharaj International Airport Terminal-1, Santacruz (E), Mumbai – 400 099. ARVIND PRABHAKAR MANDRE CHIEF FIRE OFFICES 0 CIDCO FIRE SERVICE



[V] : Fire NoC from Fire Dept. CIDCO for Construction of Terminal-1 Building on NMIA



# **CITY AND INDUSTRIAL DEVELOPMENT CORPORATION OF MAHARASHTRA LIMITED**

(CIN - U99999 MH 1970 SGC - 014574)

**REGD. OFFICE:** "NIRMAL", 2nd Floor, Nariman Point, Mumbai - 400 021. PHONE : 00-91-22-6650 0900 FAX : 00-91-22-2202 2509 HEAD OFFICE: CIDCO Bhavan, CBD Belapur, Navi Mumbai - 400 614. PHONE: 00-91-22-6791 8100 FAX : 00-91-22-6791 8166

Date: 20/12/2019

# Ref. No. CIDCO/FIRE/HQ/665/2019

To, Sr. Planner, Building Permission (NM & K) Navi Mumbai

> Sub :- Provisional Fire NOC for the Proposed Passenger Terminal-1 on plot No. PT-1 of Navi Mumbai International Airport (NMIA), Navi Mumbai.

Ref :-1)Application from M/s. NMIAL vide
No.NMIAL/71/2019/171, Dt- 04/07/2019
2) 3 Set of drawings submitted by M/s. NMIAL

#### Dear Sir,

This is a proposal for construction of new, Passenger Terminal Building (Terminal-1) of Navi Mumbai International Airport (NMIA) on plot bearing no PT1 located at Ulwe Navi Mumbai which will be constructed by Navi Mumbai International Airport Pvt. Ltd (NMIAL).

Architect Tushar K. Mawale has submitted the drawings of proposed Airport for the recommendation of Fire Prevention and Protection, measures to be incorporated in the proposed Terminal Building. This department has done the detailed scrutiny of the said architectural and fire fighting drawings. Series of meetings were held with the concerned architect and relevant fire consultants. During discussions it was accepted by the architect/consultant that NFPA standards as per provision of Concessionaire Agreement of NMIA shall be accepted.

During discussions and scrutiny of the proposal with NMIAL, the project architect confirmed that the proposed Passenger Terminal-1 building consists of a part of Basement + Ground level +2 upper level floors + Part mezzanine. The terminal building is proposed with varying heights of Low Roof Level at +22.00m AGL and Head House Roof maximum height at +35.00m. AGL. The Project Architect Tushar K. Mawale, 1101, NMIAI, Lakhani Centrium, CBD Belapur, Navi Mumbai confirmed that the proposed Passenger Terminal Building is designed with all required safety requirements, which are as follows:

#### A. Details of the proposed Passenger Terminal 1:

- 1. The building has a basement area of only 16,015m2, comprising of BHS, supporting MEP Rooms, etc. at depths -5.2m (Max).
- 2. The open spaces around the building are as follows:-
  - South Side: Airside (Apron area) & Airside runways, which is a fully open area.
  - North Side: Open covered by a canopy (Approach Roads) up to 30m.
  - East Side: Airside (Apron area) & Airside runways & part landside which is a fully open area.
  - West Side. Airside (Apron area) & Airside runways, which is a fully open area.

#### 3. Floor Levels:

- Part Basement Level: -5.2 m
- Level 0 :+ 0.00 m AGL
- Level 1M :+ 5.50 m AGL
- Level 1M-HH :+ 6.9m AGL
- Level 2 :+ 11.00 m AGL
- Level 3 :+ 17.00 m AGL
- Low Roof :+ 22m AGL
- High Roof :+ 27.0 m AGL to maximum +35.0 m AGL
- 4. Level wise areas / rooms proposed are as follows:

**Basement Level (-5.2M):** Fire water tank, Sprinkler Valve, BHS Domestic OOG, Sub Dist., Toilets, Electric Cupboards, Pump room below basement slab, Domestic and International OOG Lifts, Staircases, egress corridors, Customs operator, HBS store, Rest room, Mechanical Riser, ICT riser etc. as shown in drawing no NMIAL-STUP-PT1-DS-MD-AR-2001 (BP-2/13).

Arrival Level 0 (0.00M): Loading Dock, Taxi Pick Up Area / Waiting Lounge, Travel Services, Terminal Operations / Duty free Shop / Maintenance / Canteen, Baggage Handling System — Inbound Baggage Area, Domestic Bus Gates, International Bus Gates, Baggage breakup area, Baggage makeup area, Day Hotel, Reserve Lounge, Baggage deposit area, Pre Paid Taxi Booth, Domestic Concession storage, Goods Screening, Electric CBS, Data centre, BRS storage, BHS storage, Primary Control, Immigration area, immigration offices, NMIAL offices, Commissioner offices, Pranam lounge, investigation cell, warehouses, storages, Communication room, computer cell, APHO offices, Waste bays, Customs hand bag check, Observation and Admin room, Toilets, Telecommunication (T.C) Closet, Waiting area, Substation room, Egress corridors and staircases, Security Booth, Goods Lobby, Lockers Room, Conference Room, etc. as shown in drawing no NMIAL-STUP-PT1-DS-MD-AR-2100 (BP-3/13).

**Arrival Mezzanine Level 1 (+5.5M):** Day Hotel, Plant room, Domestic BOH circulation, Domestic Concession Storage, Domestic Transfer, International Transfer, Egress corridors and staircases, Toilets, Electric Cupboard, Admin offices, Locker room, Cleaners admin offices, PRM operation centre, Network operation centre, Locker room, Breakup room pantry, Security operation centre, Security screening offices, International concession storage, Airline offices, AOCC room, Training rooms, Meeting room, Emergency CPS centre, International BOH circulation, International waste room, etc. as shown in drawing no NMIAL-STUP-PT1-DS-MD-AR-2201 (BP-4/13), NMIAL-STUP-PT1-DS-MD-AR-2602(BP-9/13).

**Arrival Mezzanine Level-1 Head House (+6.9M):** Egress corridors and egress staircases as shown in drawing no NMIAL-STUP-PT1-DS-MD-AR-2201 (BP-5/13).

**Departure Level 2 (+11.0M):** Domestic Check in area, International check in area, Toilets, Domestic BOH Circulation, Domestic waste room, Reserve lounge, Medical room, Air traffic room, Landside waste rooms, Domestic Airline offices, International airline offices, Smoking terrace, Egress corridors and staircases, CIDCO office, Telecom, FCU room, Sprinkler valve room, sub dis room, staff toilets, CISF support offices, Domestic Security check area, International security check area, Emigration support offices, International CISF support offices, Prayer room, Duty officers offices, Reserve lounge, CIDCO offices, Management offices, International BOH circulation room, Domestic airside concessions, International airside concessions, Kitchen, International duty free area, Domestic passenger waiting area, International passenger waiting area, Food & Beverages Seating, Telecommunication (T.C) Closet, Public Corridor, Waiting Room, etc. as shown in drawing no NMIAL-STUP-PT1-DS-MD-AR-2100 (BP-3/13).

**Departure Mezzanine Level 3 (+17.0M):** Domestic CIP Lounge: SPA room, Toilets, Sprinkler valve room, Sub division room, Egress corridor and staircases, Domestic BOH circulation, Domestic waste room, HOT kitchen, Mechanical shaft, ICT riser shaft, Domestic premium passenger lounge area, Smoking terrace, International CIP Lounge: SPA room, Toilets, Mechanical shaft, ICT riser shaft, Sub division room, Egress corridor and staircases, International BOH circulation, International waste room, HOT kitchen, International premium passenger lounge area, Smoking terrace as shown in drawing no NMIAL-STUP-PT1-DS-MD-AR-2401(BP-7/13).

The Passenger terminal building has been provided with the staircases with egress corridors up to ground level from upper levels of building, having flight width of at least 2.00 m & provided with pressurization system.

# FLOOR-WISE DESCRIPTION AND PROPOSED FIRE PROTECTION SYSTEMS ARE AS FOLLOWS:

# **BASEMENT HEAD HOUSE:**

#### Zone: Basement Head house

Areas: Egress corridors and staircases, Baggage belts, Toilets, Makeup air tunnel, Customs operator, HBS store, HBS, O&M.

#### **Proposed Fire Protection System:**

The Premises proposed with 4 numbers of Egress Stairs having 2mts wide flight width Stair case.

- **Sprinklers:** Standard Sprinklers for single height will be provided with spacing of 3m X 4m except in critical electrical or communications rooms.
- Gas Suppression: Main electrical panel and Server rooms shall be protected by clean agent system (NOVEC 1230).
- Extinguishers: ABC, COC Extinguishers will be provided at appropriate locations, based on area coverage and appropriate travel distance in back of house areas & ABC, CO2 Extinguishers will be provided at an appropriate travel distance in public areas inside the Internal hose cabinets.
- Safety Signage's: Will be provided at appropriate locations.
- Heat detector: Where applicable will be provided in canteen kitchen at a spacing of 5 m.
- **Multi sensor detector:** Will be provided in Mechanical, Electrical & Telecommunication Rooms and Lift shafts.
- **Smoke Detector:** Will be provided in all rest of areas, except janitor closet at a spacing of 9.1m.
- Manual Call Point: Will be provided at appropriate locations, based on travel distance of 45m.

- **Visual Strobe:** Will be provided in all areas at appropriate location, depending upon intensity levels as per NFPA.
- **Evacuation Speaker:** Fire Emergency evacuation speaker cum strobe in back of house area or service area (except MEP rooms).
- Fire protection: Smoke control system is provided at 12ACH. Egress routes are pressurised.
- Standpipes/ Wet riser system and Cabinets: Wet riser/standpipe within every egress or fire brigade access stair, provided with 65mm connection on every landing. Class III hose reel cabinets provided such that coverage of 45m is maintained. Cabinets to include standpipe connection, hose reel/rack and space for fire extinguisher.

#### LO-ARRIVAL HEAD HOUSE:

#### **Zone: Head house Airside Domestic**

Areas: Domestic loading docks, Screening areas, Electric substation, Loading dock security offices, Storage, BHS area, Egress corridors and staircases, Lifts, Toilet, TIR, FCU, Radio, O&M locker, BHS storage, BHS workshop, BRS office, Primary Control, Sever data control, Electric substation, Waiting areas, Domestic Baggage Reclaim Hall, Reserve lounge, telecom room, Concession areas, Domestic bus gates.

#### **Proposed Fire Protection System:**

The Premises proposed with 7 numbers of Exit to outside having 2mts wide flight width Stair case.

- **Sprinklers:** Standard Sprinklers for single height will be provided with spacing of 3m X 4m except in critical electrical or communications rooms.
- **Gas Suppression:** Main electrical panel and Server rooms shall be protected by clean agent system (NOVEC 1230).
- Extinguishers: ABC, CO2 Extinguishers will be provided at appropriate locations, based on area coverage and appropriate travel distance in back of house areas & ABC, CO2 Extinguishers will be provided at an appropriate travel distance in public areas inside the Internal hose cabinets.
- Safety Signage's: Will be provided at appropriate locations.
- **Heat detector:** Where applicable will be provided in canteen kitchen at a spacing of 5 m.
- Multi sensor detector: Will be provided in Incoming Service Parcel (LV Electrical Closet).
- Smoke Detector: Will be provided in all rest of areas, except janitor closet at a spacing of 9.1m.
- Manual Call Point: Will be provided at appropriate locations, based on travel distance of 45m.
- Visual Strobe: Will be provided in all areas at appropriate location, depending upon intensity levels as per NFPA.



- **Evacuation Speaker:** Fire Emergency evacuation speaker cum strobe in back of house area or service area (except MEP rooms).
- Fire protection: Smoke control system is provided at baggage reclaim and duty free. Egress routes are pressurised.
- Standpipes/ Wet riser system and Cabinets: Wet riser/standpipe within every egress or fire brigade access stair, provided with 65mm connection on every landing. Class III hose reel cabinets provided such that coverage of 45m is maintained. Cabinets to include standpipe connection, hose reel/rack and space for fire extinguisher.

# Zone: Head house Airside International

Areas: Customs offices, Egress corridors and staircases. Lifts, Good screening area, Electrical substation, Duty free storage, Duty free shop, Waste bay, Toilets, FCU, Radio, Immigration Hall, Immigration offices, Bag screening check, Electrical substation, International Bus Gate area, International Baggage reclaim Hall.

# Proposed Fire Protection System:

The Premises proposed with 8 numbers of Exit to outside having 2mts wide flight width Stair case.

- **Sprinklers:** Standard Sprinklers for single height will be provided with spacing of 3m X 4m except in critical electrical or communications rooms.
- Gas Suppression: Main electrical panel and Server rooms shall be protected by clean agent system (NOVEC 1230).
- Extinguishers: ABC, CO2 Extinguishers will be provided at appropriate locations, based on area coverage and appropriate travel distance in back of house areas & ABC, CO2 Extinguishers will be provided at an appropriate travel distance in public areas inside the Internal hose cabinets.
- Safety Signage's: Will be provided at appropriate locations.
- Heat detector: Where applicable will be provided in canteen kitchen at a spacing of 5 m.
- Multi sensor detector: Will be provided in Incoming Service Parcel (LV Electrical Closet).
- Smoke Detector: Will be provided in all rest of areas, except janitor closet at a spacing of 9.1m.
- Manual Call Point: Will be provided at appropriate locations, based on travel distance of 45m.
- Visual Strobe: Will be provided in all areas at appropriate location, depending upon intensity levels as per NFPA.
- Evacuation Speaker: Fire Emergency evacuation speaker cum strobe in back of house area or service area (except MEP rooms).
- Fire protection: Smoke control system is provided. Egress routes are pressurised.
- Standpipes/ Wet riser system and Cabinets: Wet riser/standpipe within every egress or fire brigade access stair, provided with 65mm connection on

every landing. Class III hose reel cabinets provided such that coverage of 45m is maintained. Cabinets to include standpipe connection, hose reel/rack and space for fire extinguisher.

#### Zone: Head house Landside

Areas: Arrival Hall Circulation area.

#### **Proposed Fire Protection System:**

The Premises proposed with 2 numbers of Exit to outside.

- **Sprinklers**: Standard Sprinklers for single height will be provided with spacing of 3m X 4m except in critical electrical or communications rooms.
- **Gas Suppression:** Main electrical panel and Server rooms shall be protected by clean agent system (NOVEC 1230).
- Extinguishers: ABC, CO2 Extinguishers will be provided at appropriate locations, based on area coverage and appropriate travel distance in back of house areas & ABC, CO2 Extinguishers will be provided at an appropriate travel distance in public areas inside the Internal hose cabinets.
- Safety Signage's: Will be provided at appropriate locations.
- Heat detector: Where applicable will be provided in canteen kitchen at a spacing of 5 m.
- Multi sensor detector: Will be provided in Incoming Service Parcel (LV Electrical Closet).
- **Smoke Detector:** Will be provided in all rest of areas, except janitor closet at a spacing of 9.1m.
- Manual Call Point: Will be provided at appropriate locations, based on travel distance of 45m.
- **Visual Strobe:** Will be provided in all areas at appropriate location, depending upon intensity levels as per NFPA.
- **Evacuation Speaker:** Fire Emergency evacuation speaker cum strobe in back of house area or service area (except MEP rooms).
- Fire protection: No smoke control or pressurisation of egress routes at LO.

#### LO- ARRIVAL WEST PIER:

#### **Zone: Domestic Pier**

Areas: Ramp offices, Mechanical room, Sub dist., Telecom, FCU, Egress corridors and staircases, Toilets, Staff canteen, Trolley agent offices.

#### **Proposed Fire Protection System:**

The Premises proposed with 6 numbers of Exit to outside having 2mts wide flight width Stair case.

- **Sprinklers:** Standard Sprinklers for single height will be provided with spacing of 3m X 4m except in critical electrical or communications rooms.
- **Gas Suppression:** Main electrical panel and Server rooms shall be protected by clean agent system (NOVEC 1230).

- Extinguishers: ABC, CO2 Extinguishers will be provided at appropriate locations, based on area coverage and appropriate travel distance in back of house areas & ABC, CO2 Extinguishers will be provided at an appropriate travel distance in public areas inside the Internal hose cabinets.
- Safety Signage's: Will be provided at appropriate locations.
- Heat detector: Where applicable will be provided in canteen kitchen at a spacing of 5 m.
- **Multi sensor detector:** Will be provided in Incoming Service Parcel (LV Electrical Closet).
- Smoke Detector: Will be provided in all rest of areas, except janitor closet at a spacing of 9.1m.
- Manual Call Point: Will be provided at appropriate locations, based on travel distance of 45m.
- Visual Strobe: Will be provided in all areas at appropriate location, depending upon intensity levels as per NFPA.
- **Evacuation Speaker:** Fire Emergency evacuation speaker cum strobe in back of house area or service area (except MEP rooms).
- Fire protection: No smoke control or pressurisation of egress routes at LOO.
- Standpipes/ Wet riser system and Cabinets: Wet riser/standpipe within every egress or fire brigade access stair, provided with 65mm connection on every landing. Class III hose reel cabinets provided such that coverage of 45m is maintained. Cabinets to include standpipe connection, hose reel/rack and space for fire extinguisher.

#### LO- ARRIVAL EAST PIER:

#### **Zone: International Pier:**

Areas: Security and screening room, Unassigned spaces, Car lift, Egress corridors and staircases, Mechanical room, Ramp offices, Electric CBS/UPS, Staff toilet, FCU, Telecom room, Electric substation, PAVA, Building maintenance

#### **Proposed Fire Protection System:**

Premises proposed with 3 no of Egress Stairs having 2mts wide flight width.

- **Sprinklers:** Standard Sprinklers for single height will be provided with spacing of 3m X 4m except in critical electrical or communications rooms.
- **Gas Suppression:** Main electrical panel and Server rooms shall be protected by clean agent system (NOVEC 1230).
- Extinguishers: ABC, CO2 Extinguishers will be provided at appropriate locations, based on area coverage and appropriate travel distance in back of house areas & ABC, CO2 Extinguishers will be provided at an appropriate travel distance in public areas inside the Internal hose cabinets.
- Safety Signage's: Will be provided at appropriate locations.
- Heat detector: Where applicable will be provided in canteen kitchen at a spacing of 5 m.

- Multi sensor detector: Will be provided in Incoming Service Parcel (LV Electrical Closet).
- Smoke Detector: Will be provided in all rest of areas, except janitor closet at a spacing of 9.1m
- **Manual Call Point:** Will be provided at appropriate locations, based on travel distance of 45m.
- Visual Strobe: Will be provided in all areas at appropriate location, depending upon intensity levels as per NFPA.
- **Evacuation Speaker:** Fire Emergency evacuation speaker cum strobe in back of house area or service area (except MEP rooms).
- Fire protection: No smoke control or pressurisation of egress routes at LOO.
- Standpipes/ Wet riser system and Cabinets: Wet riser/standpipe within every egress or fire brigade access stair, provided with 65mm connection on every landing. Class III hose reel cabinets provided such that coverage of 45m is maintained. Cabinets to include standpipe connection, hose reel/rack and space for fire extinguisher.

#### L1-ARRIVAL MEZZANINE HEAD HOUSE:

#### Zone: Head house Airside Domestic

Areas: Mechanical room, storage, Egress corridors and staircases, FCU, Telecom, Domestic Transfer Area, C.C storage, C.C. pantry, C.C Locker area, Cleaners admin, Cleaners break room, Cleaners admin room, Toilets, Waste bays, C.C airport ops centre, Goods corridors ..

#### **Proposed Fire Protection System:**

The premises proposed with 7 egress staircases having 2.2 mts wide width.

- **Sprinklers:** Standard Sprinklers for single height will be provided with spacing of 3m X 4m except in critical electrical or communications rooms.
- **Gas Suppression:** Main electrical panel and Server rooms shall be protected by clean agent system (NOVEC 1230).
- Extinguishers: ABC, CO2 Extinguishers will be provided at appropriate locations, based on area coverage and appropriate travel distance in back of house areas & ABC, CO2 Extinguishers will be provided at an appropriate travel distance in public areas inside the Internal hose cabinets.
- Safety Signage's: Will be provided at appropriate locations.
- Heat detector: Where applicable will be provided in canteen kitchen at a spacing of 5 m.
- Multi sensor detector: Will be provided in Incoming Service Parcel (LV Electrical Closet).
- Smoke Detector: Will be provided in all rest of areas, except janitor closet at a spacing of 9.1m.
- **Manual Call Point:** Will be provided at appropriate locations, based on travel distance of 45m.



- **Visual Strobe:** Will be provided in all areas at appropriate location, depending upon intensity levels as per NFPA.
- **Evacuation Speaker:** Fire Emergency evacuation speaker cum strobe in back of house area or service area (except MEP rooms).
- Fire protection: Smoke control system is provided only to certain areas of LO1 to prevent smoke spillage through open voids. Egress routes are pressurised.
- Standpipes/ Wet riser system and Cabinets: Wet riser/standpipe within every egress or fire brigade access stair, provided with 65mm connection on every landing. Class III hose reel cabinets provided such that coverage of 45m is maintained. Cabinets to include standpipe connection, hose reel/rack and space for fire extinguisher.

#### Zone: Head house Airside International

Areas: Mechanical room, storage, Egress corridors and staircases, International Transfer Area, Toilets, Waste bays, Goods corridors, Customs inspection, Baggage inspection, Pava, Telecom room, C.C library room, C.C locker, C.C storage.

#### **Proposed Fire Protection System:**

The premises proposed with 7 numbers of egress staircases having 2.2 mts wide flight width.

- **Sprinklers:** Standard Sprinklers for single height will be provided with spacing of 3m X 4m except in critical electrical or communications rooms.
- **Gas Suppression:** Main electrical panel and Server rooms shall be protected by clean agent system (NOVEC 1230).
- Extinguishers: ABC, CO2 Extinguishers will be provided at appropriate locations, based on area coverage and appropriate travel distance in back of house areas & ABC, CO2 Extinguishers will be provided at an appropriate travel distance in public areas inside the Internal hose cabinets.
- Safety Signage's: Will be provided at appropriate locations.
- Heat detector: Where applicable will be provided in canteen kitchen at a spacing of 5 m.
- Multi sensor detector: Will be provided in Incoming Service Parcel (LV Electrical Closet).
- **Smoke Detector:** Will be provided in all rest of areas, except janitor closet at a spacing of 9.1m.
- **Manual Call Point**: Will be provided at appropriate locations, based on travel distance of 45m.
- **Visual Strobe**: Will be provided in all areas at appropriate location, depending upon intensity levels as per NFPA.
- **Evacuation Speaker:** Fire Emergency evacuation speaker cum strobe in back of house area or service area (except MEP rooms).
- Fire protection: Smoke control system is provided only where required to limit smoke spillage through open voids. Egress routes are pressurised.

• Standpipes/ Wet riser system and Cabinets: Wet riser/standpipe within every egress or fire brigade access stair, provided with 65mm connection on every landing. Class III hose reel cabinets provided such that coverage of 45m is maintained. Cabinets to include standpipe connection, hose reel/rack and space for fire extinguisher.

#### Zone: Head house Landside

Areas: Airline offices, Mechanical room, Egress corridors and staircases, Telecom room, Sub distribution room.

#### **Proposed Fire Protection System:**

The premises proposed with 2 numbers of egress staircases having 2.2 mts wide flight width.

- **Sprinklers**: Standard Sprinklers for single height will be provided with spacing of 3m X 4m except in critical electrical or communications rooms.
- **Gas Suppression**: Main electrical panel and Server rooms shall be protected by clean agent system (NOVEC 1230).
- Extinguishers: ABC, CO2 Extinguishers will be provided at appropriate locations, based on area coverage and appropriate travel distance in back of house areas & ABC, CO2 Extinguishers will be provided at an appropriate travel distance in public areas inside the Internal hose cabinets.
- Safety Signage's: Will be provided at appropriate locations.
- Heat detector: Where applicable will be provided in canteen kitchen at a spacing of 5 m.
- Multi sensor detector: Will be provided in Incoming Service Parcel (LV Electrical Closet).
- Smoke Detector: Will be provided in all rest of areas, except janitor closet at a spacing of 9.1m.
- Manual Call Point: Will be provided at appropriate locations, based on travel distance of 45m.
- Visual Strobe: Will be provided in all areas at appropriate location, depending upon intensity levels as per NFPA.
- **Evacuation Speaker**: Fire Emergency evacuation speaker cum strobe in back of house area or service area (except MEP rooms).
- Fire protection: Smoke control system is provided. Egress routes are pressurised.
- Standpipes/ Wet riser system and Cabinets: Wet riser/standpipe within every egress or fire brigade access stair, provided with 65mm connection on every landing. Class III hose reel cabinets provided such that coverage of 45m is maintained. Cabinets to include standpipe connection, hose reel/rack and space for fire extinguisher.

#### L1- ARRIVAL MEZZANINE PIER:

#### **Zone: Domestic Pier**

Areas: Sub distribution room, Egress corridors and staircases, Toilets, Security OPS centre.

#### **Proposed Fire Protection System:**

The premises proposed with 6 numbers of egress staircases having 2mts wide flight width.

- **Sprinklers:** Standard Sprinklers for single height will be provided with spacing of 3m X 4m except in critical electrical or communications rooms.
- **Gas Suppression**: Main electrical panel and Server rooms shall be protected by clean agent system (NOVEC 1230).
- Extinguishers: ABC, CO2 Extinguishers will be provided at appropriate locations, based on area coverage and appropriate travel distance in back of house areas & ABC, CO2 Extinguishers will be provided at an appropriate travel distance in public areas inside the Internal hose cabinets.
- Safety Signage's: Will be provided at appropriate locations.
- Heat detector: Where applicable will be provided in canteen kitchen at a spacing of 5 m.
- Multi sensor detector: Will be provided in Incoming Service Parcel (LV Electrical Closet).
- **Smoke Detector:** Will be provided in all rest of areas, except janitor closet at a spacing of 9.1m.
- Manual Call Point: Will be provided at appropriate locations, based on travel distance of 45m.
- **Visual Strobe:** Will be provided in all areas at appropriate location, depending upon intensity levels as per NFPA.
- **Evacuation Speaker:** Fire Emergency evacuation speaker cum strobe in back of house area or service area (except MEP rooms).
- **Fire protection:** Smoke control system is provided only to contain smoke and prevent spillage through open voids. Egress routes are pressurised.
- Standpipes/ Wet riser system and Cabinets: Wet riser/standpipe within every egress or fire brigade access stair, provided with 65mm connection on every landing. Class III hose reel cabinets provided such that coverage of 45m is maintained. Cabinets to include standpipe connection, hose reel/rack and space for fire extinguisher.

#### **Zone: International Pier**

Areas: C.C storage, Lift car, Toilets, Sub distribution room, Egress corridors and staircases etc.

#### **Proposed Fire Protection System:**

The premises proposed with 3 numbers of egress staircases having 2mts wide flight width.

- **Sprinklers:** Standard Sprinklers for single height will be provided with spacing of 3m X 4m except in critical electrical or communications rooms.
- **Gas Suppression:** Main electrical panel and Server rooms shall be protected by clean agent system (NOVEC 1230).
- Extinguishers: ABC, CO2 Extinguishers will be provided at appropriate locations, based on area coverage and appropriate travel distance in back of house areas & ABC, CO2 Extinguishers will be provided at an appropriate travel distance in public areas inside the Internal hose cabinets.
- Safety Signage's: Will be provided at appropriate locations.
- Heat detector: Where applicable will be provided in canteen kitchen at a spacing of 5 m.
- Multi sensor detector: Will be provided in Incoming Service Parcel (LV Electrical Closet).
- Smoke Detector: Will be provided in all rest of areas, except janitor closet at a spacing of 9.1m.
- Manual Call Point: Will be provided at appropriate locations, based on travel distance of 45m.
- Visual Strobe: Will be provided in all areas at appropriate location, depending upon intensity levels as per NFPA.
- **Evacuation Speaker:** Fire Emergency evacuation speaker cum strobe in back of house area or service area (except MEP rooms).
- Fire protection: Smoke control system is provided. Egress routes are pressurised.
- Standpipes/ Wet riser system and Cabinets: Wet riser/standpipe within every egress or fire brigade access stair, provided with 65mm connection on every landing. Class III hose reel cabinets provided such that coverage of 45m is maintained. Cabinets to include standpipe connection, hose reel/rack and space for fire extinguisher.

#### L2-DEPARTURE HEAD HOUSE:

#### **Zone: Head house Airside Domestic**

Areas: Mechanical room, Domestic Kitchen, Domestic airside F&B, CIDCO office, Storage, Domestic Post security check in area, Domestic airside concessions, Storage, Egress corridors and staircases, Toilets, Waiting area.

#### **Proposed Fire Protection System:**

The premises proposed with 8 numbers of egress staircases having 2.20 mts wide flight width.

- **Sprinklers:** Standard Sprinklers for single height will be provided with spacing of 3m X 4m except in critical electrical or communications rooms.
- **Gas Suppression**: Main electrical panel and Server rooms shall be protected by clean agent system (NOVEC 1230).

- Extinguishers: ABC, CO2 Extinguishers will be provided at appropriate locations, based on area coverage and appropriate travel distance in back of house areas & ABC, CO2 Extinguishers will be provided at an appropriate travel distance in public areas inside the Internal hose cabinets.
- Safety Signage's: Will be provided at appropriate locations.
- Heat detector: Where applicable will be provided in canteen kitchen at a spacing of 5 m.
- Multi sensor detector: Will be provided in Incoming Service Parcel (LV Electrical Closet).
- Smoke Detector: Will be provided in all rest of areas, except janitor closet at a spacing of 9.1m.
- Manual Call Point: Will be provided at appropriate locations, based on travel distance of 45m.
- Visual Strobe: Will be provided in all areas at appropriate location, depending upon intensity levels as per NFPA.
- **Evacuation Speaker**: Fire Emergency evacuation speaker cum strobe in back of house area or service area (except MEP rooms).
- Fire protection: Smoke control system is provided. Egress routes are pressurised.
- Standpipes/ Wet riser system and Cabinets: Wet riser/standpipe within every egress or fire brigade access stair, provided with 65mm connection on every landing. Class III hose reel cabinets provided such that coverage of 45m is maintained. Cabinets to include standpipe connection, hose reel/rack and space for fire extinguisher.

#### Zone: Head house Airside International

Areas: Emigration offices, Storage, Management offices, Reserve lounge, Egress corridors and staircases, Toilets, International Post security check in area, Waiting area, International airside concessions, Mechanical room, International duty free shops, International airside F&B, Waste bay, F&B seating.

#### **Proposed Fire Protection System:**

The premises proposed with 6 numbers of egress staircases having 2.20 mts wide flight width

- **Sprinklers:** Standard Sprinklers for single height will be provided with spacing of 3m X 4m except in critical electrical or communications rooms.
- **Gas Suppression:** Main electrical panel and Server rooms shall be protected by clean agent system (NOVEC 1230).
- Extinguishers: ABC, CO2 Extinguishers will be provided at appropriate locations, based on area coverage and appropriate travel distance in back of house areas & ABC, CO2 Extinguishers will be provided at an appropriate travel distance in public areas inside the Internal hose cabinets.
- Safety Signage's: Will be provided at appropriate locations.

- Heat detector: Where applicable will be provided in canteen kitchen at a spacing of 5 m.
- Multi sensor detector: Will be provided in Incoming Service Parcel (LV Electrical Closet).
- Smoke Detector: Will be provided in all rest of areas, except janitor closet at a spacing of 9.1m.
- Manual Call Point: Will be provided at appropriate locations, based on travel distance of 45m.
- Visual Strobe: Will be provided in all areas at appropriate location, depending upon intensity levels as per NFPA.
- **Evacuation Speaker:** Fire Emergency evacuation speaker cum strobe in back of house area or service area (except MEP rooms).
- Fire protection: Smoke control system is provided. Egress routes are pressurised.
- Standpipes/ Wet riser system and Cabinets: Wet riser/standpipe within every egress or fire brigade access stair, provided with 65mm connection on every landing. Class III hose reel cabinets provided such that coverage of 45m is maintained. Cabinets to include standpipe connection, hose reel/rack and space for fire extinguisher.

#### Zone: Head house Landside

Areas: Check in area, Check in hall queuing area, Pre security check in, Toilets, Egress corridors and staircases, Emigration offices, Toilets, Domestic reserve lounge, International Reserve lounge, Airline offices, Prayer room.

#### **Proposed Fire Protection System:**

The premises proposed with 3 numbers of egress staircase having 2.2 mts wide flight width & 4 nos. exits.

- **Sprinklers:** Standard Sprinklers for single height will be provided with spacing of 3m X 4m except in critical electrical or communications rooms.
- **Gas Suppression:** Main electrical panel and Server rooms shall be protected by clean agent system (NOVEC 1230).
- Extinguishers: ABC, CO2 Extinguishers will be provided at appropriate locations, based on area coverage and appropriate travel distance in back of house areas & ABC, CO2 Extinguishers will be provided at an appropriate travel distance in public areas inside the Internal hose cabinets.
- Safety Signage's: Will be provided at appropriate locations.
- **Heat detector:** Where applicable will be provided in canteen kitchen at a spacing of 5 m.
- **Multi sensor detector:** Will be provided in Incoming Service Parcel (LV Electrical Closet).
- Smoke Detector: Will be provided in all rest of areas, except janitor closet at a spacing of 9.1m.

- Manual Call Point: Will be provided at appropriate locations, based on travel distance of 45m.
- **Visual Strobe**: Will be provided in all areas at appropriate location, depending upon intensity levels as per NFPA.
- Evacuation Speaker: Fire Emergency evacuation speaker cum strobe in back of house area or service area (except MEP rooms).
- Fire protection: Smoke control system is provided. Egress routes are pressurised.
- Standpipes/ Wet riser system and Cabinets: Wet riser/standpipe within every egress or fire brigade access stair, provided with 65mm connection on every landing. Class III hose reel cabinets provided such that coverage of 45m is maintained. Cabinets to include standpipe connection, hose reel/rack and space for fire extinguisher.

# L2- DEPARTURE PIER:

## Zone: Domestic Departure Pier

Areas: Egress corridor and staircases, boarding gate waiting area, Toilets, Children's play area, Domestic pier concession, Prayer room, unassigned spaces.

## **Proposed Fire Protection System:**

The premises proposed with 6 numbers of egress staircases having 2 mts wide flight width.

- **Sprinklers**: Standard Sprinklers for single height will be provided with spacing of 3m X 4m except in critical electrical or communications rooms.
- Gas Suppression: Main electrical panel and Server rooms shall be protected by clean agent system (NOVEC 1230).
- Extinguishers: ABC, CO2 Extinguishers will be provided at appropriate locations, based on area coverage and appropriate travel distance in back of house areas & ABC, CO2 Extinguishers will be provided at an appropriate travel distance in public areas inside the Internal hose cabinets.
- Safety Signage's: Will be provided at appropriate locations.
- Heat detector: Where applicable will be provided in canteen kitchen at a spacing of 5 m.
- Multi sensor detector: Will be provided in Incoming Service Parcel (LV Electrical Closet).
- Smoke Detector: Will be provided in all rest of areas, except janitor closet at a spacing of 9.1m.
- Manual Call Point: Will be provided at appropriate locations, based on travel distance of 45m.
- Visual Strobe: Will be provided in all areas at appropriate location, depending upon intensity levels as per NFPA.
- Evacuation Speaker: Fire Emergency evacuation speaker cum strobe in back of house area or service area (except MEP rooms).

- Fire protection: Smoke control system is provided. Egress routes are pressurised.
- Standpipes/ Wet riser system and Cabinets: Wet riser/standpipe within every egress or fire brigade access stair, provided with 65mm connection on every landing. Class III hose reel cabinets provided such that coverage of 45m is maintained. Cabinets to include standpipe connection, hose reel/rack and space for fire extinguisher.

#### **Zone: International Departure Pier**

Areas: Retail duty free area, Car lift, Egress corridor and staircases, International prayer room, Retail F&B, Children's play area, Unassigned spaces.

#### **Proposed Fire Protection System:**

The premises proposed with 3 numbers of egress staircases having 2mts wide flight width.

- **Sprinklers**: Standard Sprinklers for single height will be provided with spacing of 3m X 4m except in critical electrical or communications rooms.
- **Gas Suppression:** Main electrical panel and Server rooms shall be protected by clean agent system (NOVEC 1230).
- Extinguishers: ABC, CO2 Extinguishers will be provided at appropriate locations, based on area coverage and appropriate travel distance in back of house areas & ABC, CO2 Extinguishers will be provided at an appropriate travel distance in public areas inside the Internal hose cabinets.
- Safety Signage's: Will be provided at appropriate locations.
- Heat detector: Where applicable will be provided in canteen kitchen at a spacing of 5 m.
- Multi sensor detector: Will be provided in Incoming Service Parcel (LV Electrical Closet).
- Smoke Detector: Will be provided in all rest of areas, except janitor closet at a spacing of 9.1m.
- Manual Call Point: Will be provided at appropriate locations, based on travel distance of 45m.
- Visual Strobe: Will be provided in all areas at appropriate location, depending upon intensity levels as per NFPA.
- **Evacuation Speaker:** Fire Emergency evacuation speaker cum strobe in back of house area or service area (except MEP rooms).
- Fire protection: Smoke control system is provided. Egress routes are pressurised.
- Standpipes/ Wet riser system and Cabinets: Wet riser/standpipe within every egress or fire brigade access stair, provided with 65mm connection on every landing. Class III hose reel cabinets provided such that coverage of 45m is maintained. Cabinets to include standpipe connection, hose reel/rack and space for fire extinguisher.



#### L3-CIP LOUNGE:

#### Zone: Head house Airside Domestic (CIP Lounge)

Areas: Waste bays, Cinema, SPA, Business centre, Mechanical room, Sub dis, Egress corridors and staircases.

#### **Proposed Fire Protection System:**

The premises proposed with 2 numbers of egress staircases having 2.20 mts wide flight width.

- **Sprinklers**: Standard Sprinklers for single height will be provided with spacing of 3m X 4m except in UPS room & extended coverage.
- **Gas Suppression:** Main electrical panel and Server rooms shall be protected by clean agent system (NOVEC 1230).
- Extinguishers: ABC, CO2 Extinguishers will be provided at appropriate locations, based on area coverage and appropriate travel distance in back of house areas & ABC, CO2 Extinguishers will be provided at an appropriate travel distance in public areas inside the Internal hose cabinets.
- Safety Signage's: Will be provided at appropriate locations.
- Heat detector: Where applicable will be provided in canteen kitchen at a spacing of 5 m.
- Multi sensor detector: Will be provided in Incoming Service Parcel (LV Electrical Closet).
- Smoke Detector: Will be provided in all rest of areas, except janitor closet at a spacing of 9.1m.
- Manual Call Point: Will be provided at appropriate locations, based on travel distance of 45m.
- **Visual Strobe**: Will be provided in all areas at appropriate location, depending upon intensity levels as per NFPA.
- **Evacuation Speaker**: Fire Emergency evacuation speaker cum strobe in back of house area or service area (except MEP rooms).
- Fire protection: Smoke control system is provided. Egress routes are pressurised.
- Standpipes/ Wet riser system and Cabinets: Wet riser/standpipe within every egress or fire brigade access stair, provided with 65mm connection on every landing. Class III hose reel cabinets provided such that coverage of 45m is maintained. Cabinets to include standpipe connection, hose reel/rack and space for fire extinguisher.

## Zone: Head house Airside International (CIP Lounge)

Areas: Waste bays, Cinema, SPA, Business centre, Mechanical room, Sub dis, Egress corridors and staircases, International Kitchen. **Proposed Fire Protection System:**  The premises proposed with 2 numbers of egress staircases having 2.2 mts wide flight width.

- **Sprinklers:** Standard Sprinklers for single height will be provided with spacing of 3m X 4m except in critical electrical or communications rooms.
- **Gas Suppression:** Main electrical panel and Server rooms shall be protected by clean agent system (NOVEC 1230).
- Extinguishers: ABC, CO2 Extinguishers will be provided at appropriate locations, based on area coverage and appropriate travel distance in back of house areas & ABC, CO2 Extinguishers will be provided at an appropriate travel distance in public areas inside the Internal hose cabinets.
- Safety Signage's: Will be provided at appropriate locations.
- Heat detector: Where applicable will be provided in canteen kitchen at a spacing of 5 m.
- Multi sensor detector: Will be provided in Incoming Service Parcel (LV Electrical Closet).
- Smoke Detector: Will be provided in all rest of areas, except janitor closet at a spacing of 9.1m.
- Manual Call Point: Will be provided at appropriate locations, based on travel distance of 45m.
- Visual Strobe: Will be provided in all areas at appropriate location, depending upon intensity levels as per NFPA.
- **Evacuation Speaker:** Fire Emergency evacuation speaker cum strobe in back of house area or service area (except MEP rooms).
- Fire protection: Smoke control system is provided. Egress routes are pressurised.
- Standpipes/ Wet riser system and Cabinets: Wet riser/standpipe within every egress or fire brigade access stair, provided with 65mm connection on every landing. Class III hose reel cabinets provided such that coverage of 45m is maintained. Cabinets to include standpipe connection, hose reel/rack and space for fire extinguisher

In view of the above details, as far as this department is concerned, there would be no objection for construction of new, Passenger Terminal Building (Terminal-1) of Navi Mumbai International Airport (NMIA), at Ulwe Navi Mumbai Airport Site to be constructed by Navi Mumbai Internal Airport Pvt. Ltd (NMIAL), having three main levels with low roof & high roof as per the details shown on the enclosed plan, signed in token of approval subject to satisfactory compliance of the following requirement.

#### 1. ACCESS OR APPROACH ROADS:

- 1. New Elevated Terminal Access Roads of 7.8m width at 11.00 m AGL for Departure.
- 2. Existing at-grade access roads of 7.5m width for Service Areas at level-0 shall be kept un-obstructed in case of emergency.



### 2. COURTYARDS:

- a) The Airside of the Terminal building consists of runways & taxiways for movement of aircrafts, shall be kept un-obstructed in case of emergency.
- b) The available courtyards on all the sides of the building shall be paved suitably to bear the load of fire engine weighing up to 48 M. Tones.
- c) All the courtyards shall be in one plane.
- d) All the courtyards shall be kept free from obstructions at all the times.

## 3. CAR PARKING:

Multi-Level Car Park is used in front of the Terminal to serve the parking requirement of Terminal building for which separate fire safety requirements shall be obtained with separate NOC.

## 4. STAIRCASES:

- a) Staircases shall be enclosed and made of non-combustible materials. Staircases shall be provided as means of egress.
- b) Staircases shall be unobstructed to provide the free flow movement of occupant.
- c) The travel distances to most of the staircases shall be 45m.
- d) The below mentioned areas shall have the travel distance to staircase is as per NFPA as follows:
  - i. Level 2: Ticketing Area-62 meter travel distance.
  - ii. Level 2: Immigration Area-72 meter travel distance.
  - iii. Level 2: Gate Area-75 meter travel distance.
  - iv. Level 0: Baggage claim Area-75 meter travel distance.
  - v. Level 0: Baggage Handling Areas-104 meter travel distance.
- e) The flight width of the staircase shall be 2m.
- f) Minimum Head room clearance of 2.2m shall be provided.
- g) The handrails shall be provided at a height of min. 1m.
- h) For safe evacuation of occupants, the staircase enclosures shall be provided with 2 hrs fire
  - Resistance rating.
- Staircase enclosures shall be pressurized for safe evacuation of occupants.
   & the staircases shall be mechanically pressurized with positive air pressure.

# Note: Planning Department is requested to verify the proposed travel distance of each staircase is complying the requirements of existing Rules and Regulations

## 5. FIRE ESCAPE CORRIDORS & LIFT LOBIEES:

- a) Protected Escape Corridors shall be provided for the safe evacuation of occupants. &These Escape corridors shall be unobstructed to provide the free movement of occupants. & Escape corridors shall be pressurized for safe evacuation of occupants.
- b) Escape corridors shall be provided with 2 hrs. fire resistance rating. & Escape corridors shall be provided with Automatic sprinklers. & the lift lobby shall be pressurised at each floor level.

- c) The Fire Escape corridor shall be suitably ventilated.
- d) The lift lobbies & fire escape corridors shall be kept free from any obstruction at all times.

#### 6. <u>LIFTS:</u>

- a) Terminal-1 building shall be equipped with fire lifts for fire department operations, capable of carrying 8 persons. In non-emergency conditions, these lifts shall be used by the general occupants.
- b) The landing doors of lift enclosures shall be fire rated for a minimum of 1 hour & the lift shaft shall be 2 hrs. Fire rated.
- c) Lifts shall have the ability to reach the top most level within one minute. Passengers lift shall have a speed of 1 m/s.
- d) Freight lifts shall have speeds of 0.5 m/s to 1 m/s.
- e) Freight lifts of 2500Kg shall have the speed of 1m/s.
- f) Each fire lift shall have equipment capable of communicating to the control room at the ground floor.
- g) Fire lifts shall have a minimum area of 1.4 m2 and a loading capacity of 1275 kg. Furthermore they shall have a separate circuit for electric supply and shall be provided with a ceiling hatch for emergency escape.
- h) Walls enclosing lift shaft shall have a fire resistance of not less than two hours.
- i) Landing doors and lift car doors of the lifts shall be of steel shuttered with fire resistance of one hour. No collapsible shutter shall be permitted.

#### 7. ELECTRICAL CABLE SHAFTS & ELECTRICAL PANEL ROOMS:

- a) Electric cable shafts shall be exclusively used for electric cables and should not open in the staircase enclosure.
- b) Electric cable shafts shall be sealed at each floor level crossing with Fire Sealants.
- c) No storage of any kind shall be done in electric shaft.
- d) UL / FM Approved Direct Discharge Automatic Fire Detection & suppression system for main electric panel shall be installed in main electric panels & Server rooms.

#### 8. ESCAPE ROUTE LIGHTING:

- a) Lighting shall be provided for emergency exit corridors and Staircases, with emergency generator back-up supply in case of power failures.
- b) To ensure that each element of the means to egress is effectively utilized, all signage shall be properly lighted & marked.
- c) Exit signs of adequate size, marking, location, and lighting shall be provided so that all those unfamiliar with the location of the exits may safely find their way.
- d) Emergency power shall be available for these in the form of inbuilt battery or D.G Backup, in case of power failure.
- e) Photo Luminescent Fire Safety Signage shall be considered in places, such as in the locations of lifts areas, Fire Extinguishers, Fire Doors, Sprinkler Control Valves, Fire Alarm Panels, and Fire Hydrants and Hose Reels, etc inside the building. The descriptive photo luminescent safety signage shall be in different sizes / graphics/ colours / texts.

#### 9. EGRESS DOORS:

All Egress doors shall have fire resistance of not less than two hours.

#### 10. BASEMENT:

- a) The basement slab forming part of the courtyards shall be reinforced suitably to bear the load of fire engines with a superimposed uniform load of 1.5T/SQM.
- b) Entry from the basement areas through the staircases shall be gained through half an hour self-closing fire resistance doors.
- c) The basements shall be provided with mechanical ventilation/smoke extraction system facilitating 6 air changes per hours in normal course and capable of converting into 12 air changes in case of fire. However, these basements shall also be provided with natural ventilation through ventilation trenches/cut-outs/ shafts, etc.
- d) The Basement shall be provided with sprinkler system as per NFPA standards.

# 11. STRUCTURAL GLAZING: (GLASS CLADDINGS)

- a) Structural Glazing in terminal building shall be insulated and double glazed with the following configuration and performance characteristics.
- b) Insulated Glass unit:

Front Facade

- Outer Pane laminated (6mm thick HS glass +1.52 PVB + 6mm thick HS glass)
- Airspace 15mm w/ mill finish spacer
- Inner Pane laminated (6mm thick HS glass +1.52 PVB + 6mm thick HS glass) All other Facade
- Outer Pane 10mm thick Heat Strengthened glass
- Airspace 15mm w/ mill finish spacer
- Inner Pane 6mm thick Heat Strengthened glass
- c) The distance between the building line and glass cladding shall not be more than 1.0 mtrs.
- d) If glass cladding is provided away from the building line the vertical gaps between building wall and façade shah be sealed with fire rated sandwich panel.
- e) The glazing used for the façade shall conform to National building code requirements of safety glass.
- f) Automatic wall drenches should be provided at the inner face of the façade at the interval of even floors at ceiling level.

# 12. AIR CONDITIONING SYSTEM:

- a) Escape route such as staircase, corridors, passages and lift lobbies etc., shall not be used as return air passage. In case it is used same should be completely isolated with 2 hour rating partition/ceiling/wall.
- b) The AC ducting will be constructed of the required gauge and pressure requirement guideline as per Sheet Metal and Air Conditioning Contractors' National Association.

- c) Ducts passing through 2 Hr Rated fire wall or floors, the opening around the ducts shall be sealed with fire resistance material.
- d) AHUs supply air shall function during fire mode to provide makeup air during smoke exhaust.
- e) The Insulating material if provided to AC ducting from inside or outside shall be of non-combustible material such as Fibre Glass or equivalent.
- f) The material used for false ceiling and its runners and suspenders shall be of noncombustible material type.
- g) Fire damper shall be provided when the duct is crossing from one level to another level vertically based on the fire compartment as per NFPA.
- h) AHU supply duct won't have any fire dampers, as it will serve as a makeup up for smoke exhaust.
- i) As far as possible, all the materials used shall be fire retardant or fire resistant

#### 13. SMOKE EXTRACTION SYSTEM:

- a) Smoke removal system including smoke related exhaust fans with motors exclusive for each zone, risers, motorized dampers, controls and logic wiring for sequence of operation, as required for each zone to meet the required exhaust rates shall be provided.
- b) The system shall be tested and balanced to provide required airflow and to limit the maximum negative pressure at exit doors as per NFPA.
- c) Basement exhaust shall be provided with 12 ACH per hour with few exceptions.
- d) Floors above basement shall be designed as per engineering approach following NFPA guideline and calculations for safe means of egress, as defined by maintaining A minimum smoke layer.

#### 14. ELECTRICAL SUBSTATIONS:

- a) Entire installation of substation including switch gear room, capacitors, transformer etc. shall be confirmed to the Indian Electrical Act/standards.
- b) Cables in the cable trenches/trays shall be FRLS type.
- c) Transformer shall be suitably insulated and shall be designed for continuous operation at rated KVA.
- d) The design, treatment & construction of the transformer and breaking of the windings shall be such as to withstand the heavy mechanical and thermal stresses.
- e) All accessories/parts of the switch gear & transformer shall be inspected frequently & carefully for signs of overheating, etc.
- f) Substation walls shall be designed for two hour fire rating.
- g) Entrance, exit & passage of the substation shall be kept free from any type of obstruction at all times.
- h) Adequate heating, ventilation of switchgear room is essential to prevent condensation of moisture.
- Foam type portable extinguishers of 9 Litre capacity & ABC type extinguishers of capacity 2Kg having ISI certification mark shall be provided at accessible location inside the substations.



- j) UL / FM Approved Direct Discharge Automatic Fire Detection & suppression system shall be installed in main electric panels.
- k) Automatic built-in circuit breakers shall be provided in the receiving station / transformer. & Entre installation of sub-station including switchgear room, capacitors.

#### 15. FIRE FIGHTING REQUIREMENTS.

- A. Underground Water Storage Tanks:
  - Fire tank of approx. capacity of 9,00,000 litres for Terminal Building shall be provided in CUP Building.
  - This Fire tank shall have the capacity as per NFPA. The water shall be provided to this tank either from the Municipal water supply or fire brigade inlet connection, depending upon thesituation.
  - The fire tank shall be divided into two compartments. The over flow of fire tanks shall feed the domestic water storage tank for daily consumption of the Terminal Building.
  - Water storage capacity shall be calculated based on the requirement of continuous running of main pump.
  - Fire Water Supply tank shall be provided with Fire Brigade Draw off & Fire Brigade inlet connections.
  - Fire tank shall have Manholes to facilitate maintenance.
  - All the Firefighting requirements shall be designed as per NFPA standards.

#### B. WET RISER:

Common Wet riser for Sprinkler & Hydrant of internal diameter of 15cms. of G.I. 'C' class pipe shall be provided in duct adjoining all staircases with a single hydrant outlet and hose reel on each floor in such a way as not to reduce the width of the staircase. Orifices shall be provided at lower level so as not to exceed the pressure of 5.5 kgs /sq.cm for internal hydrants. A fire service inlet on the static tank directly fronting courtyards shall be provided to connect the mobile pump of the fire service. A fire service inlet on the Yard Hydrant Pipelines shall be provided to connect the mobile pump of the fire service. The wet riser shall be provided in such a location that the distance between two risers shall be less than 45 mtrs. Wet riser shall be provided in / near each staircase. A fire service inlet on the static tank directly fronting courtyards shall be provided to connect the mobile pump of the fire service inlet on the static tank directly fronting courtyards shall be provided to connect the mobile pump of the fire service. The wet riser shall be less than 45 mtrs. Wet riser shall be provided in / near each staircase. A fire service inlet on the static tank directly fronting courtyards shall be provided to connect the mobile pump of the fire service to the wet riser. The wet riser shall be extended upto the basement. The wet riser shall be pressurized and automatic in operation.

#### C. AUTOMATIC SPRINKLERS SYSTEM

a) Automatic sprinkler system shall be provided in the entire building excluding False Ceiling Voids, Departure Lounge, electrical rooms, TC (Telecommunication) rooms, BMS rooms, Toilets, Smoke lounges, equipment rooms. Separate sprinkler system shall be laid down all over the entire terminal building with separate riser having separate sprinkler pump & jockey pump.

- e) At Level-O, internal hydrant outlets & hose reels shall be placed in the open Baggage Handling Areas and in all other areas; it shall not be required, as this area will be covered by the external hydrant outlets.
- J. <u>PORTABLE FIRE EXTINGUISHERS:</u>
  - a) Wall mounted fire extinguishers shall be provided inside the Terminal Building & also provided near each fire exit door inside the hose cabinet (Recessed opening).
  - b) Carbon dioxide Fire extinguishers shall be provided in all electrical rooms. All public areas, Elevator machine rooms, baggage storage areas, mechanical, airline and support storage areas and loading docks shall be provided with both Carbon Dioxide and ABC type Fire Extinguishers.
  - c) ABC type fire extinguishers shall be provided throughout the terminal building, including retail, food and beverage areas.
  - d) Extinguishers are provided at appropriate travel distance for all back of house area, whereas in enclosed rooms, it shall be provided as per area of coverage of particular type of Extinguisher.
  - e) AFFF Extinguishers shall be provided in Generator room.
  - f) The capacity of extinguishers used shall be 2 & 4.5 Kg. Carbon dioxide Fire extinguishers, 2 & 5 Kg. ABC Dry chemical fire extinguishers and 9 Ltrs. AFFF Extinguishers.
  - g) In public areas, 1 no. of 5 Kg. ABC & 4.5 Kg. CO2 extinguishers shall be placed inside the Hose cabinet (recessed opening), which shall be located near each fire escape staircases.

#### 16. FIRE ALARM SYSTEM:

a) The fire alarm system shall be Intelligent addressable, microprocessor based, electronically supervised, IP based, modified Two stage type, provided with main control panel (to monitor and control DGP), local alarm panel (data gathering panel with LCD window), to connect the loop devices like smoke, heat, multi sensor and duct detectors, addressable manual call points, strobe, evacuation speaker (wall/ceiling) mounted, telephone jack and air sampling system, at relevant locations.

#### 17. AUTOMATIC SMOKE DETECTION SYSTEM:

a) An analogue addressable automatic smoke detection system shall also be provided for

the entire terminal building including above false ceilings, as per NFPA specifications.

- b) Double height areas Including public areas, having height more than 6mts all such areas shall be provided with very early warning smoke detection system, which shall be of air sampling type, such system shall be able to detect smoke originating from ground level to ceiling level which generally has lighting cables, etc at an early stage.
- c) Heat detector: shall be provide in Elevator machine room.



d) Multi sensor detector: shall be provided in LV electrical.

#### 18. VOICE EVACUATION SYSTEM:

- a) The voice evacuation system shall be hooked to Fire Alarm system so as to facilitate the coordination activities in case of fire emergencies. The actuation of fire alarm system in the fire alarm control panel shall automatically activate the Voice Evacuation system. A pre-recorded message shall be broadcast. The system shall also be capable of relaying any messages as deemed fit by the fire / security or other emergency staff for alerting and directing the occupants in case of emergency. Separate Fire Evacuation Speakers are also provided in the exit corridors of terminal building. The evacuation message shall be interfaced with the PA (Public addressing) system in the departure lounge, for transmitting pre-recorded evacuation messages.
- b) All the major components shall be UL Listed / FM approved except manual call points and Response indicators.
- c) Manually operated Fire Alarm system (Manual Call Points) shall be provided at all exits & all areas, including public spaces.
- d) Strobes shall be provided at each fire exit or egress locations, throughout the building and in all individual rooms, in back of house areas.
- e) Interface to other fire safety functions shall mainly consist of,
  - Activation of integrated voice communications system.
  - Controlling of air conditioning and ventilation systems.
  - Releasing of Access controlled locks in fire exit doors.
  - Controlling of smoke ventilation systems
  - Controlling of elevators
  - Interface with fire protection system
  - Interface with CCTV (Closed Circuit Television)
- **19.** <u>ELECTRICAL PANELS / ROOMS:</u> UL / FM Approved Direct Discharge Automatic Fire Detection & suppression system for electric panel shall be installed in all electric panels & computer servers etc.

#### 20. FIRE OFFICER:

- a) A qualified Fire Officer, with minimum technical qualification of either
  - Science Graduate with advanced Diploma in Fire Engineering (Divisional Officer's Course) from National Fire Service College, Nagpur Or
  - Science Graduate with MI (U.K.) Or
  - Science Graduate with B.E. (Fire) And
  - Having at least 10 years working experience in a SPA Fire Service or Municipal Fire Service or Fire Officer in Category 9 airport shall be

- b) Sprinkler connections from the sprinkler risers shall be provided through out each level and system shall be hydraulically calculated, such that each connection shall independently supply the area not more than 4831sqm (52,000 sft) for ordinary hazard in a particular zone. The sprinkler zones shall be designed such that it is within the building zones.
  - Standard Sprinklers shall be provided for areas having height not more than 7 m with max. Spacing of 3m X 4m & area of coverage 12sqm.Minimum pressure of 7PSI (0.5 bars) shall be ensured at the remotest point of Standard Sprinklers.
  - Extended coverage sprinklers shall be used for double height areas, having height more than 7 m with maximum spacing of 6.1m X 6.1m & area of coverage 36m2. Minimum pressure of 18.42 PSI (1.27 bars) shall be ensured at the remotest point of Extended Sprinklers.
  - The pipe sizing of the sprinkler system shall be based on the number of sprinklers, as schedule method.
  - The sprinkler system shall not be required for the above false ceiling area (ceiling Voids), which is constructed of Non Combustible materials. Sprinklers shall also not required to be provided in substations, TC rooms and MCR, where it would be inappropriate.

#### D. MAIN FIRE PUMP, STANDBY FIRE PUMP AND JOCKEY PUMP

- a) Separate pump of suitable capacity along with jockey pump shall be provided to riser system shall be kept pressurised with provision of adequate capacity jockey pump. Wet riser shall be connected to a fire pump at ground level of capacity of not less than 2400 liters/min. capable of giving pressure of not less than 3.5 kgs/sq.cms. at the top most hydrant / extreme end point along with a required capacity jockey pump.
- b) Separate pump of suitable capacity along with jockey pump shall be provided for automatic sprinkler & Hydrant system.
- c) Electric supply (normal) to these pumps shall be on independent circuit.
- E. <u>STANDBY PUMPS</u>
  - a) Separate Standby pumps shall be Diesel Engine Driven of suitable capacity shall be provided and it shall be used as an alternate to common Main Pump & sprinkler pump.

#### F. EXTERNAL HYDRANTS.

External hydrants shall be provided within the confines of the site at a gap of 45 mtrs. all around the building. Hydrants shall be extended up to basement.

#### G. ALTERNATE SOURCE OF POWER SUPPLY.

An alternate source of LV/HV supply from a separate substation as well as through a diesel generator with appropriate changeover over switch shall be provided for lifts, fire pumps, sprinkler pump, jockey pump, staircase and corridor lighting circuits and pressurization system, manual fire alarm system, smoke detection system, BMS system and all other emergency services. It shall be housed in separate cabin.



- a) All pumps shall get the supply from secondary power source (DG set), in case of power failure. The Pressure requirement for the pumps shall be hydraulically calculated by using necessary application software.
- b) The flow & pressure requirement for the pumps shall be calculated based on two alternatives, as follows;
- c) Minimum pressure & flows required at the remotest Yard hydrant & remotest internal hydrant.
- d) Minimum pressure & flows required at the remotest sprinklers and Hose Stream allowance.

The critical case of these two alternatives shall be considered for the design of the pumps.

 One separate pipe network from Pump House shall be provided for External Hydrant System and One separate pipe network for Combined Internal Hydrant and riser system as well as separate pipe line for Sprinkler System shall be provided.

# H. EXTERNAL YARD HYDRANT SYSTEM:

- a) Yard hydrants shall be provided around the whole periphery of the Terminal Building.
- b) Stand posts shall be installed on the external ring main at regular intervals of 45m.
- c) Hose boxes, containing 2 nos. of hose & branch pipe with nozzle shall be located near each stand post & shall be barricaded with bollards.
- d) The mains shall be constantly charged with water to the pressure of sd3.5 kgs/sq.cms at the outlet.

#### I. INTERNAL HYDRANT SYSTEM:

- a) Internal hydrant system shall be provided with 25mm hose reel connections of 36m length to supply water for use by trained personnel and 63mm hose connection with 2 nos. of 15m length hose, to supply a larger volume of water for use by fire departments and those trained in handling heavy fire stream. Hose reel, landing valves, 2 nos (15m long) Hoses, 2 nos. Extinguishers, branch pipe with nozzle & Fire Man's Axe shall be placed inside the Recessed wall opening with glass door and this shall be located near the door of egress stair, inside the building.
- b) System shall be hydraulically designed to provide water flow at minimum residual pressure of 3.5 kgs/sq.cms at outlet of most remote hydrant valve and 3.5 kgs/sq.cms bar at most remote hose reel.
- c) Hose connection and hose stations shall be unobstructed and shall be located not less than 0.9 mtrs or more than 1.5 mtrs, from finished floor level.
- d) The 4 way fire brigade inlet for pumping water into external hydrant & internal ring for combined system shall be provided on air side of the building. The fire brigade inlet shall be located and arranged so that hose lines shall be readily and conveniently fixed to the inlets without external interference.

appointed on full time basis for looking after the fire prevention, evacuation, escapes, repairs, drills, maintenance and upkeep of fire protection and fire fighting equipment, as also to train the security staff and selected persons using the premises.

b) The qualified officer as mentioned above shall be appointed as early as possible and shall be made in consultation with CIDCO Fire Department. All other staff of each cadre, of the Fire Station along with the equipments needed shall be as per ICAO (International Civil Aviation Organization) norms.

#### 21. FIRE DRILLS /EVACUATIONS DRILLS

Fire drills & Evacuation drills shall be conducted with the co-ordination with Airport fire service, once in a month for awareness of safety systems of terminal buildings, for staff members / Airlines staff. First aid fire fighting trainings shall be conducted for staff members of various air lines & other staff of airport with co—ordination with Airport fire service.

#### 22. AUTOMATIC FIRE DETECTION & SUPPRESSION SYSTEM

Direct discharge automatic fire detection & suppression system for electric panel shall be installed in main electric panel & computer servers etc. (UL/FM Approved)

#### 23. BREATHING APPARATUS SETS

Self-contained Compressed Air Breathing Apparatus sets of 45 minutes duration of required nos. shall be kept in the Fire Station.

#### 24. INTEGRATED SYSTEM

The entire firefighting system shall be of "Integrated type" combining all the systems required to be activated in case of an emergency.

#### **25. AIRPORT FIRE STATIONS**

**Location clearance:** - This department has given the location clearance for the proposed Air Side Fire Stations vide letter No. CIDCO/Fire/HQ/2019/542, Dt-30/09/2019.

Airport fire station shall be up dated as per ICAO (International Civil Aviation Organization) norms, & staff as well as fire appliances & Equipment shall be up dated & maintained accordingly, as well as firefighting installations shall be maintained and up-dated in consultation with head of the Airport Fire Station in future.

#### **26. ALTERNATE SOURCE OF POWER SUPPLY:-**

An alternate source of power supply of L.V/H.V supply with appropriate change over switch must be provided for fire pump, booster, fire lift, Emergency lighting & manual fire alarm system. It shall be provided in the separate cabin.



#### **27. HOUSEKEEPING**

To eliminate the hazards a good housekeeping inside the building and outside the building shall be strictly maintained by the occupants and/ or the owner of the building.

#### 28. FIRE SERVICE FEESANDSECURITY DEPSOIT

As per the Section 15 of the Maharashtra Fire Prevention Life Safety Measure Act 2006, no Fees shall be levied on any building vested in or under the control or possession of the central or state government or any authority. Being all the propose building are of Government, so as per provision of the Section 15 of that no fire service fees is levied for proposed Passenger Terminal.

#### **29. SECURITY DEPSOIT**

As per Rule 23 of Appendix III of GDCR Applicant / Owner shall deposit & keep deposited as Amount of Rs 20,000/- as a Security Deposit at the time of applicants to the Fire Officer of CIDCO for approval under these regulations. Being this is In-house proposal. Above mention Security Deposit is not collected. Decision of the corporation shall be binding on the NMIAL.

#### 30. Other Requirement :-

While doing the scrutiny of the architectural plans and fire fighting drawings following additional points also discussed with the concern architects and relevant consultant.

- 1. Storage of Liquor.
- 2. Glass facade
- 3. Cooking of the food (Storage of Fuel)
- 4. Storage of Fuel in the vehicle which will be kept in the Terminal building for display.
- 5. Compartmentation
- 6. Staircase
- 7. Location of Sprinklers
- 8. Aircraft Fire Fighting Training for CIDCO Fire department staff.

In the interest of the safety of the terminal building passenger following suggestion are given with reference to the above mentioned each point and these suggestion are accepted by the architect and consultants.

1. <u>Storage of Liquor</u> :- quantity of liquor shall not be stored more than the permissible limit as per the standard code of practice and storage license for the same shall be obtained from the authority.

2. <u>Glass Facade</u> :- Wherever the glass fascade is proposed in any portion of the practice NFPA standards as per provision of Concessionaire Agreement of NMIA shall be accepted.

3. <u>Compartmentation</u> :- Wherever the compartmentation is needed in any portion of the terminal building shall comply the requirement as per NFPA standards as per provision of Concessionaire Agreement of NMIA shall be accepted.

4. <u>Location of Sprinklers</u> :- Design of the sprinkler system which is proposed in a Terminal building shall be as per IS 15105 and entire fire fighting drawings of the passenger terminal building shall be approved from the Chief Fire Officer, CIDCO

5. <u>Canteen/Kitchen</u> :- Separate permission shall be taken from the CIDCO Fire Department for Canteen /Kitchen.

6. <u>Storage of Fuel in the vehicle which will be kept in the Terminal building for display</u>:-Fuel should not be stored in the vehicle (Car) which will be kept in the terminal building for display.

7. <u>Aircraft Fire Fighting Training for CIDCO fire department staff</u> :- Aircraft Fire Fighting and rescue operation are very specialize and technical operations. These needs special equipment's gears along with its training. Proposed NMIA which comes within the jurisdiction of CIDCO Fire Service it is always better to have specialize training for the Aircraft Fire Fighting Training and Rescue to the CIDCO Fire Service Staff, Considering these aspects the issue of training to the CIDCO fire staff was discussed in the meeting and it was expected that GVK will trained the CIDCO Fire Staff either within the country or outside.

#### **31. GENERAL**

- 1. The undersigned reserves the right to amend any additional recommendations deemed fit due to the statutory provisions amended from time & in the interest of the protection of the premises.
- 2. It is the responsibility of the Owner to ensure the stage wise inspection of the project by Chief Fire Officer or his representative. So that if any lapses is

Director Urban Planting Cotol Argont Mirmon found in the implementation of passive as well as active fire protection measure it can be rectified at an early stage. Owner shall intimate the Chief Fire Officer for Yearly inspection of the project during the construction stage.

3. NOC is issued in fire & life safety point of view only, the legality of plot & construction shall be confirmed with concerned department only.

The Proposed Fire Protection and Fire fighting systems for Terminal-1 of NMIA shall be in compliance with NFPA standards as per provision of Concessionaire Agreement of NMIA. It is the responsibility of NMIAL and Architect to obtain relevant height clearance NOC from the Aviation Authorities before commencement of work. This proposal will become null and void if NOC from Airports Authority of India is not submitted.

The undersigned reserves the right to amend any additional recommendations deemed fit during the stage wise inspection due to the statutory provisions amended from time to time and in the interest of the protection of the company.

Thanking you.

Yours faithfully, landke) Chief Fire Off icer, CIDCO.

e.c. M/s. NMIAL

Received on 30.12.2019 D.No.59

O/o. Director-Urban Planning

IV[W] : Approval from FRRO Mumbai, Bureau of Immigration (Bol), for Provision of space for Immigration Department in Terminal-1 of NMIA No. <u>9955</u> /FRRO/MUM/AP/2019-Office of the FRRO, Mumbai, Bureau of Immigration, CSMI Airport, Mumbai – 99

Dated: 30 Dec, 2019

To,

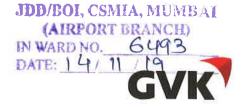
Sh. Charudatta Deshmukh, Director- Urban Planning. GVK, NMIAL CSMI Airport, Mumbai

# Sub: Provisioning of space for Immigration department in Terminal of proposed Navi Mumbai International Airport.

Please refer to your letter no. NMIAL/47/2019/269 dated 14/11/2019 seeking approval of final plan showing layout and space for Immigration department at Terminal-1 of proposed Navi Mumbai International Airport (NMIAL).

2. As requested, the drawings duly signed by the undersigned is enclosed herewith for appropriate necessary action.

Encl: As above



NMIAL/47/2019/269

14<sup>th</sup> November, 2019

Smt.Supriya Patil Yadav Foreigner Regional Registration Office (FRRO), Mumbai Bureau of Immigration (Bol) T-2, Sahar Mumbai- 400099

Sub : Provision of space for Immigration Department in Terminal-1 of proposed Navi Mumbai International Airport (NMIA).

Ref : Meetings held on 22<sup>nd</sup> October, 2019 and 31<sup>st</sup> October,2019 between Navi Mumbai International Airport Private Limited (NMIAL) team and Officials of Immigration Department

Madam,

This has reference to the meeting with yourself and your advice to NMIAL to schedule meetings with Officials of Immigration Department for finalization of plans of Immigration offices and spaces in Terminal-1 of Navi Mumbai International Airport (NMIA).

In this regard, meetings were held on 22<sup>nd</sup> and 31<sup>st</sup> October, 2019 between NMIAL team and officials of Immigration Department, and all the inputs and suggestions provided by officials of Immigration Department have been incorporated by NMIAL team and final plans are enclosed with this letter for your reference and a formal sign off.

NMIAL requests you to kindly provide a formal sign off in the form of stamp and signature on the enclosed drawings, and kindly send the same to NMIAL with a covering letter.

NMIAL team is thankful to you and officials of Immigration Department for your advice, cooperation and prompt action in finalization of plans of Immigration Department in Terminal-1 of NMIA.

Thanking you,

Yours faithfully, For Navi Mumbai International Airport Private Limited

(Charudatta Deshmukh) Director - Urban Planning Authorized Signatory

Enclosures :

- 1. Minutes of Meeting (MoM) of 22<sup>nd</sup> and 31<sup>st</sup> October, 2019.
- 2. Table of Immigration space with areas in sqmtrs.
- 3. Final Plans of Immigration Offices (arrival and departure levels) 4 drawings.

For Kinid permone pls -4 drawings. 15/11/18 Assistant Director Book Airport Branch, CSMI Airport

JDD/BDI

FRRD

ENERGY ENERGY RESOURCES AIRPORTS TRANSPORTATION HOSPITALITY LIFE SCIENCES

Navi Mumbai International Airport Pvt Ltd Chhatrapati Shivaji International Airport 1st Floor, Terminal 1B, Santacruz (E), Mumbai 400 099, India

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|    | entrance to the Departure Immigration<br>(similar to the arrangement at Domestic<br>Security), to segregate domestic and<br>international passenger at the entry<br>point itself, and avoid confusion among<br>passenger. NMIAL will review and<br>revert.                                                    | been added at the entry of Immigration;<br>the same was acceptable to BOI.                                                                                                                                                                                        |       |        |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|
| 2. | BOI asked NMIAL to ensure segregation<br>of Domestic Passengers (Air India), and<br>Staff flow through the Immigration<br>Counters. NMIAL confirmed that same<br>had been accounted and provisioned.                                                                                                          | NMIAL confirmed that separate<br>dedicated flaps are given for Staff/ Crew<br>and Domestic Passengers.                                                                                                                                                            | NMIAL | CLOSED |
| 3. | BOI stated that 26 counters are on the<br>higher side; nevertheless, might require<br>during disrupted operational scenarios.                                                                                                                                                                                 |                                                                                                                                                                                                                                                                   | INFO. | CLOSED |
| 4. | NMIAL informed that the international<br>passenger would flow seamlessly post-<br>check-in, through Immigration, customs<br>declaration, and security checkpoint, till<br>they reach retail entry, where they are<br>reoriented for further processes.                                                        |                                                                                                                                                                                                                                                                   | INFO. | CLOSED |
| 5. | BOI commented that the duty manager,<br>AFFRO and either FRRO or AD/ BOI<br>Office should have a view of the<br>departure Immigration Counters and<br>Queuing areas.                                                                                                                                          | NMIAL revised the layout to meet the requirement.                                                                                                                                                                                                                 | NMIAL | CLOSED |
| 6. | BOI commented not to separate the<br>Flight Sortation Desk from the support<br>offices; instead, to provide a window as<br>part of the Duty Managers' Office.                                                                                                                                                 | Flight Sortation desk is provided within<br>the Duty Managers' Office, along with a<br>window for collection of forms; the<br>same was acceptable to BOI.                                                                                                         | NMIAL | CLOSED |
| 7. | BOI asked NMIAL to retitle<br>"Interrogation room" as "Questioning<br>cell"; and locate it adjacent to AD/ BOI                                                                                                                                                                                                | NMIAL has retitled the same as<br>"Questioning Cell and shifted it adjacent<br>to the AD/ BOI Office; the same was<br>acceptable to BOI.                                                                                                                          | NMIAL | CLOSED |
| 8. | BOI expressed concern regarding the<br>distance between Server room and<br>departure immigration counters and thus<br>asked NMIAL to swap server<br>room/computer cell with break rooms.<br>NMIAL clarified that the distance<br>between the server room and the<br>forthest immigration counter is less than | NMIAL swapped the server room &<br>Computer Cell rooms with break rooms<br>in the revised layouts; the same was<br>acceptable to BOI.<br>NMIAL reconfirmed that the distance<br>between the server room and the farthest<br>immigration counter is less than 90M. | NMIAL | CLOSED |
| С  | farthest immigration counter is less than<br>90M, and shall comply with all IT<br>requirements; further will make<br>necessary changes in layouts as<br>required.<br>Arrivals (L0)                                                                                                                            |                                                                                                                                                                                                                                                                   |       |        |
| L  | ATTIVAIS (LU)                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                   |       |        |



### **MINUTES OF MEETING**

| Date of Meeting and Time : | 22 <sup>nd</sup> Oct 2019 & 31 <sup>st</sup> Oct 2019 |  |
|----------------------------|-------------------------------------------------------|--|
| Subject of Meeting :       | NMIAL T1 – Immigration Spaces                         |  |
| Place :                    | BOI office, T2 , CSMIA                                |  |
| Recorded By:               | Divya P Nagaraju (NMIAL)                              |  |

| ATTENDEES                 |                                           |  |
|---------------------------|-------------------------------------------|--|
| BOI - T2, CSMIA           | NMAIL                                     |  |
| H K Pathak – JDD          | Chintan P Shukla – VP, Planning & Design  |  |
| Nandita Biswas, AD        | Divya P Nagaraju – AGM, Planning & Design |  |
| Tapa Bhattacharya – AFFRO |                                           |  |
| P. Sundramoorthy, IT      |                                           |  |
| Sanjay Matte, IT          |                                           |  |

|    | 22 <sup>ND</sup> OCTOBER 2019                                                                                                                                                                                                                                                                                                                       | 31 <sup>ST</sup> OCTOBER 2019                                                                                                                                           | ACTION | REMARKS |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------|
| Α  | General                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                         |        |         |
| 1. | BOI noted that there is a reduction in<br>Total BOI Office Space Area of <b>618</b><br><b>SQM</b> to <b>586 SQM</b> , from earlier<br>communication. NMIAL clarified that<br>during the Concept Design stage, a<br>block area was reserved for BOI<br>support Offices, and the same has<br>been drawn in details and only carpet<br>area are shown. | NMIAL informed that the shortfall has<br>been rectified and revised layouts<br>demonstrate a total area of BOI as<br><b>620SQM</b> ; the same was acceptable to<br>BOI. | NMIAL  | CLOSED  |
| 2. | BOI stated that a Training Cell is<br>required within T1 to train the staff at<br>the airport.                                                                                                                                                                                                                                                      | Training Cell is added in the revised<br>arrivals layout; the same was acceptable<br>to BOI.                                                                            | NMIAL  | CLOSED  |
| 3. | BOI informed that the Immigration<br>Counter shall be similar to T2 CSMIA,<br>and will have flaps.                                                                                                                                                                                                                                                  | NMIAL confirmed that the Counters<br>would be similar to CSMIA, with flaps.                                                                                             | NMIAL  | CLOSED  |
| 4. | BOI preferred to have a fireproof<br>separation between the battery and<br>server racks; i.e. to separate the<br>electrical UPS room from server/hub<br>rooms. NMIAL agreed to review and<br>update the same.                                                                                                                                       | Server rooms and Electrical UPS rooms<br>are segregated, and both have separate<br>entry points in the revised layouts; the<br>same was acceptable to BOI.              | NMIAL  | CLOSED  |
| B  | Departures (L2)                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                         |        |         |
| 1. | BOI preferred to have an E-gates at the                                                                                                                                                                                                                                                                                                             | NMIAL informed that the E-gates have                                                                                                                                    | NMIAL  | CLOSED  |



| 1. | NMIAL informed that there are total 42<br>Arrivals Immigration counters, and as<br>agreed with FRRO, will install only first<br>row (20 Nos.) of counters. Service<br>provisions will be made for the future<br>counters as well. BOI agreed on the<br>same.                                  | NMIAL presented the revised layout<br>indicating the same and was acceptable<br>to BOI.                                                                                                                                                                                                                                      | NMIAL | CLOSED               |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------|
| 2. | BOI asked NMIAL to retitle "Profiling<br>Interrogation" as "Questioning cell";<br>and provide only one room and the<br>convert the second room to dining<br>space. Further shall ensure that the<br>Male/ female Deportation and<br>Questioning Cell rooms located<br>adjacent to each other. | NMIAL has retitled the same as<br>"Questioning Cell and located it<br>adjacent to Male and Female deportation<br>rooms in the revised layouts; the same<br>was acceptable to BOI.<br>A dining room is added, and the same is<br>merged with the Pantry to maximize the<br>dining space for the staff per agreed with<br>BOI. | NMIAL | CLOSED               |
| 3. | BOI asked NMIAL to swap the<br>Computer cell/Hub room with<br>Immigration admin/flight Sortation<br>rooms, and locate APIS adjacent to the<br>hub room. Shall also account space at<br>Hub room for equipment storage.                                                                        | NMIAL swapped the Computer Cell<br>server/ hub rooms with Immigration<br>admin/flight Sortation rooms and ensured<br>its adjacency to APIS room in the revised<br>layouts; the same was acceptable to BOI.                                                                                                                   | NMIAL | CLOSED               |
| 4. | BOI confirmed that the CCTV control is required at Arrivals only, and separated from Computer Cell room.                                                                                                                                                                                      | NMIAL reconfirmed the same the same with BOI.                                                                                                                                                                                                                                                                                | INFO. | CLOSED               |
| 5. |                                                                                                                                                                                                                                                                                               | BOI asked NMIAL to optimize the break<br>room area for female staff and consider<br>providing storage space for BOI office<br>stationery; the same is incorporated in<br>revised layouts                                                                                                                                     | NMIAL | CLOSED               |
| D  | NEXT STEPS                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                              |       |                      |
| 1. | A follow-up meeting is set up for 31 <sup>st</sup><br>Oct 2019, NMIAL will present updated<br>layouts incorporating comments as<br>agreed with BOI, for approvals.                                                                                                                            | In principle, BOI was satisfied with the T1 revised layouts presented on 31 <sup>st</sup> Oct 2019, and the same shall be presented to FRRO for final approval.                                                                                                                                                              | NMIAL | Meeting date<br>TBD. |



2

| Attendance Sheet                 |                                       |  |  |
|----------------------------------|---------------------------------------|--|--|
| Date of Meeting & Time :         | 31st October 2019.                    |  |  |
| Subject of Meeting :             | NMIA, Terminal 1 - Immigration Areas. |  |  |
| Place :                          | BOJ, TZ, CSMIA                        |  |  |
| Recorded By: Divga P. Nagana [4. |                                       |  |  |
|                                  |                                       |  |  |

| Attendees          | Organization &<br>Designation | Contact Details<br>(Official Phone No. & Email ID)  |
|--------------------|-------------------------------|-----------------------------------------------------|
| Divya P. Nagavaju  | NMIAL .                       | 9130758334<br>divya nagavajn@gvk.com.               |
|                    | BOJ                           | 9820914940                                          |
| Nandita Battachary | BEI                           | 7021184559                                          |
| CHINTAN SHUKLA     | NMIAL                         | 7021184559<br>9833301347<br>chintan.shukla Dgvk.com |
| P. Sunchramosoty   | Bot                           | 9263815926                                          |
| H.K. Pathak        | B0/.                          | 9322778893                                          |
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| Attendance Sheet         |                                       |  |  |
|--------------------------|---------------------------------------|--|--|
| Date of Meeting & Time : | 31st October 2019,                    |  |  |
| Subject of Meeting :     | NMIA, Terminal 1 - Immigration Areas. |  |  |
| Place :                  | BOJ. TZ. CSMIA                        |  |  |
| Recorded By:             | Divya P. Naganary.                    |  |  |
|                          |                                       |  |  |

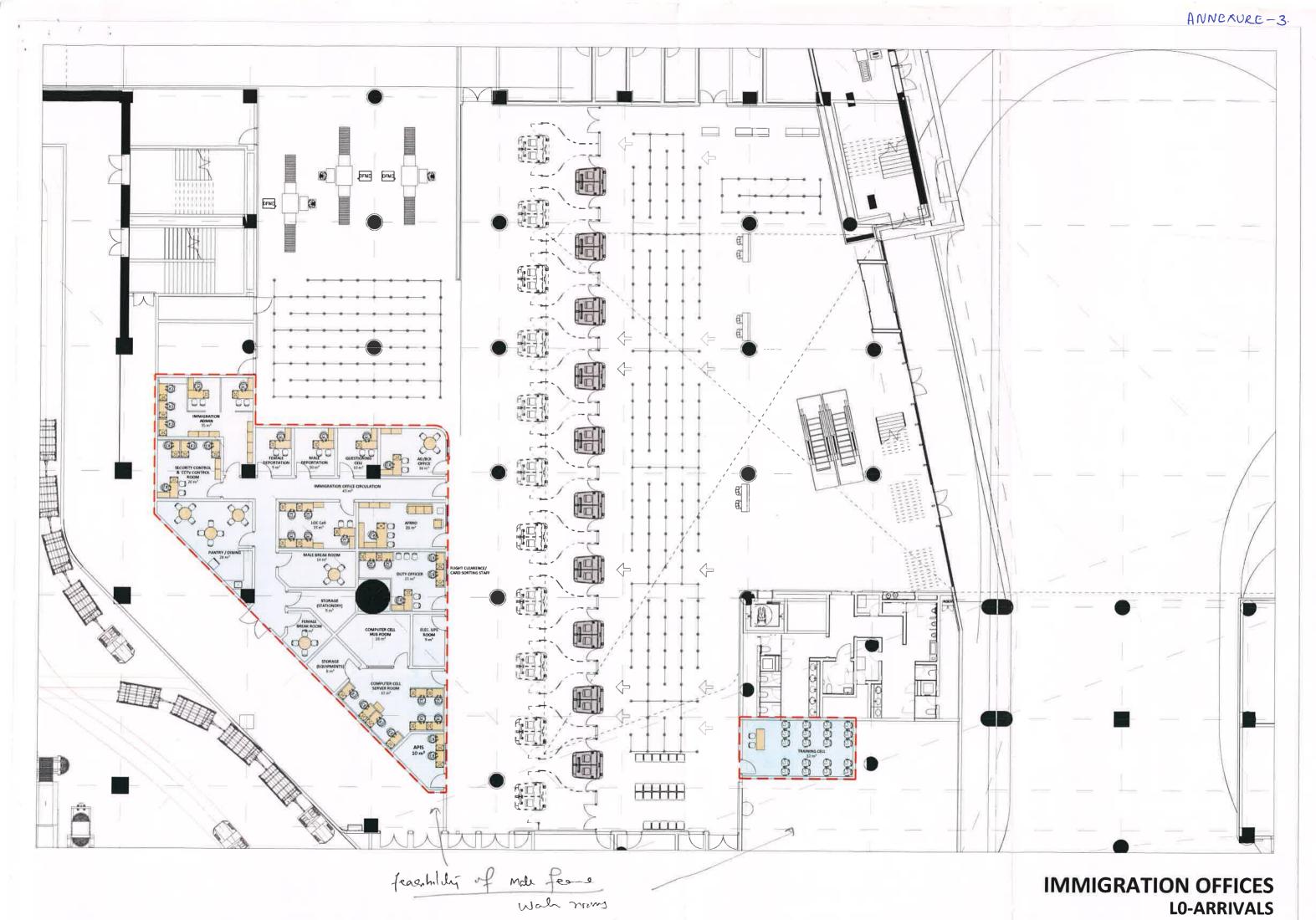
| Attendees         | Organization &<br>Designation | Contact Details<br>(Official Phone No. & Email ID)  |
|-------------------|-------------------------------|-----------------------------------------------------|
| Divya P. Nagavaju | NMIAL .                       | 9130758334<br>divyra, nagavajn@.gvk.com             |
|                   |                               | 9820914940                                          |
| Nandita Broken    | BEI                           | 7021184559                                          |
| CHINTAN SHUKLA    | NMAL                          | 7021184559<br>9833301347<br>chintan.shulda Dgvk com |
| P. Suncpresmoorty | Bol                           | 9567812956                                          |
| H.K. Pathak       | B0/.                          | 2322778893                                          |
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|    | NMIA, T1 - IMM                                                    | IGRATION SPACES | S                             |
|----|-------------------------------------------------------------------|-----------------|-------------------------------|
| #  | Space/Accommodation                                               | Area in SQM     | Location/Adjacency            |
| 1  | FRRO                                                              | 23              | Int'l Departures / Emigration |
| 2  | AFRRO                                                             | 20              | Int'l Departures / Emigration |
| 3  | Computer Cell Room                                                | 27              | Int'l Departures / Emigration |
| 4  | AD/BOI Security Control Room                                      | 23              | Int'l Departures / Emigration |
| 5  | AD/BOI Office                                                     | 11              | Int'l Departures / Emigration |
| 6  | BOI Server Room                                                   | 15              | Int'l Departures / Emigration |
| 7  | Electrical UPS Room                                               | 8               | Int'l Departures / Emigration |
| 8  | Questioning Cell Male                                             | 8               | Int'l Departures / Emigration |
| 9  | Questioning Cell Female                                           | 8               | Int'l Departures / Emigration |
| 10 | Duty Officers<br>(including Flight clearance & card sorting area) | 24              | Int'l Departures / Emigration |
| 1  | Male Break Room                                                   | 10              | Int'l Departures / Emigration |
| .2 | Female Break Room                                                 | 10              | Int'l Departures / Emigration |
| 13 | Pantry                                                            | 11              | Int'l Departures / Emigration |
| L4 | Circulation                                                       | 41              | Int'l Departures / Emigration |
| .5 | Immigration Vigilence Room                                        | 11              | Int'l Departures / Emigration |
|    | Total Departures Immigration Offices                              | 250             |                               |
| 1  | AFRRO                                                             | 21              | Int'l Arrivals / Immigration  |
| 2  | AD/BOI office                                                     | 16              | Int'l Arrivals / Immigration  |
| 3  | Duty Officers<br>(including Flight clearance & card sorting area) | 21              | Int'l Arrivals / Immigration  |
| 4  | APIS                                                              | 10              | Int'l Arrivals / Immigration  |
| 5  | Male Deportation                                                  | 10              | Int'l Arrivals / Immigration  |
| 6  | Female Deportation                                                | 9               | Int'l Arrivals / Immigration  |
| 7  | Questioning Cell                                                  | 10              | Int'l Arrivals / Immigration  |
| 3  | LOC Cell                                                          | 19              | Int'l Arrivals / Immigration  |
| 9  | Computer Cell Server Room                                         | 32              | Int'l Arrivals / Immigration  |
| .0 | Computer Cell Hub Room                                            | 16              | Int'l Arrivals / Immigration  |
| 1  | Electrical UPS Room                                               | 9               | Int'l Arrivals / Immigration  |
| .2 | Storage (Equipments)                                              | 8               | Int'l Arrivals / Immigration  |
| .3 | Security Control & CCTV Control Room                              | 20              | Int'l Arrivals / Immigration  |
| .4 | Immigration Admin                                                 | 35              | Int'l Arrivals / Immigration  |
| .5 | Storage (Stationery)                                              | 9               |                               |
| 6  | Male Break Room                                                   | 14              | Int'l Arrivals / Immigration  |
| 7  | Female Break Room                                                 | 8               | Int'l Arrivals / Immigration  |
| 8  | Pantry & Dining Room                                              | 28              | Int'l Arrivals / Immigration  |
| .9 | Training Cell                                                     | 32              | Int'l Arrivals / Immigration  |
| 0  | Circulation                                                       | 43              | Int'l Arrivals / Immigration  |
|    | Total Arrivals Immigration Offices                                | 370             |                               |
|    | Total Immigration Offices                                         | 620             |                               |

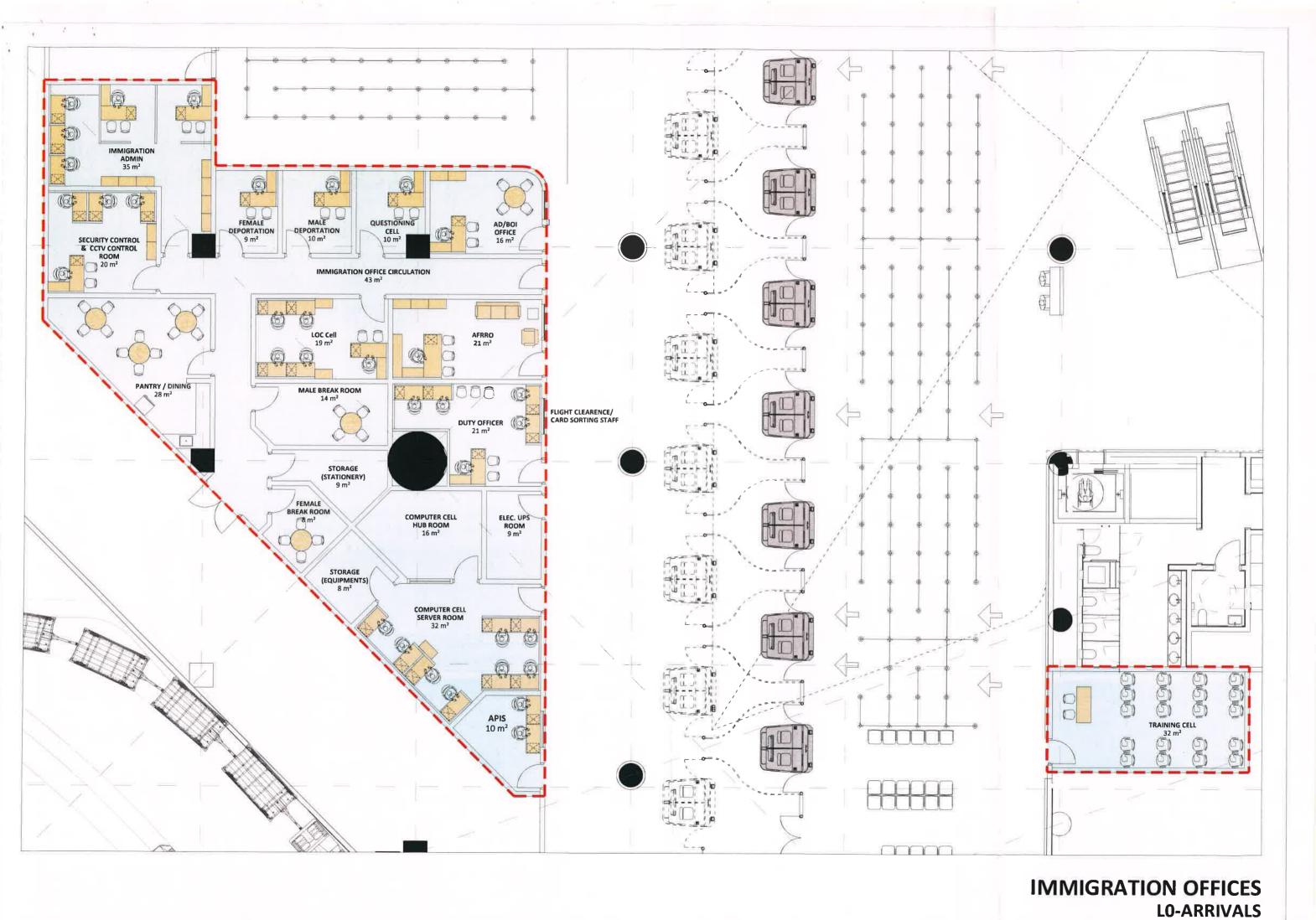
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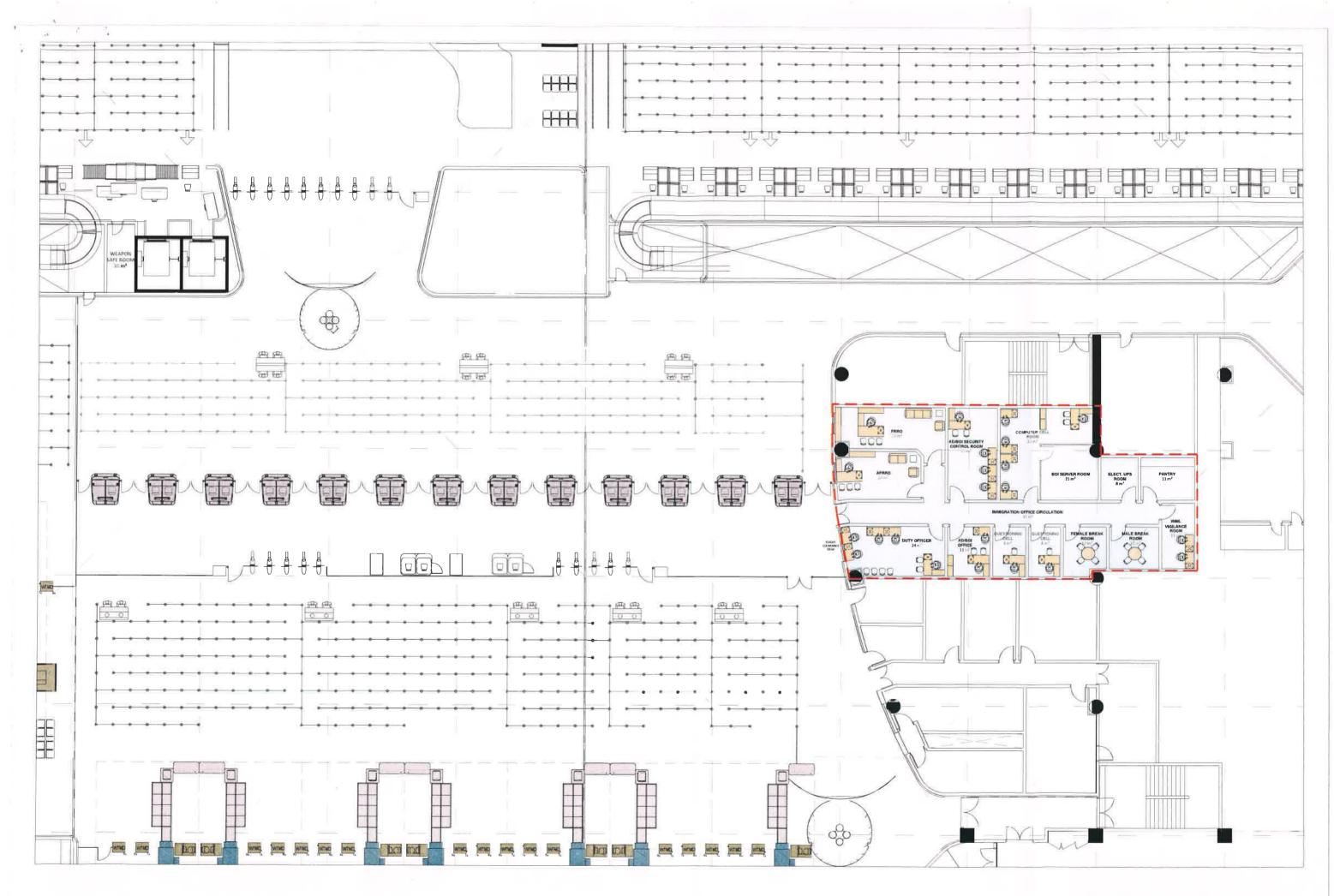
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As per BOI Letter no - 9455/FRRO/MUM/AP/ 2019 dt. 30th Dec 2019.

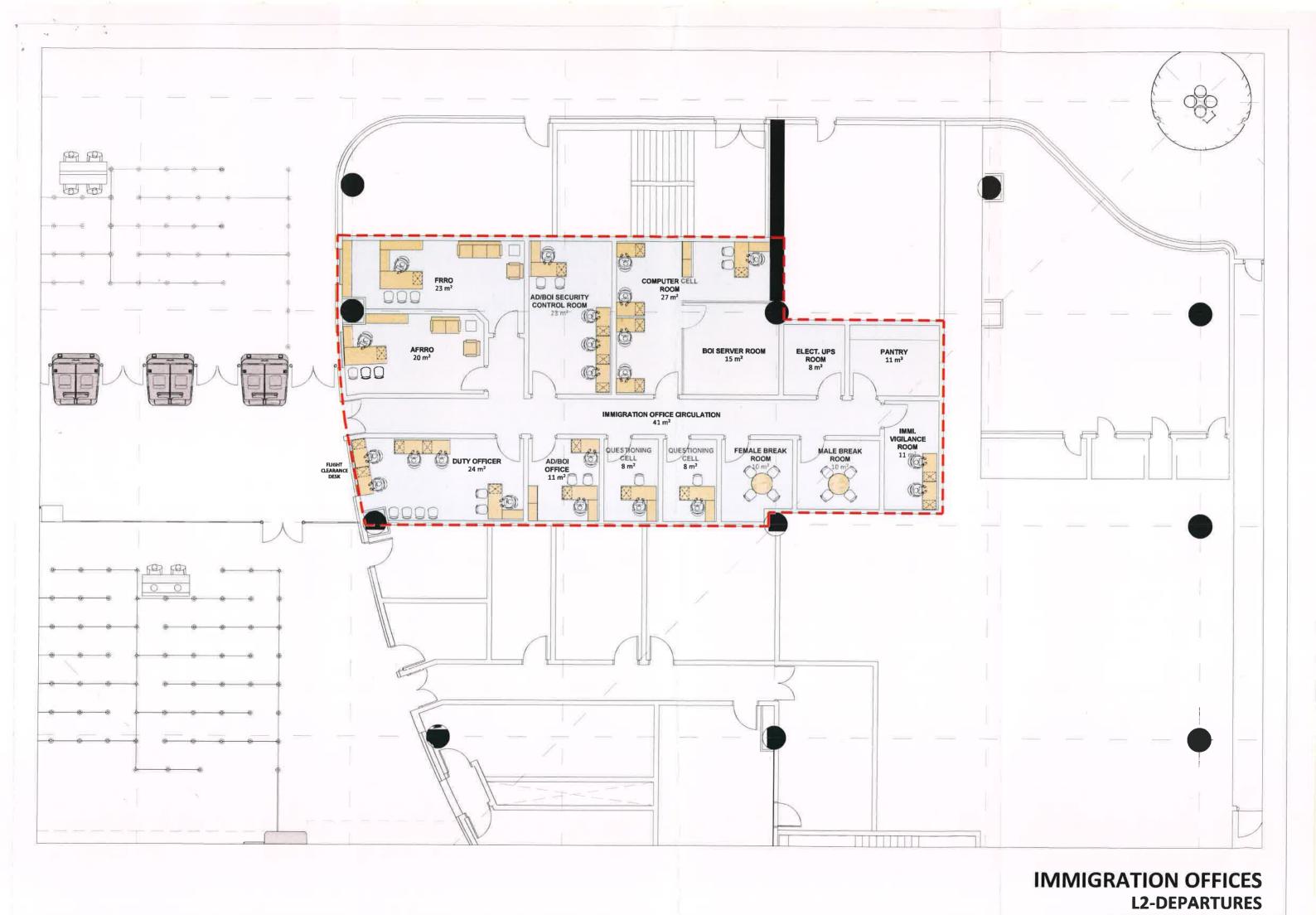


Asper BOI Letter no - 9455/FRRO/MUM/AP/2019 dt. 30th Dec. 2019

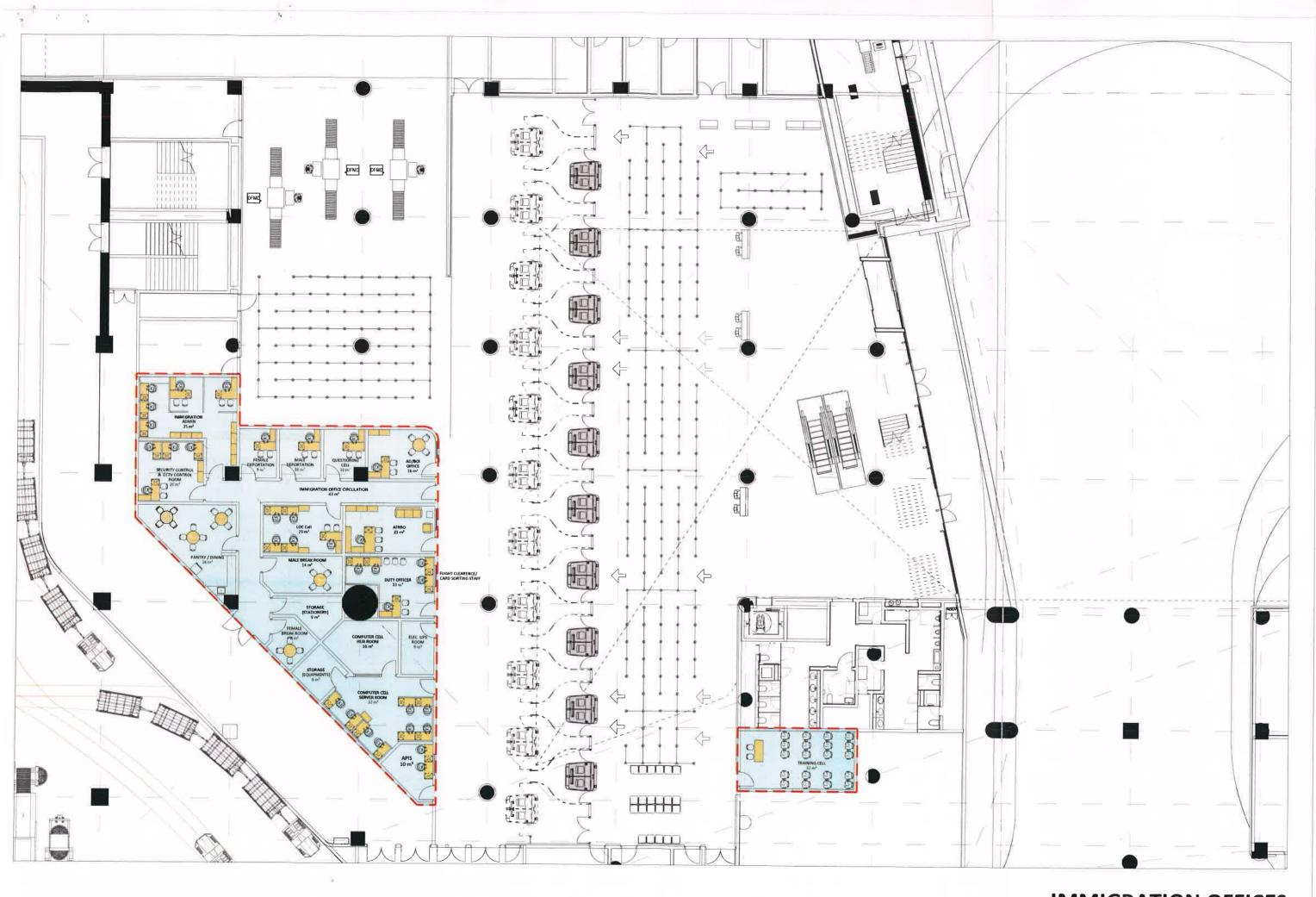


### **IMMIGRATION OFFICES L2-DEPARTURES**

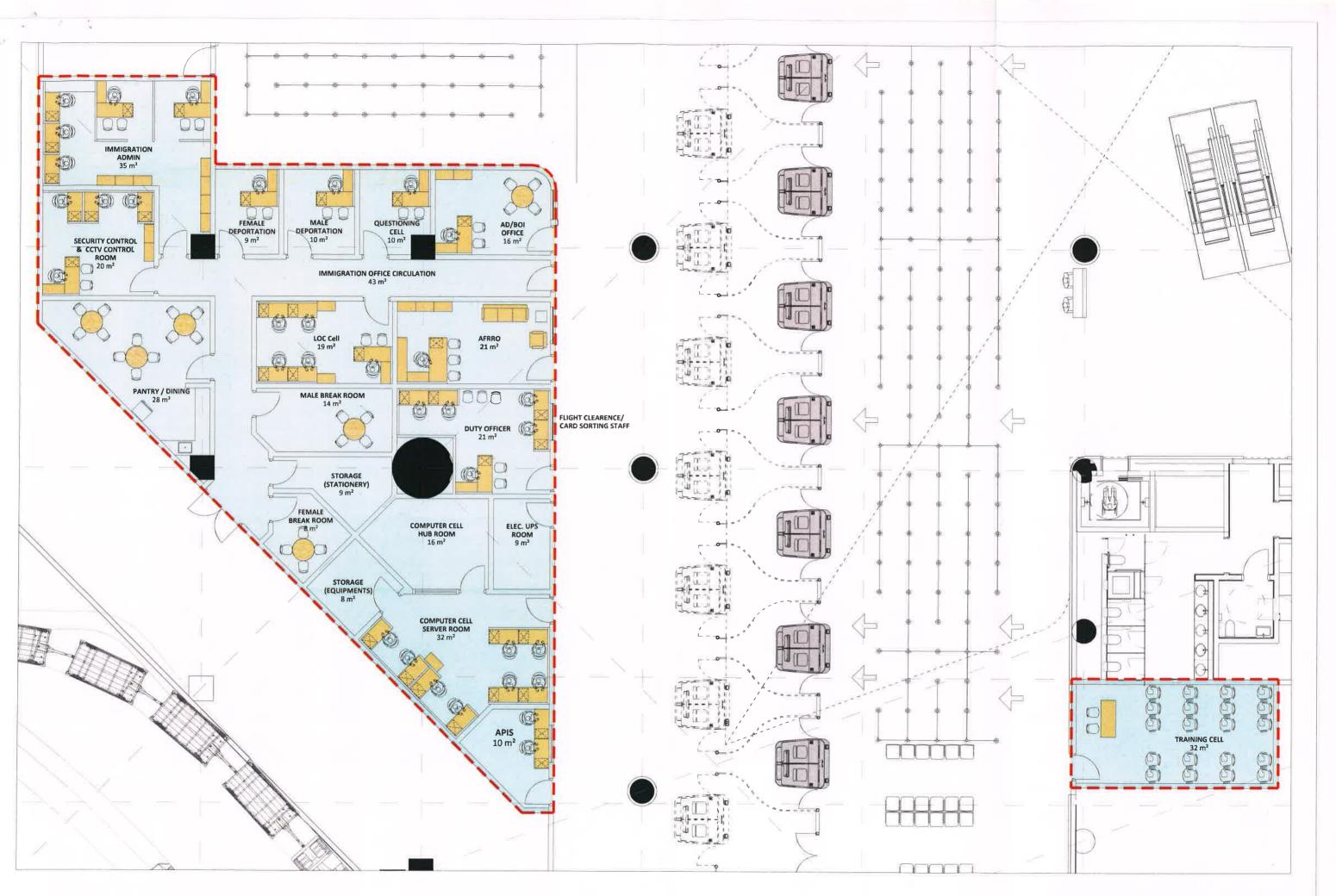
As per BOI Letter no-9455/FRRO/MUM/AP/2019 1+.30th Dec 2019.



As per BOILetter no. 9455/FRRO/MUM/AP/2019 of soth Dec 2019.

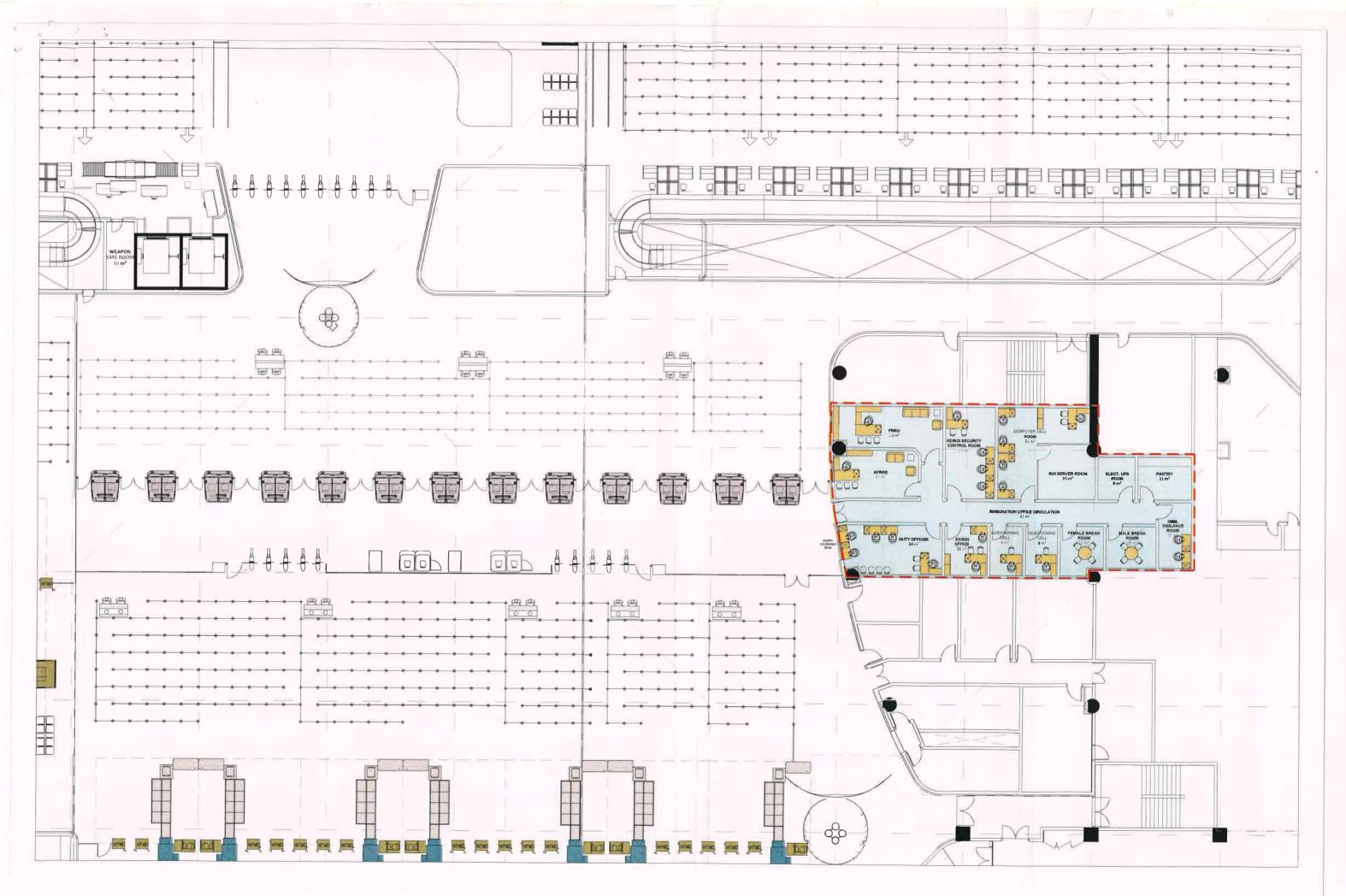


## IMMIGRATION OFFICES LO-ARRIVALS



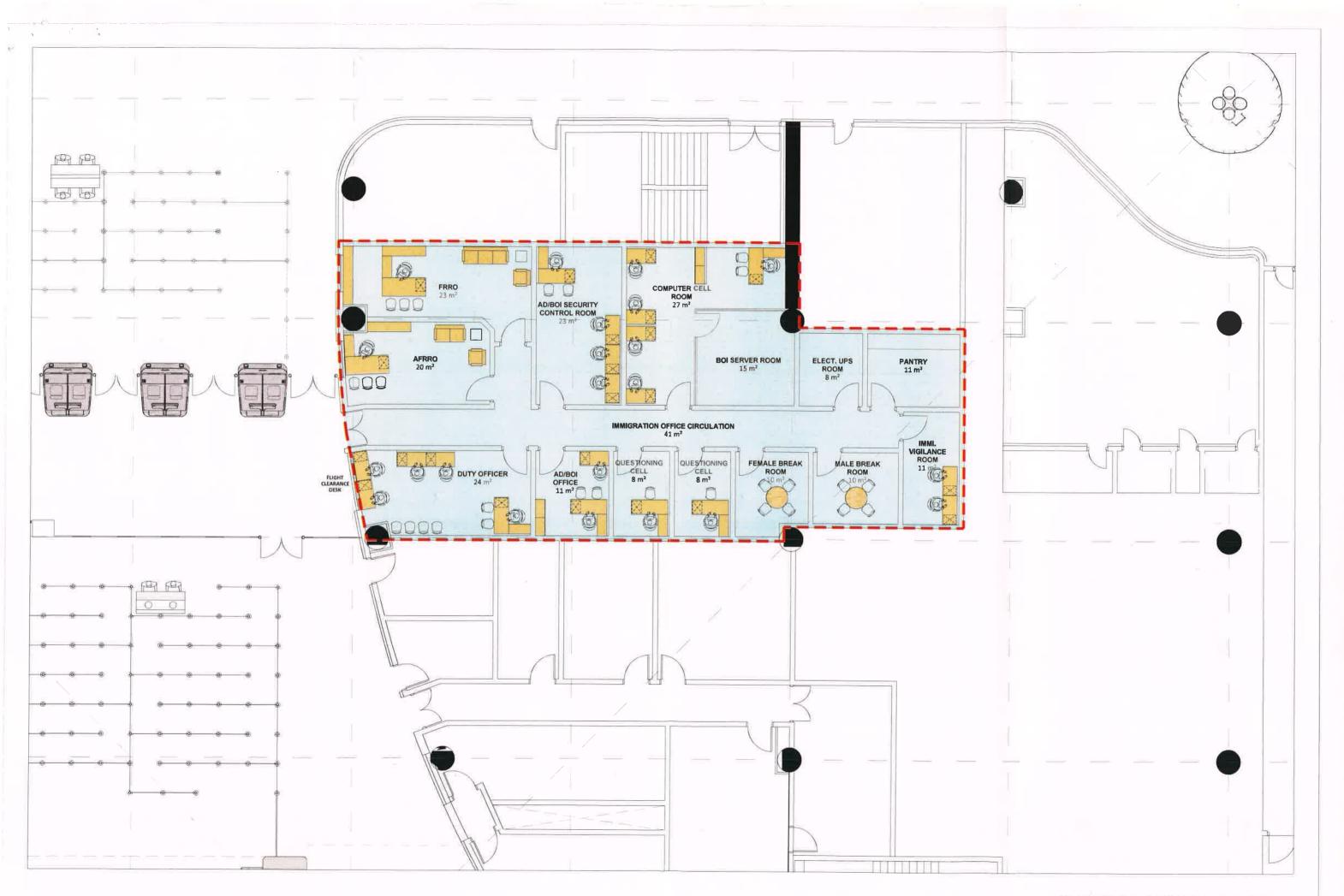
### **IMMIGRATION OFFICES LO-ARRIVALS**

AS per BOI. no-9455 FRRO/MUM/2019 At 30th Dec 2019.



### **IMMIGRATION OFFICES L2-DEPARTURES**

As per BOI letter No. - 9455 [FRRO/AP / 2019 dt. 30th Dec 2019



### **IMMIGRATION OFFICES L2-DEPARTURES**

AS Per BOI Letter no - 9455/FRRO /MUM/AP/2019 df 30th Dec 2019.

[X] : Approval/NoC from Airports Authority of India (AAI) for Phase -1 Building of NMIA

|        | NMIA BUILDINGS - STATUS OF APPLICATIONS FOR HEIGHT NOC 09.03.2020 |                                                                          |                                                        |                          |                             |                                           |
|--------|-------------------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------|--------------------------|-----------------------------|-------------------------------------------|
| Sr.No. | Plot No.                                                          | Plots Details<br>Plot Names                                              | NOCAS ID                                               | NOC<br>ISSUE DATE        | Site Elevation<br>(Mt AMSL) | Permissible<br>Top Elevation<br>(Mt AMSL) |
| 1      | S2                                                                | Fuel Farm                                                                | NAVI/WEST/B/013119/367997                              | 20.02.2019               | 9.4                         | 34.51                                     |
| 2      | S12                                                               | IMD Facilty                                                              | NAVI/WEST/B/013119/368002                              | 20.02.2019               | 8.6                         | 21.91                                     |
| 3      | S15                                                               | Reserved Housing Residencial                                             | NAVI/WEST/B/021819/372861                              | 06.03.2019               | 9.4                         | 50.26                                     |
| 4      | S6                                                                | Airport Administration Building (West)                                   | NAVI/WEST/B/021519/370793                              | 06.03.2019               | 9.5                         | 55.1                                      |
| 5      | \$5<br>\$4                                                        | Police Station<br>Airport Maintanance Building                           | NAVI/WEST/B/021519/370782<br>NAVI/WEST/B/021519/370774 | 06.03.2019<br>06.03.2019 | 8<br>9.0                    | 24.08<br>16.6                             |
| 7      | 54<br>\$13                                                        | CISF Barracks                                                            | NAVI/WEST/B/021519/370774<br>NAVI/WEST/B/021819/372854 | 06.03.2019               | 9.0                         | 21.92                                     |
| 8      | \$13<br>\$18                                                      | Ceremonial Lounge                                                        | NAVI/WEST/B/021519/370816                              | 06.03.2019               | 9.2                         | 48.49                                     |
| 9      | \$7                                                               | Airport Adminstration Building (East)                                    | NAVI/WEST/B/022719/375166                              | 13.03.2019               | 8.7                         | 55.1                                      |
| 10     | 59                                                                | Customs Building                                                         | NAVI/WEST/B/022719/375167                              | 13.03.2019               | 9.5                         | 55.1                                      |
| 11     | \$3-A                                                             | Inflight Catring/Flight Kitchen                                          | NAVI/WEST/B/022719/375171                              | 13.03.2019               | 9.3                         | 48.49                                     |
| 12     | S3-B                                                              | Inflight Catring/Flight Kitchen                                          | NAVI/WEST/B/022719/375174                              | 13.03.2019               | 9.3                         | 37.39                                     |
| 13     | S14B                                                              | Fuel Station                                                             | NAVI/WEST/B/022719/375177                              | 13.03.2019               | 8.7                         | 55.1                                      |
| 14     | \$14C                                                             | Fuel Station                                                             | NAVI/WEST/B/022819/375395                              | 15.03.2019               | 8.7                         | 55.1                                      |
| 15     | \$14D                                                             | Fuel Station                                                             | NAVI/WEST/B/022819/375398                              | 15.03.2019               | 8.8                         | 55.1                                      |
| 16     | U1A                                                               | Water Plant (West)                                                       | NAVI/WEST/B/022719/375195                              | 13.03.2019               | 8.6                         | 21.55                                     |
| 17     | U1B                                                               | Water Plant (East)                                                       | NAVI/WEST/B/030119/375910                              | 15.03.2019               | 8.5                         | 55.1                                      |
| 18     | U2-A                                                              | Power Distribution (DSS) East                                            | NAVI/WEST/B/030719/377042                              | 28.03.2019               | 9.2                         | 55.1                                      |
| 19     | U2-B &<br>U-3                                                     | Power Receiving Substation (RSS)/<br>Power Distribution Substation (DSS) | NAVI/WEST/B/030719/377054                              | 28.03.2019               | 9.2                         | 37.5                                      |
| 20     | U4-A                                                              | Sewage Tretment Plant (South West)                                       | NAVI/WEST/B/030719/377060                              | 28.03.2019               | 9.5                         | 55.1                                      |
| 21     | U4-B                                                              | Sewage Tretment Plant (South)                                            | NAVI/WEST/B/030719/377063                              | 28.03.2019               | 8.8                         | 21.55                                     |
| 22     | U4-C                                                              | Sewage Tretment Plant (Soth East)                                        | NAVI/WEST/B/030719/377065                              | 28.03.2019               | 8.7                         | 55.1                                      |
| 23     | U5-A                                                              | Chiller Plant (Near PT-01)                                               | NAVI/WEST/B/030719/377066                              | 28.03.2019               | 9.8                         | 35.04                                     |
| 24     | U6-A                                                              | Solid Waste Facility (East)                                              | NAVI/WEST/B/030719/377068                              | 28.03.2019               | 8.6                         | 55.1                                      |
| 25     | L2-A                                                              | Bus Terminal                                                             | NAVI/WEST/B/031819/378763                              | 04.04.2019               | 8.5                         | 35.09                                     |
| 26     | L11-A                                                             | MLCP-T1                                                                  | NAVI/WEST/B/031819/378764                              | 04.04.2019               | 9.2                         | 35.91                                     |
| 27     | L15                                                               | Terminal Hotel                                                           | NAVI/WEST/B/032219/380994                              | 04.04.2019               | 8.7                         | 37.04                                     |
| 28     | PT-1                                                              | Passenger Terminal - 1                                                   | NAVI/WEST/B/032219/381010                              | 04.04.2019               | 9.5                         | 28.79                                     |
| 29     | PT-A & PT-B                                                       | Pier Terminal - 1                                                        | NAVI/WEST/B/032219/381015                              | 04.04.2019               | 9.5                         | 28.08                                     |
| 30     | A8a                                                               | GA Terminal Building                                                     | NAVI/WEST/B/041619/387692                              | 01.05.2019               | 9                           | 55.1                                      |
| 31     | A8c-A                                                             | General Aviation Hangar                                                  | NAVI/WEST/B/041619/387693                              | 01.05.2019               | 8.2                         | 33.31                                     |
| 32     | A8c-B                                                             | General Aviation Hangar                                                  | NAVI/WEST/B/041619/387694                              | 01.05.2019               | 8.8                         | 55.1                                      |
| 33     | A8c-C                                                             | General Aviation Hangar                                                  | NAVI/WEST/B/041619/387695                              | 01.05.2019               | 8.8                         | 55.1                                      |
| 34     | A16-A                                                             | Airside Security Gate (South East)                                       | NAVI/WEST/B/041619/387696                              | 01.05.2019               | 9.0                         | 26.7                                      |
| 35     | A16-B                                                             | Airside Security Gate (South West)                                       | NAVI/WEST/B/041619/387699                              | 01.05.2019               | 9.3                         | 27.3                                      |
| 36     | A17-A                                                             | Airfield Ground Lighting Substation (CCR) (South East)                   | NAVI/WEST/B/072419/418100                              | 20.08.2019               | 9.0                         | 17.45                                     |
| 37     | A17-B                                                             | Airfield Ground Lighting Substation (CCR) (South West)                   | NAVI/WEST/B/072419/418102                              | 20.08.2019               | 9.0                         | 18.26                                     |
| 38     | A20-B                                                             | SMR (South East)                                                         | NAVI/WEST/B/072419/418104                              | 20.08.2019               | 9.0                         | 33.22                                     |
| 39     | A21-B                                                             | ASR (Inside Airside Boundary)                                            | NAVI/WEST/B/072419/418108                              | 20.08.2019               | 9.00                        | 31.25                                     |
| 40     | A22-A                                                             | MRO Hangar (South West)                                                  | NAVI/WEST/B/072419/418126                              | 20.08.2019               | 9.2                         | 29.54                                     |
| 41     | A25                                                               | South ARFF Facility (With Temporary ATC)                                 | NAVI/WEST/B/072419/418139                              | 20.08.2019               | 9.0                         | 34.18                                     |
| 42     | A28                                                               | Airside Employee Facility (Canteen) (South East)                         | NAVI/WEST/B/072419/418142                              | 20.08.2019               | 8.6                         | 55.1                                      |
| 43     | A29-A                                                             | GSE Maintenance Facility (South West)                                    | NAVI/WEST/B/072419/418151                              | 20.08.2019               | 9.0                         | 16.42                                     |
| 44     | A32-A                                                             | Airside Fuel Station (South West)                                        | NAVI/WEST/B/072419/418152                              | 20.08.2019               | 9.3                         | 55.1                                      |
| 45     |                                                                   | Project Office                                                           | NAVI/WEST/B/102819/433195                              | 07.11.2019               | 8.6                         | 45.17                                     |
| 46     |                                                                   | Airside Fuel Station (South East)                                        | NAVI/WEST/B/112819/434854                              | 02.12.2019               | 9.0                         | 55.1                                      |
| 47     | A40-A                                                             | NTO Plane Facility                                                       | NAVI/WEST/B/112819/434856                              | 02.12.2019               | 9.12                        | 35.95                                     |
| 48     | A40-B                                                             | NTO Plane Facility                                                       | NAVI/WEST/B/112819/434858                              | 02.12.2019               | 9.4                         | 36.24                                     |
| 49     | L7-G                                                              | Landside Development                                                     | NAVI/WEST/B/112919/434881                              | 03.12.2019               | 9.5                         | 55.1                                      |
| 50     | L7-H                                                              | Landside Development                                                     | NAVI/WEST/B/112919/434885                              | 03.12.2019               | 9.8                         | 55.1                                      |
| 51     | L7-I                                                              | Landside Development                                                     | NAVI/WEST/B/121919/436105                              | 31.12.2019               | 10.1                        | 55.1                                      |
| 52     | L17                                                               | Truck Parking<br>Fuel Station - Temporory                                | NAVI/WEST/B/112919/434897                              | 03.12.2019               | 10.3                        | 55.1                                      |
| 53     | S14-E                                                             | (North Side)                                                             | NAVI/WEST/B/112919/434899                              | 03.12.2019               | 9.4                         | 21.13                                     |
| 54     | S14-F                                                             | Fuel Station - Temporory<br>(North Side)                                 | NAVI/WEST/B/112919/434901                              | 03.12.2019               | 9.5                         | 21.33                                     |
| 55     | CA1-A & CA3-A<br>(20 MPPA)                                        | Cargo Terminal Building ,Docking Area and Parking (Domestic)             | NAVI/WEST/B/120519/435189                              | 19.12.2019               | 9.0                         | 30.43                                     |
| 56     | CA1-B & CA3-B<br>(20 MPPA)                                        | Cargo Terminal Building ,Docking Area and Parking<br>(International)     | NAVI/WEST/B/120519/435193                              | 19.12.2019               | 9.0                         | 31.21                                     |
| 57     | CA1-C & CA3-C<br>(20 MPPA)                                        | Cargo Terminal Building ,Docking Area and Parking (Courier)              | NAVI/WEST/B/120519/435198                              | 19.12.2019               | 9.0                         | 31                                        |
| 58     | A16-C                                                             | Airside Security Gate (South East)                                       | NAVI/WEST/B/120319/435076                              | 10.12.2019               | 9.0                         | 42.07                                     |
| 59     | S10<br>(20 MPPA)                                                  | Animal Quarantine Services                                               | NAVI/WEST/B/120919/435366                              | 19.12.2019               | 9.0                         | 32.64                                     |
| 60     | S1                                                                | ATC Technical Block<br>( As Per New Plot)                                | NAVI/WEST/B/120919/435369                              | 19.12.2019               | 8.5                         | 35.35                                     |
| 61     | S8                                                                | Airport Heailth Organisation<br>( As Per New Plot)                       | NAVI/WEST/B/120919/435370                              | 19.12.2019               | 8.7                         | 51.56                                     |
| 62     | L1                                                                | Remote Taxi Staging<br>( As Per New Plot)                                | NAVI/WEST/B/120919/435390                              | 19.12.2019               | 8.4                         | 42.72                                     |
| 63     | A8c-D                                                             | General Aviation Hangar                                                  | NAVI/WEST/B/012820/439152                              | 07.02.2020               | 8.8                         | 54.5                                      |
|        | not-D                                                             | Sector and Mation Hangar                                                 |                                                        | 07.02.2020               | 0.0                         | 54.5                                      |

[Y] : Approval of CWPRS for NMIA Drainage Master Plan (Revised SWD system report (June 2019) prepared by NMIAL and submitted to CWPRS vide email dated 20.06.2019 and requested. CWPRS vide email dated 03.07.2019 to carry out additional review study of SWD report (2019) of M/s NMIAL.)





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जल शक्ति मंत्रालय जल संसाधन, नदी विकास और गंगा संरक्षण विभाग केन्द्रीय जल तथा विद्युत अनुसंधान शाला Government of India Ministry of Jal Shakti Department of Water Resources, River Development & Ganga Rejuvenation Central Water and Power Research Station

संख्या. : आ.प्र.यो.प्र/NMIAPL/2020/

श्री चारुदत्त देशमुख निदेशक, शहरी नियोजन नवी मुंबई इंटरनेशनल एयरपोर्ट प्राइवेट लिमिटेड छत्रपती शिवाजी अंतर्राष्ट्रीय हवाई अड्डा पहली मंजिल, टर्मिनल 1 बी सांताक्रूज (ई) मुंबई -400 099, दि:

Shri Charudatta Deshmukh Director, Urban Planning Navi Mumbai International Airport Pvt Ltd Chhatrapati Shivaji International Airport 1<sup>st</sup> Floor, Terminal 1B Santacruz (E) Mumbai-400 099

Sub: Final Technical Report on 'Additional Review of Storm Water Drainage studies for Navi Mumbai International Airport (NMIA), Navi Mumbai'.

महोदय,

Please find attached the Final Technical Report No. 5814 of June 2020 on 'Additional Review of Storm Water Drainage studies for Navi Mumbai International Airport (NMIA), Navi Mumbai' as requested by you.

Kindly acknowledge the receipt of report along with the feedback in the format attached herewith.

Thanking you,

भवदीय.

(Dr.(Mrs) Neena Issac) Scientist 'E'

संलग्न: Final Technical Report No. 5814 of June 2020 (2 Copies)

सिंहगड रोड, खड़कवासला, पुणे 411024 दूरभाष/telephone: (020)24103395 ई-मेल/ Email: swh.cwprs@gmail.com



Sinhgad Road, Khadakwasla, Pune-411024 Fax: (020)24381004 वेब/ Website: www.cwprs.gov.in [Z] : Transfer of EC & CRZ Clearance in the name of NMIAL from CIDCO

#### F. No. 10-53/2009-IA-III Government of India Ministry of Environment, Forest and Climate Change (IA.III Section)

Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 3

Date: 17 August, 2020

The Director, M/s Navi Mumbai International Airport Private Limited Terminal I-B, CSI Airport, Santacruz Mumbai - 400099, Maharashtra Email: <u>charu.deshmukh@gvk.com</u>

#### Subject: Transfer of Environmental and CRZ Clearance accorded for 'Establishment of Navi Mumbai International Airport at Mumbai' in favour of M/s City and Industrial Development Corporation of Maharashtra Ltd to M/s Navi Mumbai International Airport Private Limited - reg.

Sir,

To.

This has reference to your online application no. IA/MH/MIS/236/2009 dated 16<sup>th</sup> July, 2020 submitted to this Ministry for Transfer of Environmental and CRZ Clearance accorded for the project namely 'Establishment of Navi Mumbai International Airport at Mumbai in favour of M/s City and Industrial Development Corporation of Maharashtra Ltd vide letter of even No. dated 22.11.2010 to M/s Navi Mumbai International Airport Private Limited in terms of the provisions of the Environment Impact Assessment (EIA) Notification, 2006 and CRZ Notification, 2011 under the Environment (Protection) Act, 1986.

2. As per your submission, M/s Navi Mumbai International Airport Private Limited has submitted all the required supporting documents along with the relevant details required in Form-7 "Application for Transfer of Environmental Clearance" on the online portal of MoEF&CC has been uploaded. In this connection, M/s Navi Mumbai International Airport Private Limited, the transferee, requests for transfer of the aforementioned EC&CRZ Clearance of M/s City and Industrial Development Corporation of Maharashtra Limited (CIDCO) to them for taking up the full responsibility of complying with all the clauses of the EC (and related applicable compliances) granted for the aforementioned project.

3. In this regard, referring to the clause related to transferability of Environment Clearance as per section 11 of EIA Notification, 2006, M/s Navi Mumbai International Airport Private Limited has requested Ministry for transfer of Environmental and CRZ Clearance accorded to the project 'Establishment of Navi Mumbai International Airport Limited' in favour of M/s City and Industrial Development Corporation of Maharashtra Ltd to them. M/s Navi Mumbai International Airport Private Limited has also submitted 'No objection Certificate' from M/s City and Industrial Development Corporation of Maharashtra Limited (CIDCO) and undertaking for taking up the full responsibility for complying with all the conditions stipulated in the Environmental and CRZ Clearance accorded by the Ministry of Environment, Forest and Climate Change, Government of India vide letter F. No. 10-53/2009-IA.III dated 22.11.2010 and subsequent extension of validity of EC&CRZ Clearance accorded vide letter of even No. dated 20.12.2017 for the aforesaid project.

4. In view of the information submitted by the M/s Navi Mumbai International Airport Private Limited, as per Section 11 of EIA Notification, 2006, the Ministry of Environment, Forest and Change hereby accords the transfer of Environmental and CRZ Clearance accorded vide letter F.No. 10-53/2009-IA.III dated 22.11.2010 and subsequent extension of validity of EC&CRZ Clearance accorded vide letter dated 20.12.2017 to M/s Navi Mumbai International Airport Private Limited.

5. All the other conditions stipulated in the MoEF&CC letter F.No. 10-53/2009-IA.III dated 22.11.2010 and subsequent extension of validity of EC&CRZ Clearance accorded vide letter dated 20.12.2017 shall remain unchanged.

6. This issues with the approval of the Competent Authority.

(Dr. Vinod Scientist E

#### Copy to:

- 1) The General Manager (Environment), M/s City and Industrial Development Corporation of Maharashtra Limited (CIDCO), 3<sup>rd</sup> Floor, Tower no. 10, Belapur railway Station Complex, CBD Belapur, Navi Mumbai - 400614, Maharashtra.
- 2) The Principal Secretary, Environment Department, Government of Maharashtra, 15<sup>th</sup> Floor, New Administrative Building, Mantralaya, Mumbai 400 032.
- 3) The Joint Secretary (AS), ministry of Civil Aviation, Rajiv Gandhi Bhawan, Safdarjung Airport, New Delhi 110003.
- 4) The APCCF (C), MoEF&CC, Regional Office (WCZ), Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur 440001.
- 5) The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi 110 032.
- 6) The Chairman, Maharashtra Coastal Zone Management Authority, Room No. 217 (Annexe), Mantralya, Mumbai 400032, Maharashtra.
- 7) The Chairman, Maharashtra Pollution Control Board, Kalpataru Point, 3<sup>rd</sup> and 4<sup>th</sup> floor, Opp. Cine Planet, Sion Circle, Mumbai 400 022.
- 8) Monitoring Cell, MoEF&CC, Indira Paryavaran Bhavan, New Delhi.
- 9) Guard File/ Record File/ Notice Board/MoEF&CC website.

(Dr. Vinod K. Singh) Scientist E

# adani

ANNEXURE-V METHODOLOGY ADOPTED FOR SAMPLING AND ANALYSIS

#### 1.0 Meteorology

The methodology adopted for monitoring surface observations is as per the standard norms laid down by Bureau of Indian Standards (IS:8829) and India Meteorological Department (IMD).

#### **1.1** Methodology of Data Generation

The Central Monitoring Station (CMS) equipped with continuous monitoring equipment was installed at site at a height of about 10 m above ground level to record wind speed, direction, relative humidity and temperature. The meteorological monitoring station was located in such a way that it is free from any obstructions and as per the guidelines specified under IS:8829. Cloud cover was recorded by visual observation. Rainfall was monitored by rain gauge.

The continuous recording meteorological instrument of Dynalab, Pune (Model No.WDL1002) has been used for recording the met data. The sensitivity of the equipment is as given in **Table-1**.

| Sr. No. | Sensor                | Sensitivity |
|---------|-----------------------|-------------|
| 1       | Wind speed Sensor     | ± 0.02 m/s  |
| 2       | Wind direction Sensor | ± 3 degrees |
| 3       | Temperature Sensor    | ± 0.2°C     |

TABLE-1 SENSITIVITY OF METEOROLOGY MONITORING STATION

Hourly maximum, minimum and average values of wind speed, direction and temperature were recorded continuously with continuous monitoring equipment. All the sensors were connected to filter and then logged on to datalogger. The readings were recorded in a memory module, which was attached to datalogger. The memory module was downloaded in computer through Dynalab software. The storage capacity of memory module was 256 KB. Data was downloaded every fortnight into the computer. The data was recorded continuously. The recovery of data was about 98%. The rest of 2 % data gaps were filled by referring to IMD data and daily weather reports in the local newspapers. However, Relative Humidity and Rainfall were recorded manually.

#### **1.2 Ambient Air Quality**

The air samples were analyzed as per standard methods specified by Central Pollution Control Board (CPCB), IS: 5184 and American Public Health Association (APHA).

The techniques used for ambient air quality monitoring and minimum detectable level are given in **Table-3**.

#### TABLE-3 TECHNIQUES USED FOR AMBIENT AIR QUALITY MONITORING

| Parameters                                                                       | Test Method<br>[as per GSR 826(E), Sch-VII] | Minimum Detectable<br>Limit (µg/m³)<br>Unless Mentioned |
|----------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------------------|
| Particulate Matter, PM10                                                         | Gravimetric Method                          | 1.0                                                     |
| Particulate Matter, PM2.5                                                        | Gravimetric Method                          | 1.0                                                     |
| Sulphur dioxide (SO <sub>2</sub> )                                               | Improved West and Gaeke Method              | 4.0                                                     |
| Nitrogen dioxide (NO <sub>x</sub> )                                              | Modified Jacob and Hochheiser<br>Method     | 4.0                                                     |
| Carbon Monoxide (CO)<br>(3 x 8 hr)                                               | Gas Monitor                                 | 12.5                                                    |
| Ozone (O <sub>3</sub> ) (3 x 8 hr)                                               | Spectroscopic analysis                      | 0.01 ppm /20 μg/m <sup>3</sup>                          |
| Ammonia, NH <sub>3</sub>                                                         | Indophenol Blue method                      | 4.0                                                     |
| Benzene, $C_6H_6$                                                                | Solvent extraction followed by GC analysis  | 0.001                                                   |
| Benzo(a)pyrene in Particulate phase                                              | Solvent extraction followed by GC analysis  | 0.0001                                                  |
| Mercury(HG)                                                                      | ICPOES                                      | 0.001                                                   |
| Acid Mist                                                                        | Solvent extraction                          | 0.1                                                     |
| Heavy metals in particulate<br>phase for Arsenic (As), Nickel<br>(Ni), Lead (Pb) | AAS/ICP method                              | 0.0001                                                  |

#### 1.3 Water Analysis

Samples for chemical analysis were collected in polyethylene carboys. Samples collected for metal content were acidified with 1 ml HNO<sub>3</sub>. Samples for bacteriological analysis were collected in sterilized glass bottles. Selected physico-chemical and bacteriological parameters have been analyzed for projecting the existing water quality status in the study area. Parameters like temperature, Dissolved Oxygen (DO) and pH were analyzed at the time of sample collection.

The methodology for sample collection and preservation techniques was followed as per the Standard Operating Procedures (SOP) mentioned in **Table-4**.

#### <u>TABLE-4</u> <u>STANDARD OPERATING PROCEDURES (SOP)</u> <u>FOR WATER AND WASTEWATER SAMPLING</u>

| Parameter                  | Sample Collection                         | Sample<br>Size | Storage/ Preservation                                 |
|----------------------------|-------------------------------------------|----------------|-------------------------------------------------------|
| рН                         | Grab sampling<br>Plastic /glass container | 50 ml          | On site analysis                                      |
| Electrical<br>Conductivity | Grab sampling<br>Plastic /glass container | 50 ml          | On site parameter                                     |
| Total suspended solids     | Grab sampling<br>Plastic /glass container | 100 ml         | Refrigeration,<br>can be stored for 7 days            |
| Total Dissolved<br>Solids  | Grab sampling<br>Plastic /glass container | 100 ml         | Refrigeration,<br>can be stored for 7 days            |
| BOD                        | Grab sampling<br>Plastic /glass container | 500 ml         | Refrigeration, 48 hrs                                 |
| Hardness                   | Grab sampling<br>Plastic /glass container | 100 ml         | Add HNO <sub>3</sub> to pH<2, refrigeration; 6 months |

| Parameter                  | Sample Collection                         | Sample<br>Size | Storage/ Preservation                         |  |
|----------------------------|-------------------------------------------|----------------|-----------------------------------------------|--|
| Chlorides                  | Grab sampling<br>Plastic /glass container | 50 ml          | Not required; 28 days                         |  |
| Sulphates                  | Grab sampling<br>Plastic /glass container | 100 ml         | Refrigeration; 28 days                        |  |
| Sodium, Potassium          | Plastic container                         | 100 ml         | Not required; 6 months                        |  |
| Nitrates                   | Plastic containers                        | 100 ml         | Refrigeration; 48 hrs                         |  |
| Fluorides                  | Plastic containers only                   | 100 ml         | Not required; 28 days                         |  |
| Alkalinity                 | Plastic/ glass containers                 | 100 ml         | Refrigeration; 14 days                        |  |
| Ammonia                    | Plastic/ glass containers                 | 100 ml         | Add $H_2SO_4$ to pH>2, refrigeration, 28 days |  |
| Hexavalent                 | Plastic/ Glass rinse with                 | 100 ml         | Grab sample;                                  |  |
| Chromium, Cr <sup>+6</sup> | 1+1 HNO3                                  |                | refrigeration; 24 hrs                         |  |
| Heavy Metals (Hg,          | Plastic/ Glass rinse with                 | 500 ml         | Filter, add HNO <sub>3</sub> to               |  |
| Cd, Cr, Cu, Fe, Zn,        | 1+1 HNO <sub>3</sub>                      |                | pH>2; Grab sample; 6                          |  |
| Pb etc.)                   |                                           |                | months                                        |  |

*Source: Standard Methods for the Examination of Water and Wastewater, Published By APHA, AWWA, WEF 19th Edition, 1995* 

#### 1.3.1 Analytical Techniques

The analytical techniques used for water and wastewater analysis is given in the **Table-5**.

| Parameter               | Method                                 |  |  |  |
|-------------------------|----------------------------------------|--|--|--|
| pН                      | APHA-4500-H+                           |  |  |  |
| Colour                  | APHA-2120 C                            |  |  |  |
| Odour                   | IS: 3025, Part-4                       |  |  |  |
| Temperature             | APHA-2550 B                            |  |  |  |
| Dissolved Oxygen        | APHA-4500 O                            |  |  |  |
| BOD                     | APHA-5210 B                            |  |  |  |
| Electrical conductivity | APHA-2510 B                            |  |  |  |
| Turbidity               | APHA-2130 B                            |  |  |  |
| Chlorides               | APHA-4500 Cl <sup>-</sup>              |  |  |  |
| Fluorides               | APHA-4500 F <sup>-</sup>               |  |  |  |
| Total dissolved solids  | APHA-2540 C                            |  |  |  |
| Total suspended solids  | APHA-2540 D                            |  |  |  |
| Total hardness          | APHA-2340 C                            |  |  |  |
| Sulphates               | APHA-4500 SO <sub>4</sub> -2           |  |  |  |
| Arsenic                 | APHA-3120 B/ APHA-3114 B/ APHA-3500 As |  |  |  |
| Calcium                 | APHA-3120 B/ APHA-3500 Ca              |  |  |  |
| Magnesium               | APHA-3120 B/ APHA-3500 Mg              |  |  |  |
| Sodium                  | APHA-3120 B/ APHA-3500 Na              |  |  |  |
| Potassium               | APHA-3120 B/ APHA-3500 K               |  |  |  |
| Manganese               | APHA-3120 B/ APHA-3500 Mn              |  |  |  |
| Mercury                 | APHA-3112 B/ APHA-3500 Hg              |  |  |  |
| Selenium                | APHA-3120 B/ APHA-3114 B/ APHA-3500 Se |  |  |  |
| Lead                    | APHA-3120 B/ APHA-3500 Pb              |  |  |  |
| Copper                  | APHA-3120 B/ APHA-3500 Cu              |  |  |  |
| Cadmium                 | APHA-3120 B/ APHA-3500 Cd              |  |  |  |
| Iron                    | APHA-3120 B/ APHA-3500 Fe              |  |  |  |
| Zinc                    | APHA-3120 B/ APHA-3500 Zn              |  |  |  |

#### TABLE-5 ANALYTICAL TECHNIQUES FOR WATER AND WASTEWATER ANALYSIS

| Parameter          | Method      |  |
|--------------------|-------------|--|
| Boron              | APHA-4500 B |  |
| Coliform organisms | APHA-9215 D |  |
| Alkalinity         | APHA-2320 B |  |

#### 1.4 Soil Quality

At each location, soil samples were collected from three different depths viz. 30 cm, 60 cm and 90 cm below the surface and are homogenized. This is in line with IS: 2720 & Methods of Soil Analysis, Part-1, 2<sup>nd</sup> edition, 1986 of (American Society for Agronomy and Soil Science Society of America). The homogenized samples were analyzed for physical and chemical characteristics. The soil samples were collected and analyzed once in each season.

The samples have been analyzed as per the established scientific methods for physico-chemical parameters. The heavy metals have been analyzed by using Atomic Absorption Spectrophotometer and Inductive Coupled Plasma Analyzer.

The methodology adopted for each parameter is described in **Table-6**.

| Parameter               | Method (ASTM number)                              |
|-------------------------|---------------------------------------------------|
| Grain size distribution | Sieve analysis (D 422 – 63)                       |
| Textural classification | Chart developed by Public Roads Administration    |
| Infiltration capacity   | Infiltrometer                                     |
| Bulk density            | Sand replacement, core cutter                     |
| Porosity                | Void ratio                                        |
| Sodium absorption ratio | Flame colourimetric (D 1428-82)                   |
| PH                      | pH meter (D 1293-84)                              |
| Electrical conductivity | Conductivity meter (D 1125-82)                    |
| Nitrogen                | Kjeldahl distillation (D 3590-84)                 |
| Phosphorus              | Molybdenum blue, colourimetric (D 515-82)         |
| Potassium               | Flame photometric (D 1428-82)                     |
| Copper                  | AAS (D 1688-84)                                   |
| Iron                    | AAS (D 1068-84)                                   |
| Zinc                    | AAS (D 1691-84)                                   |
| Boron                   | Surcumin, colourimetric (D 3082-79)               |
| Chlorides               | Argentometric (D 512-81 Rev 85)                   |
| Fluorides               | Fusion followed by distillation and estimation by |
|                         | Ion selective electrod.                           |

TABLE-6 ANALYTICAL TECHNIQUES FOR SOIL ANALYSIS

#### 1.5 Noise Levels

#### 1.5.1 <u>Method of Monitoring</u>

Noise level monitoring was carried out continuously for 24-hours with one hour interval starting at 0030 hrs to 0030 hrs next day. The noise levels were monitored on working days only and Saturdays, Sundays and public holidays were not monitored. During each hour  $L_{eq}$  were directly computed by the instrument based on the sound pressure levels. Lday (Ld), Lnight (Ln) and Ldn values were computed using corresponding hourly Leq of day and night respectively. Monitoring was carried out at 'A' response and fast mode.

#### Parameters Measured During Monitoring

For noise levels measured over a given period of time interval, it is possible to describe important features of noise using statistical quantities. This is calculated using the percent of the time certain noise levels exceeds the time interval. The notation for the statistical quantities of noise levels is described below:

- Hourly Leq values have been computed by integrating sound level meter.
- $L_{day}$ : As per the CPCB guidelines the day time limit is between 07:00 hours to 22.00 hours as outlined in Ministry of Environment and Forest Notification S.O. 123 (E) dated 14/02/2000.
- L<sub>night</sub>: As per the CPCB guidelines the night time limit is between 22:00 hours to 07.00 hours as outlined in Ministry of Environment and Forest Notification S.O. 123 (E) dated 14/02/2000.

A rating developed by Environmental Protection Agency, (US-EPA) for specification of community noise from all the sources is the Day-Night Sound Level,  $(L_{dn})$ .

 $L_{dn}$ : It is similar to a 24 hr equivalent sound level except that during night time period (10 PM to 07 AM) a 10 dB (A) weighting penalty is added to the instantaneous sound level before computing the 24 hr average. This nighttime penalty is added to account for the fact that noise during night when people usually sleep is judged as more annoying than the same noise during the daytime.

The  $L_{dn}$  for a given location in a community may be calculated from the hourly  $L_{eq}$ 's, by the following equation.

$$L_{dn} = 10Log \frac{\left[\sum_{i=1}^{15} 10^{(L_{eq}i/10)} + \sum_{i=1}^{9} 10^{(L_{eq}i+10/10)}\right]}{24}$$

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### ANNEXURE-VI APPLICABLE ENVIRONMENTAL STANDARDS

#### ANNEXURE-VI APPLICABLE ENVIRONMENT STANDARDS

| रजिल्ही सं• डो• र       | (619-33004/99                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>A</b> 80                                       | REGD. NO. D. L33004/5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                         |                                            | - 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | andra and                                         | x = y = y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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|                         |                                            | PA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | RT III-Section                                    | 14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                         | e = 2                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | धिकार से प्रकारि<br>HED BY AUTH                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| R. 217]                 |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                   | 009/कार्तिक 27, 1931<br>ER 18, 2009/KARTIKA 27, 1931                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                         |                                            | राष्ट्रीय परि                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | रेवेशी वायु गुणव                                  | त्ता मानक                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                         |                                            | केन्द्रीर                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | प प्रदूषण नियंत्रण                                | । बोर्ड                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                         |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | अधिसूचना                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| X                       |                                            | नई वि                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ल्ली, 18 नवम्प्रर,                                | 2009                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| उपधारा (2<br>अप्रैल, 19 | ?) (एच) द्वारा प्रक्त श<br>94 और का.आ. 935 | क्तेंयों का प्रयो<br>(ई) दिनांक 1<br>य परिवेशी बाय्                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ग करते हुए त<br>4 अक्टूबर, 19<br>रु गुणवत्ता मानव | अधिनिमय, 1981 (1981 का 14) की धारा 16 व<br>था अधिसूचना संख्या का.आ. 384(ई), दिनांक 1<br>98 के अधिक्रमण में केन्द्रीय प्रदूषण नियंत्रण बो<br>5 अधिसूचित करता है, जो इस प्रकार है:-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                         |                                            | राष्ट्रीय प                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | रिवेशी वायु गुण                                   | वत्ता मानक                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| क्र. प्रदूष             | 5                                          | समय ·                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                   | परिवेशी वायु में सान्द्रण                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 28.                     |                                            | आधारित                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | औरोगिक                                            | the summer of the sector of the sector                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| ø,  | प्रदूषक                                                                             | समय ·                                                         | परिवेशी वायु में सान्द्रण |                                                                                 |                                                                      |  |
|-----|-------------------------------------------------------------------------------------|---------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------------------|--|
| સં. |                                                                                     | आघारित औद्योगिक,<br>औसत रिहायशी,<br>ग्रामीण औ<br>अन्य क्षेत्र | रिहायशी,<br>ग्रामीण और    | पारिस्थितिकी<br>य<br>संवेदनशील<br>क्षेत्र (केन्द्र<br>सरकार द्वारा<br>अधिसुचित) | प्रबोधन की पद्धति                                                    |  |
| (1) | (2)                                                                                 | (3)                                                           | (4)                       | (5)                                                                             | (6)                                                                  |  |
| 1   | सल्फर डाई आक्साइड<br>(SO <sub>2</sub> ), μg/m <sup>3</sup>                          | वार्षिक*<br>24 घंटे**                                         | 50<br>80                  | 20<br>80                                                                        | -उन्नत वेस्ट और गाईक<br>-परावेगनी परिदीप्ती                          |  |
| 2   | नाइट्रोजन डाई आक्साइड<br>(NO <sub>2</sub> ), μg/m <sup>3</sup>                      | वार्षिक*<br>24 घंटे**                                         | 40<br>80                  | 30<br>80                                                                        | -उपांतरित जैकब और हॉचाइज<br>(सोडियम-आर्सेनाईट)<br>-रासायनिक संदीप्ति |  |
| 3   | विविक्त पदार्थ (10माइक्रान<br>से कम आकार)या PM <sub>10</sub> ,<br>µg/m <sup>3</sup> | वार्षिक*<br>24 घंटे**                                         | 60<br>100                 | 60<br>100                                                                       | -हरात्मक विश्लेषण<br>-टोयम<br>-बीटा तनुकरण पद्धति                    |  |

AVI-1

| 4  | विविक्त पदार्थ (2.5<br>माइक्रान से कम आकार या<br>PM <sub>2.5</sub> , μg/m <sup>3</sup> | वार्षिक*<br>24 घंटे**  | 40<br>60    | 40<br>60    | -हरात्मक विश्लेषण<br>-टोयम<br>-बीटा तनुकरण पद्धति                                                                           |
|----|----------------------------------------------------------------------------------------|------------------------|-------------|-------------|-----------------------------------------------------------------------------------------------------------------------------|
| 5  | ओजोन (O <sub>3</sub> )<br>µg/m <sup>3</sup>                                            | 8 घंटे**<br>1 घंटा**   | 100<br>180  | 100<br>180  | -पराबैगनी द्वीप्तिकाल<br>-रासायनिक संदीप्ति<br>-रासायनिक पद्धति                                                             |
| 6  | सीसा (Pb)<br>µg/m <sup>3</sup>                                                         | वार्षिक*<br>24 घंटे**  | 0.50<br>1.0 | 0.50<br>1.0 | ई.पी.एम 2000 या समरूप<br>फिल्टर पेपर का प्रयोग करके<br>AAS/ICP पद्धति<br>-टेफलॉन फिल्टर पेपर का<br>प्रयोग करते हुए ED-XRF   |
| 7  | कार्बन मोनोक्साइड (CO)<br>mg/m <sup>3</sup>                                            | 8 घंटे**<br>1 घंटा**   | 02<br>04    | 02<br>04    | -अविपेक्षी अवरक्त (NDIR)<br>स्पैक्ट्रम मापन                                                                                 |
| 8. | अमोनिया (NH <sub>3</sub> )<br>µg/m <sup>3</sup>                                        | वार्षिकं*<br>24 घंटे** | 100<br>400  | 100<br>400  | -रासायनिक संद्रीप्ती<br>-इण्डोफिनॉल ब्ल्यू पद्धति                                                                           |
| 9  | बैन्जीन (C <sub>6</sub> H <sub>6</sub> )<br>µg/m <sup>3</sup> .                        | বার্ষিক*               | 05          | 05          | <ul> <li>गैस क्रोमेटोग्राफी आधारित<br/>सतत् विश्लेषक</li> <li>-अधिशोषण तथा निशोषण के<br/>बाद गैसं क्रोमेटोग्राफी</li> </ul> |
| 10 | बैन्जो (ए) पाईरीन (BaP)<br>केवल विविक्त कण,<br>ng/m <sup>3</sup>                       | वार्षिक*               | 01          | 01          | -विलायक निष्कर्षण के बाद<br>HPLC/GC द्वारा विश्लेषण                                                                         |
| 11 | आर्सेनिक (As)<br>ng/m <sup>3</sup>                                                     | वार्षिक*               | 06          | 06          | -असंवितरक अवरक्त<br>स्पैक्ट्रामिती ई,पी.एम. 2000 या<br>समरूप फिल्टर पेपर का प्रयोग<br>करके ICP/AAS पद्धति                   |
| 12 | निकिल (Ni)<br>ng/m <sup>3</sup>                                                        | वार्षिक*               | 20          | 20          | ई.पी.एम. 2000 या समरूप<br>फिल्टर पेपर का प्रयोग करके<br>ICP/AAS पद्धति                                                      |

\* वर्ष में एक समान अतंरालों पर सप्ताह में दो बार प्रति 24 घंटे तक किसी एक स्थान विशेष पर लिये गये न्यूनतम 104 मापों का वार्षिक अंकगणीतीय औसत ।

\*\* वर्ष में 98 प्रतिशत समय पर 24 घंटे या 8 घंटे या 1 घंटा के मानीटर मापमान, जो लागू हो , अनुपालन कये जाएंगे । दो प्रतिशत समय पर यह मापमान अधिक हो सकता है, किन्तु क्रमिक दो मानीटर करने के दिनों पर नहीं ।

टिप्पणीः

 जब कभी और जहां भी किसी अपने-अपने प्रवर्ग के लिये दो क्रमिक प्रबोधन दिनों पर मापित मूल्य, उग्रर विनिर्दिष्ट सीमा से अधिक हो तो इसे नियमित या निरंतर प्रबोधन तथा अतिरिक्त अन्वेषण करवाने के लिये पर्याप्त कारण समझा जायेगा ।

> संत प्रसाद गौतम, अध्यक्ष [विज्ञापन-111/4/184/09/असा.]

टिप्पणीः राष्ट्रीय परिवेशी वायु गुणवत्ता मानक संबंधी अधिसूचनाएँ, केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा भारत के राजपत्र आसाघरण में अधिसूचना संख्या का.आ. 384 (ई), दिनांक 11 अप्रैल, 1994 एवं का. आ. 935 (ई), दिनांक 14 अक्टूबर, 1998 द्वारा प्रकाशित की गयी थी ।

#### NATIONALAMBIENTAIR QUALITY STANDARDS CENTRAL POLLUTION CONTROL BOARD NOTIFICATION

New Delhi, the 18th November, 2009

No. B-29016/20/90/PCI-L-In exercise of the powers conferred by Sub-section (2) (h) of section 16 of the Air (Prevention and Control of Pollution) Act, 1981 (Act No.14 of 1981), and in supersession of the Notification No(s). S.O. 384(E), dated 11<sup>th</sup> April, 1994 and S.O. 935(E), dated 14<sup>th</sup> October, 1998, the Central Pollution Control Board hereby notify the National Ambient Air Quality Standards with immediate effect, namely:-

| S.<br>No. | Pollutant                                                                                 | Pollutant Time Weighted<br>Average |             | Concentration in Ambient Air                                             |                                                                                                                                           |  |  |  |
|-----------|-------------------------------------------------------------------------------------------|------------------------------------|-------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
|           |                                                                                           |                                    |             | Ecologically<br>Sensitive Area<br>(notified by<br>Central<br>Government) | Methods of Measurement                                                                                                                    |  |  |  |
| (1)       | (2)                                                                                       | (3)                                | (4)         | (5)                                                                      | (6)                                                                                                                                       |  |  |  |
| 1         | Sulphur Dioxide<br>(SO <sub>2</sub> ), μg/m <sup>3</sup>                                  |                                    | 50<br>80    | 20<br>80                                                                 | - Improved West and<br>Gaeke<br>-Ultraviolet fluorescence                                                                                 |  |  |  |
| 2         | Nitrogen Dioxide<br>(NO <sub>2</sub> ), µg/m <sup>3</sup>                                 | Annual*<br>24 hours**              | 40<br>80    | 30<br>80                                                                 | <ul> <li>Modified Jacob &amp;<br/>Hochheiser (Na-<br/>Arsenite)</li> <li>Chemiluminescence</li> </ul>                                     |  |  |  |
| 3         | Particulate Matter<br>(size less than<br>10µm) or PM <sub>10</sub><br>µg/m <sup>3</sup>   | Annual*<br>24 hours**              | 60<br>100   | 60<br>100                                                                | <ul> <li>Gravimetric</li> <li>TOEM</li> <li>Beta attenuation</li> </ul>                                                                   |  |  |  |
| 4         | Particulate Matter<br>(size less than<br>2.5µm) or PM <sub>2.5</sub><br>µg/m <sup>3</sup> | Annual*<br>24 hours**              | 40<br>60    | 40<br>60                                                                 | <ul> <li>Gravimetric</li> <li>TOEM</li> <li>Beta attenuation</li> </ul>                                                                   |  |  |  |
| 5         | Ozone (O <sub>3</sub> )<br>µg/m <sup>3</sup>                                              | 8 hours**<br>I hour**              | 100<br>180  | 100                                                                      | - UV photometric<br>- Chemilminescence<br>- Chemical Method                                                                               |  |  |  |
| 6         | Lead (Pb)<br>µg/m <sup>3</sup>                                                            | Annual*<br>24 hours**              | 0.50<br>1.0 | 0.50                                                                     | <ul> <li>AAS /ICP method after<br/>sampling on EPM 2000<br/>or equivalent filter paper</li> <li>ED-XRF using Teflon<br/>filter</li> </ul> |  |  |  |
| 7         | Carbon<br>Monoxide (CO)<br>mg/m <sup>3</sup>                                              | 8 hours**                          | 02<br>04    | 02                                                                       | - Non Dispersive Infra<br>Red (NDIR)<br>spectroscopy                                                                                      |  |  |  |
| 8         | Ammonia (NH3)<br>µg/m <sup>3</sup>                                                        | Annual*<br>24 hours**              | 100<br>400  | 100<br>400                                                               | -Chemiluminescence<br>-Indophenol blue method                                                                                             |  |  |  |

#### NATIONAL AMBIENT AIR QUALITY STANDARDS

| (1) | (2)                                                                    | (3)     | (4) | (5) | (6)                                                                                                            |
|-----|------------------------------------------------------------------------|---------|-----|-----|----------------------------------------------------------------------------------------------------------------|
| 9   | Benzene (C <sub>6</sub> H <sub>6</sub> )<br>µg/m <sup>3</sup>          | Annual* | 05  | 05  | Gas chromatography<br>based continuous<br>analyzer     Adsorption and<br>Desorption followed by<br>GC analysis |
| 10  | Benzo(o)Pyrene<br>(BaP) - particulate<br>phase only, ng/m <sup>3</sup> | Annual* | 01  | 01  | <ul> <li>Solvent extraction<br/>followed by HPLC/GC<br/>analysis</li> </ul>                                    |
| 11  | Arsenic (As),<br>ng/m <sup>3</sup>                                     | Annual* | 06  | 06  | <ul> <li>AAS /ICP method after<br/>sampling on EPM 2000<br/>or equivalent filter paper</li> </ul>              |
| 12  | Nickel (Ni), ng/m <sup>3</sup>                                         | Annual* | 20  | 20  | - AAS /ICP method after<br>sampling on EPM 2000<br>or equivalent filter paper                                  |

 Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

\*\* 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

Note. — Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigation.

#### SANT PRASAD GAUTAM, Chairman [ADVT-III/4/184/09/Exty.]

Note:

te: The notifications on National Ambient Air Quality Standards were published by the Central Pollution Control Board in the Gazette of India, Extraordinary vide notification No(s). S.O. 384(E), dated 11<sup>th</sup> April, 1994 and S.O. 935(E), dated 14<sup>th</sup> October, 1998.

| Area Code | Category of Area | Noise Levels d | B(A) eq    |
|-----------|------------------|----------------|------------|
|           |                  | Day time*      | Night Time |
| A         | Industrial Area  | 75             | 70         |
| В         | Commercial Area  | 65             | 55         |
| C         | Residential Area | 55             | 45         |
| D         | Silence Zone**   | 50             | 40         |

Note: - 1. Day time shall mean from 6.00 a.m. to 10.00 p.m.

2. Night time shall mean from 10.00 p.m. to 6.00 a.m.

- 3. Silence zone is an area comprising not less than 100 metres around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority.
- 4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.
- \* dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.
- A "decibel" is a unit in which noise is measured.
   "A", in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.
   Leq: It is an energy mean of the noise level over a specified period.

#### Noise Standards for Occupational Exposure

Noise standards in the work environment are specified by Occupational Safety and Health Administration (OSHA-USA) which are being enforced by Government of India through model rules framed under Factories Act. These are given in below Table.

#### STANDARDS FOR OCCUPATIONAL EXPOSURE

| Total Time of Exposure per Day in Hours<br>(Continuous or Short term Exposure) | Sound Pressure Level in dB(A) |  |  |  |
|--------------------------------------------------------------------------------|-------------------------------|--|--|--|
| 8                                                                              | 90                            |  |  |  |
| 6                                                                              | 92                            |  |  |  |
| 4                                                                              | 95                            |  |  |  |
| 3                                                                              | 97                            |  |  |  |
| 2                                                                              | 100                           |  |  |  |
| 3/2                                                                            | 102                           |  |  |  |
| 4<br>3<br>2<br>3/2<br>1<br>3/4<br>1/2                                          | 105                           |  |  |  |
| 3⁄4                                                                            | 107                           |  |  |  |
| 1/2                                                                            | 110                           |  |  |  |
| 1⁄4                                                                            | 115                           |  |  |  |
| Never                                                                          | >115                          |  |  |  |

Note:

1. No exposure in excess of 115 dB(A) is to be permitted.

2. For any period of exposure falling in between any figure and the next higher or lower figure as indicated in column (1), the permissible level is to be determined by extrapolation on a proportionate scale.

# adani

ANNEXURE-VII NAVI MUMBAI AIRPORT INFLUENCE NOTIFIED AREA (NAINA) NOTIFICATION

#### URBAN DEVELOPMENT DEPARTMENT

#### Mantralaya, Mumbai 400 021, Dated 10th January 2013.

#### NOTIFICATION

MAHARASHTRA REGIONAL AND TOWN PLANNING ACT, 1966.

No.TPS-1712/475/CR-98/12/UD-12.—Whereas, the Revised Regional Plan for Mumbai Metropolitan Region (hereinafter referred to as the "said Regional Plan") has been sanctioned by the Government in the Urban Development Department under sub-section (1) of section 15 of the Maharashtra Regional and Town Planning Act, 1966 (hereinafter referred to as the "said Act") *vide* Notification No.TPS-1297/1094/CR-116/97/UD-12, dated 23rd September 1999 (hereinafter referred to as the "said Notification") and has come into force with effect from the 1st December, 1999 ;

And whereas, the Government has decided to develop a site for International Air Port in Navi Mumbai area within the said Regional Plan;

And whereas, as per one of the conditions laid down by the Ministry of Environment and Forest (MoEF), Government of India, while granting Environmental and CRZ Clearance to the Navi Mumbai International Airport (NMIA) that the Development Plan of Navi Mumbai shall be revised and recast in view of the proposed Air Port Development so as to avoid unplanned haphazard growth around the proposed air port;

And whereas, as per the provisions prescribed in the Notification issued by the Airport Authority of India (AAI) on 14the January 2010, no structure shall be constructed or erected on any land within the periphery of 20 km. from ARP of NMIA (Navi Mumbai International Air Port) without obtaining the No Objection Certificate (NOC) from AAI (Airport Authority of India);

And whereas, City and Industrial Development Corporation of Maharashtra Ltd.(CIDCO) submitted a proposal to the Government vide letter No. CIDCO/PLNG/CP/2012/18 dated 17th January 2012 requesting for its appointment as Special Planning Authority under section40(1)(b) of the said Act for an area around the proposed International Airport comprising the boundaries and villages covered within it, s specified respectively in the schedule-I and schedule-II appended hereto;

And whereas, after making necessary enquiries and after consulting the Director of Town Planning, Maharashtra State, Pune, the Government is of the opinion that it is necessary to have planned and controlled Development within the area proposed by CIDCO to be declared as notified area (hereinafter referred to as the "said notified area").

Now therefore, in exercise of the powers conferred under clause (b) of sub-section (1) of section 40 of the said Act and of all other powers enabling it in this behelf, the Government of Maharashtra hereby-

(i) Notifies the area specified in the schedules-I &II appended hereto as "The Navi Mumbai Airport Influence Notified Arae" (NAINA), as shown on plan.

(ii) Appoints the CIDCO to be the Special Planning Authority for the said notified area i.e. NAINA.

(*iii*) Declares that any other Special Planning Authority functioning in the said NAINA, prior to this notification shall cease to function from the date of this notification.

(*iv*) Directs the CIDCO to prepare and publish the development proposals and development control regulations for the said notified area and submit the same to the Government for sanction after following due procedure prescribed in the said Act.

Copy of the plan showing the boundaries of the said notified area shall be available for inspection for the general public during office hours on all working days at the following offices for a period of one month :-

(1) Commissioner, Konkan Division, Konkan Bhavan, Navi Mumbai.

(2) Chief Planner, CIDCO, CIDCO Bhavan, CBD Belapur, Navi Mumbai – 400 614.

(3) Collector Raigad/ Thane.

- (4) Dy. Director of Town Planning, Konkan Division, Konkan Bhavan, Navi Mumbai.
- (5) Assistant Director of Town Planning, Raigad Branch, Raigad-Alibagh.
- (6) Assistant Director of Town Planning, Thane Branch, Thane.

महाराष्ट्र शासन राजपत्र भाग एक-कोकण विभागीय पुरवणी, गुरुवार ते बुधवार, फेब्रुवारी १४-२०, २०१३/माघ २५-फाल्गुन १, शके १९३४ ४७

#### Schedule - I

#### Boundaries of the Navi Mumbai Airport Influence Notified Area

#### (NAINA)

| Direction | s Bounded by                                                                                                                                                                                                                                                                                                     |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| North     | . The Northern boundary of village Nitalas touching the boundary of AKBSNA; than boundary of Matheran Eco sensitive Zone (MESZ) passing through village Wangani Tarf Taloje;                                                                                                                                     |
| East      | . Boundary of MESZ passing through village Wangani Tarf Taloje upto village Wavarle; then Western<br>boundary of Karjat Municipal Council, then railway line passing from Karjat Municipal Council to<br>Khalapur Municipal Council; then Northern noundary of Khalapur Municipal Council up to MMR<br>boundary; |
| South     | . MMR boundary from North- West corner of Khalapur Municipal Council to Pen Municipal Council,<br>then North to West bounary of Pen Municipal Council, MMR boundary from West corner of Pen<br>Municipal Council to Tahsil Boundary of Pen; then along the boundary of Pen Tahsil up to<br>villageVittalwadi;    |
| West      | . Along periphery of Khopta New Town from village Vittalwadi to Kanthavali and further along periphery of Navi Mumbai upto village Nitalas.                                                                                                                                                                      |

It also includes the villages deleted from Navi Mumbai Municipal Corporation, apart from area designated by boundaries described above.

Note.—This shall be read with the plan accompanying this notification.

## Schedule - II

| Sr. No.<br>(1) | Name of Village<br>(2)                   |                   | 34    | Tahsil<br>(3) | District<br>(4) |
|----------------|------------------------------------------|-------------------|-------|---------------|-----------------|
| 1              | Goteghar                                 |                   |       | Thane         | Thane           |
| 2              | Bhandarli                                |                   | ·     | Thane         | Thane           |
| 3              | Uttarshiv                                |                   |       | Thane         | Thane           |
| 4              | Nagaon                                   |                   |       | Thane         | Thane           |
| 5              | Narivali                                 |                   | t.,   | Thane         | Thane           |
| 6              | Bale                                     |                   | ,     | Thane         | Thane           |
| 7              | Vaklan                                   |                   |       | Thane         | Thane           |
| 8              | Bamali                                   |                   |       | Thane         | Thane           |
| 9              | Nighu                                    | •••               | ·     | Thane         | Thane           |
| 10             | Navali                                   | ****              | 0.000 | Thane         | Thane           |
| 11             | Dahisar                                  |                   |       | Thane         | Thane           |
| 12             | Mokashi                                  |                   |       | Thane         | Thane           |
| 13             | Valivali                                 |                   |       | Thane         | Thane           |
| 14             | Pimpari                                  |                   |       | Thane         | Thane           |
| 15             | Veshvi                                   | ***               | •••   | Uran          | Raigad          |
| 16             | Dighode                                  | •••               |       | · Uran        | Raigad          |
| 17             | Kanthavali                               |                   | •••   | Uran          | Raigad          |
| 18             | Pohi                                     |                   |       | Uran          | Raigad          |
| 19             | Ransai                                   | •••               | ***   | Uran          | Raigad          |
| 20             | Tighar                                   |                   |       | Karjat        | Raigad          |
| 21             | Nangurle                                 |                   |       | Karjat        | Raigad          |
| 22             | Varne                                    |                   |       | Karjat        | Raigad          |
| 23             | Avalas (Excluding area East of Karjat-Kl | nopoli Rail Line) |       | Karjat        | Raigad          |

List of villages within the boundaries of the Notified area

४८ महाराष्ट्र शासन राजपत्र भाग एक—कोकण विभागीय पुरवणी, गुरुवार ते बुधवार, फेब्रुवारी १४-२०, २०१३/माघ २५-फाल्गुन १, शके १९३४

| Sr. No<br>(1) | Name of Village<br>(2)                           |            |       | Tahsil<br>(3) | District<br>(4) |
|---------------|--------------------------------------------------|------------|-------|---------------|-----------------|
| 24            | Palasdari (Excluding area East of Karjat-Khopoli | Rail Line) |       | Karjat        | Raigad          |
| 25            | Talawali (Excluding area East of Karjat-Khopoli  | Rail Line) |       | Karjat        | Raigad          |
| 26            | Kharpada                                         | (ana a     |       | Pen           | Raigad          |
| 27            | Dushmi                                           | 5          |       | Pen           | Raigad          |
| 28            | Kauli Simadevi                                   | 1          | ·     | Pen           | Raigad          |
| 29            | Khar Simadevi                                    |            | •     | Pen           | Raigad          |
| 30            | Kharkoshim                                       |            |       | Pen           | Raigad          |
| 31            | Jui Khurd                                        |            |       | Pen           | Raigad          |
| 32            | Jui Budruk                                       | (****      |       | Pen           | Raigad          |
| 33            | Jite                                             | 5-<br>1    |       | Pen           | Raigad          |
| 34            | Navkhar                                          |            |       | Pen           | Raigad          |
| 35            | Khar Nandai                                      |            |       | Pen           | Raigad          |
| 36            | Turkhul                                          |            |       | Pen           | Raigad          |
| 37            | Khar Dubej                                       |            |       | Pen           | Raigad          |
| 38            | Rave                                             | -100       |       | Pen           | Raigad          |
| 39            | Dadar                                            |            |       | Pen           | Raigad          |
| 40            | Urnoli                                           |            | <     | Pen           | Raigad          |
| 41            | Sonkhar                                          |            |       | Pen           | Raigad          |
| 42            | Khar Dutarfa Borli                               |            |       | Pen           | Raigad          |
| 43            | Kalave                                           | ••••       |       | Pen           | Raigad          |
| 44            | Hanumanpada                                      |            |       | Pen           | Raigad          |
| 45            | Davre                                            | ***        | ·;•   | Pen           | Raigad          |
| 46            | Kopar                                            |            |       | Pen           | Raigad          |
| 47            | Khar Borli                                       |            |       | Pen           | Raigad          |
| 48            | Govirle                                          |            | • • • | Pen           | Raigad          |
| 49            | Balawali                                         | ••••       |       | Pen           | Raigad          |
| 50            | Ambivali                                         |            |       | Pen           | Raigad          |
| 51            | Hamrapur                                         |            |       | Pen           | Raigad          |
| 52            | Tambadshet                                       |            | ,     | Pen           | Raigad          |
| 53            | Johe                                             |            |       | Pen           | Raigad          |
| 54            | Dolvi Dababa                                     | ••••       |       | Pen           | Raigad          |
| 55            | Mothe Vadhav                                     |            |       | Pen           | Raigad          |
| 56            | Kaleshri                                         | • • • • •  |       | Pen           | Raigad          |
| 57            | Kanhoba                                          |            |       | Pen           | Raigad          |
| 58            | Vitthalwadi                                      |            |       | Pen           | Raigad          |
| 59            | Mothe Bhal                                       |            |       | Pen           | Raigad          |
| 60            | Lakhanle                                         |            |       | Pen           | Raigad          |
| 61            | Narwel                                           | ••••       |       | Pen           | Raigad          |
| 62            | Bahiram Katak                                    |            |       | Pen           | Raigad          |
| 63            | Benavale                                         |            |       | Pen           | Raigad          |
| 64            | Wadhav                                           | 222        |       | Pen           | Raigad          |
| 65            | Div                                              | •••        | •••   | Pen           | Raigad          |
| 66            | Borze                                            |            |       | Pen           | Raigad          |

1. 100

| . No.<br>(1)      | Name of Village<br>(2) .                            |         |       | Tahsil<br>(3)        | District (4)     |
|-------------------|-----------------------------------------------------|---------|-------|----------------------|------------------|
| 67                | Kane                                                |         |       | Pen                  | Raigad           |
| 68                | Waredi                                              |         |       | Pen                  | Raigad           |
| 69                | Nagadi Sapoli                                       |         |       | Pen                  | Raigad           |
|                   |                                                     |         |       |                      | 597.).           |
| 70                | Khar Dutarfa Sapoli                                 | ••• .   | •••   | Pen                  | Raigad           |
| 71                | Kharsapoli                                          |         | •••   | Pen                  | Raigad           |
| 72<br>73          | Chinchghar<br>Shitole                               |         |       | Pen<br>Pen           | Raigad<br>Raigad |
| 73<br>74          | Davansar                                            |         |       | Pen                  | Raigad           |
|                   |                                                     |         |       |                      | 1872 12 AM       |
| 75<br>76          | Ramraj<br>Dhavate                                   | ***     |       | Pen<br>Pen           | Raigad<br>Raigad |
|                   | Tarankhop                                           |         |       | Pen                  | Raigad           |
|                   | Antore                                              |         |       | Pen                  | Raigad           |
|                   | Patnoli                                             |         |       | Pen                  | Raigad           |
|                   |                                                     |         | •••   |                      |                  |
| 80                | Koproli                                             | 622     | 0.000 | Pen                  | Raigad           |
| 81                | Odhangi                                             | 000     |       | Pen                  | Raigad           |
| 82                | Washi                                               |         |       | Pen                  | Raigad           |
| 83                | Sare Bhag                                           |         |       | Pen                  | Raigad           |
| 84                | Shirki Chawl                                        | nn b    |       | Pen                  | Raigad           |
| 85                | Masad Bedi                                          |         |       | Pen                  | Raigad           |
| 86                | Masad Khurd                                         | •••     |       | Pen                  | Raigad           |
| 87                | Masad Budruk                                        |         | 19.62 | Pen                  | Raigad           |
| 88                | Borwe                                               |         | 2555  | Pen                  | Raigad           |
| 89                | Bori                                                | ****    |       | Pen                  | Raigad           |
| 90                | Shirki                                              | 10. j   |       | Pen                  | Raigad           |
| 91                | Kolave                                              |         | •••   | Pen                  | Raigad           |
| 92<br>93          | Shinganvat<br>Dhondpada                             |         |       | Pen<br>Pen           | Raigad<br>Raigad |
| 93<br>94          | Umbarde                                             |         |       | Pen                  | Raigad           |
| 95                | Meleghar                                            |         |       | Pen                  | Raigad           |
| 96                | Kandale                                             |         |       | Pen                  | Raigad           |
| 97                | Uchede                                              |         |       | Pen                  | Raigad           |
| 98                | Kandlepada                                          |         |       | Pen                  | Raigad           |
| 99                | Wadkhal                                             |         |       | Pen                  | Raigad           |
| 100               | Beneghat                                            | P223    |       | Pen                  | Raigad           |
| 101               | Wave                                                | •••     | •••   | Pen                  | Raigad           |
| 102               | Kashmirwadi                                         | •••     | ***   | Pen                  | Raigad           |
| 103               | Rode                                                | *** s h |       | Pen<br>Khalapur      | Raigad<br>Raigad |
| 104<br>105        | Talegaon<br>Panshil                                 | مدامد:  | - a   | Khalapur             | Raigad           |
| 105               | Rees                                                |         |       | Khalapur             | Raigad           |
| 107               | Lodhivali (Excluding area under MESZ)               |         |       | Khalapur             | Raigad           |
| 108               | Nadhal (Excluding area under MESZ)                  |         |       | Khalapur             | Raigad           |
| 109               | Chouk Manivali (Excluding area under MESZ)          |         |       | Khalapur             | Raigad           |
| 110               | Nanivali (Excluding area under MESZ)                |         |       | Khalapur             | Raigad           |
| 111               | Warose Tarf Wankhal (Excluding area under MESZ)     | 2422    |       | Khalapur             | Raigad           |
| 112               | Borgaon Khurd (Excluding area under MESZ)           |         |       | Khalapur             | Raigad           |
| 113               | Sondewadi (Excluding area under MESZ)               |         | •••   | Khalapur ·           | Raigad           |
| 114               | Wavarle (Excluding area under MESZ)                 | ***     |       | Khalapur             | Raigad           |
| 115               | Pali Budruk<br>Vadvihir (Excluding area under MESZ) |         |       | Khalapur<br>Khalapur | Raigad<br>Raigad |
| $\frac{116}{117}$ | Borgaon Budruk (Excluding area under MESZ)          | ***     |       | Khalapur             | Raigad           |
| 117               | Padaghe                                             |         |       | Khalapur             | Raigad           |
| 119               | Morbe                                               |         |       | Khalapur             | Raigad           |

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| Sr. No<br>(1) | Name of Village<br>(2)                               |                  |      | Tahsil<br>(3) | Distric<br>(4) |
|---------------|------------------------------------------------------|------------------|------|---------------|----------------|
| 120           | Bhilvale                                             |                  |      |               |                |
| 121           | Hatnoli                                              | •••              | •••  | Khalapur      | Raigad         |
| 122           | Jambhivali Tarf Wankhal                              |                  |      | Khalapur      | Raigad         |
| 123           | Tupgaon                                              |                  | •••  | Khalapur      | Raigad         |
| 124           | Pali Khurd                                           |                  | •••  | Khalapur      | Raigad         |
| 125           | Sarang                                               |                  |      | Khalapur      | Raigad         |
| 126           | Parade                                               |                  |      | Khalapur      | Raigad         |
| 120           | Ambivali Tarf Tungartan                              |                  | •••  | Khalapur      | Raigad         |
| 127           | Wasambe                                              | •••              |      | Khalapur      | Raigad         |
| 120           | Chambharli                                           | ((***))          | •••  | Khalapur      | Raigad         |
| 130           | Vat                                                  |                  | •••  | Khalapur      | Raigad         |
| 131           | Kambe                                                | •••              |      | Khalapur      | Raigad         |
| 132           | Vayal                                                | •••              |      | Khalapur      | Raigad         |
| 132           | Tembhari                                             |                  |      | Khalapur      | Raigad         |
|               |                                                      |                  | •••  | Khalapur      | Raigad         |
| 134           | Kopari                                               |                  | •••  | Khalapur      | Raigad         |
| 135           | Asroti                                               |                  | •••  | Khalapur      | Raigad         |
| 136           | Dharni                                               |                  |      | Khalapur      | Raigad         |
| 137           | Asare                                                |                  |      | Khalapur      | Raigad         |
| 138           | Kandharoli Tarf Wankhal                              |                  |      | Khalapur      | Raigad         |
| 139           | Vavandal                                             |                  |      | Khalapur      | Raigad         |
| 140           | Vinegaon                                             |                  |      | Khalapur      | Raigad         |
| 141           | Kalote Mokashi                                       |                  | •••• | Khalapur      | Raigad         |
| 142           | Kalote Rayati                                        |                  | •••  | Khalapur      |                |
| 143           | Nigdoli                                              |                  |      | Khalapur      | Raigad         |
| 144           | Nadode                                               |                  |      |               | Raigad         |
| 145           | Nimbode                                              |                  |      | Khalapur      | Raigad         |
| 146           | Vanave                                               | •••              | •••  | Khalapur      | Raigad         |
| 147           | Shiravali Tarf Boreti                                |                  | •••  | Khalapur      | Raigad         |
| 148           | Khalapur                                             | •••              | •••  | Khalapur      | Raigad         |
| 149           | Ghodivali                                            |                  | •••  | Khalapur      | Raigad         |
| 150           | Kandharoli Tarf Boreti                               | •••              |      | Khalapur      | Raigad         |
| 151           | Navandhe                                             |                  | •••  | Khalapur      | Raigad         |
| 152           |                                                      |                  | •••  | Khalapur      | Raigad         |
| 153           | Wangani (Excluding area East of Karjat-Khopoli Rai   | lline)           | •••  | Khalapur      | Raigad         |
|               | Kelavali (Excluding area East of Karjat-Khopoli Rail | line)            |      | Khalapur      | Raigad         |
| 154           | Dolavali (Excluding area East of Karjat-Khopoli Rail | line)            | •••  | Khalapur      | Raigad         |
| 155           | Shengaon (Excluding area East of Karjat-Khopoli Ra   | illine)          | •••  | Khalapur      | Raigad         |
| 156           | Mankivali (Excluding area East of Karjat-Khopoli Ra  | illine)          |      | Khalapur      | Raigad         |
| 157           | Anjrun                                               |                  |      | Khalapur      | Raigad         |
| 158           | Hal Khurd                                            | •••              |      | Khalapur      | Raigad         |
| 159           | Mahad                                                | •••              |      | Khalapur      | Raigad         |
| 160           | Nitalas (Excluding area under MESZ)                  |                  |      | Panvel        | Raigad         |
| 161           | Nitale (Excluding area under MESZ)                   | ··· <sup>=</sup> |      | Panvel        | Raigad         |
| 162           | Kherane Khurd                                        |                  |      | Panvel        | Raigad         |
| 163           | Vavanje (Excluding area under MESZ)                  |                  |      | Panvel        | Raigad         |
| 164           | Mahodar (Excluding area under MESZ)                  |                  |      | Panvel        | Raigad         |
| 165           | Kondap (Excluding area under MESZ)                   | ••••             |      | Panvel        | Raigad         |
| 166           | Wangani Tarf Taloje (Excluding area under MESZ)      |                  |      | Panvel        | Raigad         |
| 167           | Karambeli Tarf Taloje (Excluding area under MESZ)    |                  |      | Panvel        | Raigad         |
| 168           | Shiravali (Excluding area under MESZ)                |                  |      | Panvel        | Raigad         |
| 169           | Ambe tarf taloje (Excluding area under MESZ)         |                  |      | Panvel        | Raigad         |
| 170           | Chinchavali Tarf Taloje                              |                  | •••  | Panvel        |                |
| 171           | Mahalungi                                            |                  |      | Panvel        | Raigad         |
| 172           | Chindharan                                           |                  | •••  | Panvel        | Raigad         |
| 173           | Kanpoli                                              |                  |      |               | Raigad         |
| 174           | Valap                                                |                  | •••  | Panvel        | Raigad         |
| 175           | Pale Budruk                                          | • • • • • • •    | •••  | Panvel        | Raigad         |
| ~             | a uto Duut un                                        |                  |      | Panvel        | Raigad         |

| . No.<br>(1)          | Name of Village<br>(2)                          |               |          | Tahsil<br>(3)                                                                                                    | District<br>(4) |
|-----------------------|-------------------------------------------------|---------------|----------|------------------------------------------------------------------------------------------------------------------|-----------------|
| 2011.201<br>1997-1997 |                                                 |               |          |                                                                                                                  |                 |
| 176                   | Hedutane                                        |               |          | Panvel                                                                                                           | Raigad          |
| 177                   | Kevale                                          | •••           | ***      | Panvel                                                                                                           | Raigad          |
| 178                   | Khanav                                          |               | •••      | Panvel                                                                                                           | Raigad          |
| 179                   | Morbe (Excluding area under MESZ)               |               |          | Panvel                                                                                                           | Raigad          |
| .80                   | Kondale (Excluding area under MESZ)             | •••           |          | Panvel                                                                                                           | Raigad          |
| .81                   | Khairwadi (Excluding area under MESZ)           | •••           | •••      | Panvel                                                                                                           | Raigad          |
| .82                   | Tamsai (Excluding area under MESZ)              | •••           | •••      | Panvel                                                                                                           | Raigad          |
| .83                   | Maldunge (Excluding area under MESZ)            |               | •••      | Panvel                                                                                                           | Raigad          |
| .84                   | Dhodani (Excluding area under MESZ)             |               |          | Panvel                                                                                                           | Raigad          |
| .85                   | Deharang (Excluding area under MESZ)            |               | 1000     | Panvel                                                                                                           | Raigad          |
| .86                   | Dhamani (Excluding area under MESZ)             |               | •••      | Panvel                                                                                                           | Raigad          |
| .87                   | Gadhe (Excluding area under MESZ)               |               |          | Panvel                                                                                                           | Raigad          |
| .88                   | Ambe tarf waje                                  |               | 2        | Panvel                                                                                                           | Raigad          |
| .89                   | Shivansai                                       |               |          | Panvel                                                                                                           | Raigad          |
| .90                   | Dundre (Excluding area under MESZ)              |               |          | Panvel                                                                                                           | Raigad          |
| .91                   | Ritghar (Excluding area under MESZ)             |               |          | Panvel                                                                                                           | Raigad          |
| .92                   | Usarli Budruk (Excluding area under MESZ)       |               |          | Panvel                                                                                                           | Raigad          |
| 93                    | Umroli                                          |               |          | Panvel                                                                                                           | Raigad          |
| .94                   | Chinchavali Tarf Waje                           |               |          | Panvel                                                                                                           | Raigad          |
| .95                   | Vakadi                                          |               |          | Panvel                                                                                                           | Raigad          |
| .96                   | Nere (Excluding area under MESZ)                |               |          | Panvel                                                                                                           | Raigad          |
| .97                   | Koproli                                         | ***           |          | Panvel                                                                                                           | Raigad          |
| 98                    | Harigram                                        |               |          | Panvel                                                                                                           | Raigad          |
| .99                   | Adai                                            | •••           |          | Panvel                                                                                                           | Raigad          |
| 200                   | Akurli                                          |               |          | Panvel                                                                                                           | Raigad          |
|                       | Palidevad                                       |               | •••      | Panvel                                                                                                           | Raigad          |
| 201                   |                                                 | 8.00          | •••      |                                                                                                                  |                 |
| 202                   | Devad                                           |               |          | Panvel                                                                                                           | Raigad          |
| 203                   | Shilottar Raichur                               | •••           | •••      | Panvel                                                                                                           | Raigad          |
| 204                   | Chipale                                         | 1             | •••      | Panvel                                                                                                           | Raigad          |
| 205                   | Bonshet                                         |               | •••      | Panvel                                                                                                           | Raigad          |
| 206                   | Vihighar (Excluding area under MESZ)            |               |          | Panvel                                                                                                           | Raigad          |
| 207                   | Ambivali (Excluding area under MESZ)            | •••           | • • •    | Panvel                                                                                                           | Raigad          |
| 208                   | Sangatoli (Excluding area under MESZ)           |               |          | Panvel                                                                                                           | Raigad          |
| 209                   | Waje (Excluding area under MESZ)                | •••           |          | Panvel                                                                                                           | Raigad          |
| 210                   | Cheravali (Excluding area under MESZ)           | ••••          |          | Panvel                                                                                                           | Raigad          |
| 211                   | Wajapur                                         | •••           | •••      | Panvel                                                                                                           | Raigad          |
| 212                   | Loniwadi (Excluding area under MESZ)            |               |          | Panvel                                                                                                           | Raigad          |
| 213                   | Wangani Tarf Waje (Excluding area under MESZ)   |               |          | Panvel                                                                                                           | Raigad          |
| 214                   | Pali Khurd                                      |               |          | Panvel                                                                                                           | Raigad          |
| 215                   | Chikhale                                        |               |          | Panvel                                                                                                           | Raigad          |
| 216                   | Moho                                            |               |          | Panvel                                                                                                           | Raigad          |
| 217                   | Shivkar                                         | romuS and re  | 200      | Panvel                                                                                                           | Raigad          |
| 218                   | Vichumbe                                        | 이 문 가지의 가지운 ! | and mild | and the second second second second second second second second second second second second second second second | Raigad          |
| 219                   | Usarli Khurd                                    |               |          | Panvel                                                                                                           | Raigad          |
| 220                   | Kolkhe                                          |               |          | Panvel                                                                                                           | Raigad          |
| 221                   | Kon                                             |               |          | Panvel                                                                                                           | Raigad          |
| 222                   | Borle                                           |               |          | Panvel                                                                                                           | Raigad          |
|                       |                                                 | •••           |          | Panvel                                                                                                           | Raigad          |
| 223                   | Sangade                                         |               | •••      |                                                                                                                  |                 |
| 224                   | Belavali<br>Wash li (Fashadia game an dan MESZ) | •••           |          | Panvel                                                                                                           | Raigad          |
| 225                   | Wardoli (Excluding area under MESZ)             |               | •••      | Panvel                                                                                                           | Raigad          |
| 226                   | Bherle (Excluding area under MESZ)              |               |          | Panvel                                                                                                           | Raigad          |
| 227                   | Bhingar (Excluding area under MESZ)             |               |          | Panvel                                                                                                           | Raigad          |
| 228                   | Ajivali                                         |               |          | Panvel                                                                                                           | Raigad          |
| 229                   | Ariwali                                         |               |          | Panvel                                                                                                           | Raigad          |
| 230                   | Derawali                                        |               | •••      | Panvel                                                                                                           | Raigad          |
| 231                   | Palaspe                                         |               |          | Panvel                                                                                                           | Raigad          |
| 232                   | Kudave                                          |               |          | Panvel                                                                                                           | Raigad          |

भाग एक (को.वि.पु.)—७अ

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| 42 | महाराष्ट्र शासन राजपत्र भाग र | क—कोकण विभागीय पुरवणी | गुरुवार ते बुधवार, फेब्रुवा | री १४-२०, | २०१३/माघ २५-फाल्गुन १, शके १९३४ |
|----|-------------------------------|-----------------------|-----------------------------|-----------|---------------------------------|
|----|-------------------------------|-----------------------|-----------------------------|-----------|---------------------------------|

| Sr. No<br>(1) | Name of Village<br>(2)                  |      | 1 |     | Tahsil<br>(3) | District<br>(4) |
|---------------|-----------------------------------------|------|---|-----|---------------|-----------------|
| 233           | Nandgaon                                |      |   |     | Panvel        | Raigad          |
| 234           | Mosare                                  |      |   |     | Panvel        | Raigad          |
| 235           | Patnoli                                 |      |   |     | Panvel        | Raigad          |
| 236           | Vadavali                                |      |   |     | Panvel        | Raigad          |
| 237           | Turmale                                 |      |   |     | Panvel        | Raigad          |
| 238           | Chirvat                                 |      |   |     | Panvel        | Raigad          |
| 239           | Shirdhon                                |      |   |     | Panvel        | Raigad          |
| 240           | Giravale                                |      |   |     | Panvel        | Raigad          |
| 241           | Somtane                                 |      |   |     | Panvel        | Raigad          |
| 242           | Kasal Khand                             |      |   |     | Panvel        | Raigad          |
| 243           | Ashte                                   |      |   |     | Panvel        | Raigad          |
| 244           | Shedung                                 |      |   |     | Panvel        | Raigad          |
| 245           | Bhingarwadi                             |      |   |     | Panvel        | Raigad          |
| 246           | Mohope (Excluding area under MESZ)      |      |   |     | Panvel        | Raigad          |
| 247           | Poyanje (Excluding area under MESZ)     |      |   |     | Panvel        | Raigad          |
| 248           | Pali Budruk (Excluding area under MESZ) |      |   |     | Panvel        | Raigad          |
| 249           | Bhokarpada (Excluding area under MESZ)  |      |   |     | Panvel        | Raigad          |
| 250           | Barwai (Excluding area under MESZ)      |      |   |     | Panvel        | Raigad          |
| 251           | Khanavale                               |      |   |     | Panvel        | Raigad          |
| 252           | Bhatan                                  |      |   |     | Panvel        | Raigad          |
| 253           | Narpoli                                 |      |   |     | Panvel        | Raigad          |
| 254           | Dahivali                                |      |   |     | Panvel        | Raigad          |
| 255           | Nanoshi                                 |      |   |     | Panvel        | Raigad          |
| 256           | Sangurli                                |      |   |     | Panvel        | Raigad          |
| 257           | Chinchavan                              | •••• |   | ••• | Panvel        | Raigad          |
| 258           | Devloli Budruk                          |      |   |     | Panvel        | Raigad          |
| 259           | Savale                                  | •••  |   |     | Panvel        | Raigad          |
| 260           | Jatade ,                                |      |   |     | Panvel        | Raigad          |
| 261           | Dapiwali                                |      |   |     | Panvel        | Raigad          |
| 262           | Vaveghar                                |      |   |     | Panvel        | Raigad          |
| 263           | Gulsunde                                |      |   |     | Panvel        | Raigad          |
| 264           | Posari                                  |      |   |     | Panvel        | Raigad          |
| 265           | Turade                                  |      |   | 1   | Panvel        | Raigad          |
| 266           | Kalhe                                   |      |   |     | Panvel        | Raigad          |
| 267           | Koral                                   |      |   |     | Panvel        | Raigad          |
| 268           | Apte                                    |      |   |     | Panvel        | Raigad          |
| 269           | Akulwadi                                |      |   |     | Panvel        | Raigad          |
| 270           | Ladiwali                                |      |   |     | Panvel        | Raigad          |

Note.-

(1) MESZ = Matheran Eco-Sensitive Zone

(2) Boundary of Matheran Eco-Sensitive Zone shall be as per the Ministry of Environment and Forests, Govt. of India, Notification No. S.O. 133 (E) dated 4th February 2003.

This notification shall also be published on the Government website www.urban.maharashtra.gov.in

By order and in the name of the Governor of Maharashtra,

SANJAY V. PAWAR Desk Officer.

## ANNEXURE-VIII MODIFICATIONS IN NAVI MUMBAI DEVELOPMENT PLAN (NMDP) AND NMDP MAP

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### Annexure X

## **Change in Land Use**

In view of EC & CRZ Clearance granted by MoEF&CC vide letter dated November 22, 2010 for establishment of NMIA, **GoM vide Notification No TPS 1711/2495/CR-202/11/UD-12 dated 21<sup>st</sup> March 2012 has incorporated "International Airport & Allied Activities / Service Zone" in Navi Mumbai Development Plan, NMDP** and changed land use in surrounding area.

As per approved NMDP, Land use of site is:

| Land use   | Area (Ha)<br>(Approx.) |        |      |
|------------|------------------------|--------|------|
| Airport    | and                    | Allied | 1160 |
| Activities | /Service               | s Zone |      |
| Total      |                        |        | 1160 |

Landuse of area outside Airport Site of 1160 ha -

- 1. 60 Ha for diversion of tidally influenced water body of Ulwe River
- 2. 279 ha of land for off-site infrastructure for roads, and crossings/interchange improvements
- 3. 276 ha for Non-Aeronautical Development

CIDCO has taken up Pre-Development works including Land Development at Site since April 2017. Construction of Airport is being done as per EC and approved Master Plan.

## GOVERNMENT OF MAHARASHTRA URBAN DEVELOPMENT DEPARTMENT

and in the formation Not in an Mantnalaya, Mumbai 400 032 unit a vould's trainer in the some

Dt. 21st March,2012

### NOTIFICATION

Maharashtra Regional And Town Planning Act, 1966.

No. TPS-1711/2495/C.R.202/11/UD-12

Whereas, the Government of Maharashtra has in exercise of the powers conferred by sub-section (1) of the section 113 of the Maharashtra Regional And Town Planning Act, 1966 (Mah. Act No.XXXVII of 1966) (hereinafter referred to as "the said Act") designated by Notification, Urban Development, Public Health and Housing Department No.RPB-1171/ 18124/113/IW, dated the 20<sup>th</sup> March, 1971, as amended by Notification No.1173/IRPC, dated 16<sup>th</sup> August, 1973, the area specified therein as the site for a new town of Navi Mumbai;

And whereas, the Government of Maharashtra has in exercise of the powers conferred by sub-section (3A) of the section 113 of the said Act declared by Notification, Urban Development, Public Health and Housing Department No.RPB-1171/18124/113/II-W, dated the 20<sup>th</sup> March, 1971, as amended by Notification No.1173/RPC, dated 16<sup>th</sup> August, 1973, <u>C</u>ity and Industrial Development Corporation of Maharashtra Limited (hereinafter referred to as "the said Corporation") as the New Town Development Authority for the said area comprised in the site of Navi Mumbai (hereinafter referred to as "the said Authority");

And whereas, the Government of Maharashtra has in exercise of the powers conferred by sub-section (1) of the section 31 of the said Act, by Notification, Urban Development, Public Health Department No.RPB-1175/635/UD-5, dated the 18<sup>th</sup> August, 1979 read with the Notification, Urban Development, Public Health Department No.RPB-1175/635/UD-5, dated the 18<sup>th</sup> January, 1980, sanctioned the Draft Development Plan together with Development Control Regulations submitted by the said Corporation for the said area comprised in the site for the New Town of Navi Mumbai and

such sanctioned Development Plan has come in to effect on and from March, 1980 as stated in the foregoing Notification and is called the Development Plan" within the meaning of sub-section (6) of section 31 the said Act (hereinafter referred to as "the said Development Plan and said Regulations");

> And whereas, the said Corporation, in view of Environmental & CRZ clearance granted by Ministry of Environmental & Forest, Govt. of India vide letter dated 22.11.2010 for establishment of Navi Mumbai International Airport, initiated a modification proposal for incorporation of "International Airport & Allied Activities/Services Zone" in the said Development Plan and said Regulations, as specified in Schedule-I & Schedule-II given here below (hereinafter referred to as "the said modification") & submitted the said modification proposal under section 37(1) of the said Act to Govt. for final sanction;

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#### Schedule-I

## Statement of proposed modifications in Navi Mumbai Development

| Sr.<br>No. | Location                           | Appro<br>x.<br>area | Use Zone (as per sanctioned | Proposed<br>Land Use |
|------------|------------------------------------|---------------------|-----------------------------|----------------------|
|            |                                    | (Ha.)               | D. P.)<br>4                 | 5                    |
| 1          | · 2                                | 3                   |                             |                      |
| Prop       | osed No Development Zone (I        | NDL) IV             | Ioumcation (010.            |                      |
| 1          | Waghivali Island (pocket           | 190.0               | No                          | No                   |
|            | No.1)                              | 0                   | Development                 | Developmen           |
|            |                                    |                     | Zone (NDZ)                  | t Zone               |
|            | Part of Village- Kopar             | 5.43                | Residential                 | (NDZ)                |
|            | (pocket No.1)                      | 9.00                | Commercial                  |                      |
|            | Part of Village- Pargaon           | 7.66                | Commercial                  |                      |
|            | Dungi (pocket No.1)                |                     |                             |                      |
|            | Part of Village Kamothe and Panvel | 56.83               | Residential                 |                      |
|            | (pocket No.2), South & South       | 69.83               | Commercial                  |                      |
|            | west Khandeshwar Railway           | 51.63               | No                          |                      |

|                       | - Grand Land          | Station and North of Gadh                  |           | Development     | 1 man a stand manual be made where |
|-----------------------|-----------------------|--------------------------------------------|-----------|-----------------|------------------------------------|
|                       |                       | River, more clearly indicated              | E         | Zone (NDZ)      |                                    |
| and the second second | 7.4 22                | in the plan.                               | 14.86     | Water Body      |                                    |
| 1                     |                       |                                            | 96.49     | Institutional   |                                    |
| 1                     |                       | Course of the model and a                  | 23.91     | Woodland        | -                                  |
| P                     |                       |                                            |           | Corridor        |                                    |
|                       |                       | Part of Village Targhan                    | 9.20      | Commercial      |                                    |
|                       |                       | (pocket No.3)                              | 8.90      | No              | -                                  |
|                       |                       | Share In Manager I. I. Market Mark         |           | Development     |                                    |
|                       |                       |                                            | 1         | Zone (NDZ)      |                                    |
|                       |                       |                                            | 12.30     |                 |                                    |
|                       |                       | Part of Village Vahal (pocket              | 20.60     |                 |                                    |
| 0                     |                       | No.4)                                      |           | Development     |                                    |
|                       |                       |                                            |           | Zone (NDZ)      |                                    |
|                       |                       |                                            | 1.10      | Water Body      |                                    |
|                       |                       |                                            | 38.50     | Special         |                                    |
|                       |                       |                                            |           | Economic Zone   |                                    |
|                       | Prop                  | osed Airport and Allied A                  | ctivities | s/Services Zone | Modification                       |
|                       | (1159                 | 9.58 Ha.)                                  |           |                 |                                    |
| HAMBARE CONTRACT      | 2                     | Area comprising parts of                   | 118.8     | Regional Park   | Airport                            |
|                       |                       | Villages Pargaon dungi,                    | 2         | Zone            | Allied                             |
|                       |                       | Pragaon Kopar, Owale,                      | 558.7     | Residential     | Activities/Se                      |
|                       |                       | Ulwa, Targhar, Waghivali,                  | 1         |                 | rvices Zone                        |
|                       |                       | more clearly indicated in the              | 237.3     | Commercial      |                                    |
|                       |                       | plan.                                      | 0         |                 |                                    |
| Q                     |                       |                                            | 74.85     | No              |                                    |
| 0                     |                       |                                            |           | Development     |                                    |
|                       |                       |                                            |           | Zone (NDZ)      |                                    |
|                       |                       | -                                          | 60.20     | Water Body      |                                    |
|                       |                       |                                            | 110.1     | Marshalling     |                                    |
|                       |                       |                                            | 0         | Yard            |                                    |
|                       | Propo                 | osed Commercial Zone Modifi                | ication   | (351.46 Ha.)    |                                    |
|                       | 3                     | Area comprising parts of                   |           | Residential     | Commercial                         |
|                       | 1                     | Villages Babmavi, Owale,                   |           | D 1 1           | Zone                               |
|                       | 1                     | Kundevahal, more clearly                   |           | Zone            |                                    |
|                       | i                     | indicated in the plan.                     |           |                 |                                    |
| F                     | - ender angenet in po | er activities Sec11] 2° deut mathemise das |           |                 |                                    |
|                       |                       |                                            |           |                 |                                    |

|          |                                                                                                                                                                                                                                                                                                                                                       |                                  | 1. 222.                                                                                                                        | a manning                                                      |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
|          | Area comprising parts of                                                                                                                                                                                                                                                                                                                              |                                  |                                                                                                                                |                                                                |
|          | Village Dapoli, Manghar,                                                                                                                                                                                                                                                                                                                              |                                  |                                                                                                                                |                                                                |
| er and   | more clearly indicated in the                                                                                                                                                                                                                                                                                                                         | and the                          | $\sum_{i=1,\dots,n} (x_i - x_i - x_i) \in \{x_i \in \mathbb{R} : x_i \in [x_i \in \mathbb{R}], y_i \in [x_i \in \mathbb{R}]\}$ |                                                                |
|          | plan.                                                                                                                                                                                                                                                                                                                                                 |                                  |                                                                                                                                |                                                                |
| Pro      | posed Residential Zone Modifi                                                                                                                                                                                                                                                                                                                         | ication                          | (441.90 Ha.)                                                                                                                   |                                                                |
| 4        | Area comprising parts of                                                                                                                                                                                                                                                                                                                              | 24.80                            | Institutional                                                                                                                  | Residential                                                    |
|          | Village Kamothe, more                                                                                                                                                                                                                                                                                                                                 |                                  | ALL VIEW AND ALL                                                                                                               | Zone                                                           |
|          | clearly indicated in the plan.                                                                                                                                                                                                                                                                                                                        |                                  |                                                                                                                                |                                                                |
|          | Area comprising parts of                                                                                                                                                                                                                                                                                                                              | •294.0                           | Regional Park                                                                                                                  | Residential                                                    |
|          | Villages Pargaon Dungi,                                                                                                                                                                                                                                                                                                                               |                                  | Zone                                                                                                                           | Zone                                                           |
|          | Pargaon, Owale, Dapoli,                                                                                                                                                                                                                                                                                                                               | 123.0                            | Marshalling                                                                                                                    |                                                                |
|          | Manghar, Kundevahal,                                                                                                                                                                                                                                                                                                                                  |                                  |                                                                                                                                |                                                                |
|          | Owale, more clearly                                                                                                                                                                                                                                                                                                                                   |                                  |                                                                                                                                |                                                                |
|          | indicated in the plan.                                                                                                                                                                                                                                                                                                                                |                                  |                                                                                                                                |                                                                |
| D        | and Infractoriations (Deco                                                                                                                                                                                                                                                                                                                            | 01                               | P // 74 3                                                                                                                      | <u> </u>                                                       |
| Prop     | oseu intrastructure (Recours                                                                                                                                                                                                                                                                                                                          | e Chan                           | inel/Transportati                                                                                                              | ion Corridor)                                                  |
|          | oosed Infrastructure (Recours<br>lification (99.8 Ha.)                                                                                                                                                                                                                                                                                                | e Chan                           | inel/Transportati                                                                                                              | ion Corridor)                                                  |
|          |                                                                                                                                                                                                                                                                                                                                                       |                                  |                                                                                                                                | Recourse                                                       |
| Mod      | ification (99.8 Ha.)                                                                                                                                                                                                                                                                                                                                  | 24.17                            |                                                                                                                                | Recourse                                                       |
| Mod      | ification (99.8 Ha.)Area comprising part of                                                                                                                                                                                                                                                                                                           | 24.17                            | No<br>Development                                                                                                              | Recourse<br>Channel and<br>Transportatio                       |
| Mod      | ification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area, comprising parts of                                                                                                                                                                                                             | 24.17                            | No<br>Development<br>Zone                                                                                                      | Recourse<br>Channel an<br>Transportatio                        |
| Mod<br>5 | ification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.                                                                                                                                                                                                                                          | 24.17                            | No<br>Development<br>Zone                                                                                                      | Recourse<br>Channel and<br>Transportation                      |
| Mod<br>5 | ification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area, comprising parts of<br>Villages Babmavi, Owale,<br>Ulwa, more clearly indicated                                                                                                                                                 | 24.17                            | No<br>Development<br>Zone<br>Regional Park<br>Zone                                                                             | Recourse<br>Channel and<br>Transportation                      |
| Mod<br>5 | ification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area, comprising, parts, of<br>Villages Babmavi, Owale,<br>Ulwa, more clearly indicated<br>in the plan.                                                                                                                               | 24.17<br>19.16<br>38.34          | No<br>Development<br>Zone<br>Regional Park<br>Zone<br>Residential                                                              | Recourse<br>Channel and<br>Transportation<br>n<br>Corridor/Maj |
| Mod<br>5 | ification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area, comprising parts of<br>Villages Babmavi, Owale,<br>Ulwa, more clearly indicated<br>in the plan.<br>Area comprising parts of                                                                                                     | 24.17<br>19.16<br>38.34          | No<br>Development<br>Zone<br>Regional Park<br>Zone<br>Residential                                                              | Recourse<br>Channel and<br>Transportation<br>n<br>Corridor/Maj |
| Mod<br>5 | ification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area, comprising, parts, of<br>Villages Babmavi, Owale,<br>Ulwa, more clearly indicated<br>in the plan.                                                                                                                               | 24.17<br>19.16<br>38.34          | No<br>Development<br>Zone<br>Regional Park<br>Zone<br>Residential                                                              | Recourse<br>Channel and<br>Transportation<br>n<br>Corridor/Maj |
| Mod<br>5 | ification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area, comprising parts of<br>Villages Babmavi, Owale,<br>Ulwa, more clearly indicated<br>in the plan.<br>Area comprising parts of                                                                                                     | 24.17<br>19.16<br>38.34          | No<br>Development<br>Zone<br>Regional Park<br>Zone<br>Residential                                                              | Recourse<br>Channel and<br>Transportation<br>n<br>Corridor/Maj |
| Mod<br>5 | ification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area, comprising, parts, of<br>Villages Babmavi, Owale,<br>Ulwa, more clearly indicated<br>in the plan.<br>Area comprising parts of<br>Villages Kopar, Targhar,<br>more clearly indicated in the<br>plan.                             | 24.17<br>19.16<br>38.34<br>14.92 | No<br>Development<br>Zone<br>Regional Park<br>Zone<br>Residential                                                              | Recourse<br>Channel and<br>Transportation<br>n<br>Corridor/Maj |
| Mod<br>5 | ification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area, comprising parts of<br>Villages Babmavi, Owale,<br>Ulwa, more clearly indicated<br>in the plan.<br>Area comprising parts of<br>Villages Kopar, Targhar,<br>more clearly indicated in the                                        | 24.17<br>19.16<br>38.34<br>14.92 | No<br>Development<br>Zone<br>Regional Park<br>Zone<br>Residential                                                              | Recourse<br>Channel and<br>Transportation<br>n<br>Corridor/Maj |
| Mod<br>5 | ification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area, comprising, parts, of<br>Villages Babmavi, Owale,<br>Ulwa, more clearly indicated<br>in the plan.<br>Area comprising parts of<br>Villages Kopar, Targhar,<br>more clearly indicated in the<br>plan.                             | 24.17<br>19.16<br>38.34<br>14.92 | No<br>Development<br>Zone<br>Regional Park<br>Zone<br>Residential<br>Commercial                                                | Recourse<br>Channel and<br>Transportatio<br>n<br>Corridor/Maj  |
| Mod<br>5 | ification (99.8 Ha.)<br>Area comprising part of<br>Village Waghivali, more<br>clearly indicated in the plan.<br>Area, comprising, parts, of<br>Villages Babmavi, Owale,<br>Ulwa, more clearly indicated<br>in the plan.<br>Area comprising parts of<br>Villages Kopar, Targhar,<br>more clearly indicated in the<br>plan.<br>Area comprising parts of | 24.17<br>19.16<br>38.34<br>14.92 | No<br>Development<br>Zone<br>Regional Park<br>Zone<br>Residential<br>Commercial                                                | Recourse<br>Channel and<br>Transportatio<br>n<br>Corridor/Maj  |

Note :- The exact boundary/areas mentioned above are subject to site verification and demarcation and accordingly may vary.

## Schedule-II

## Statement of proposed amendments to GDCRs of Navi Mumbai.

| Sr.<br>No.            | Existing<br>Provision                 |           | Proposed Modification.                                                                                          |
|-----------------------|---------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------|
| 1                     | 2                                     |           | 3                                                                                                               |
| Regu                  | lation No.1                           | 4 - 2     | Zoning & Use Provisions                                                                                         |
| l                     | Nil                                   |           | After clause no.13 Special Economic Zone, the                                                                   |
|                       | Addition                              | of        | following shall be added –                                                                                      |
|                       | new land                              | use       | 14. Airport & Allied Activities/Services                                                                        |
|                       | zone                                  | in        |                                                                                                                 |
|                       | regulation                            |           | a substantia hereita a substantia |
|                       | 14.1                                  |           |                                                                                                                 |
| 2                     | Nil                                   |           | After proposed clause no.11 Recreational, the                                                                   |
|                       |                                       |           | following shall be added –                                                                                      |
|                       | new land                              | use       | 12. Airport & Allied Activities/Services                                                                        |
|                       | in regulat                            | tion      | *                                                                                                               |
|                       | 14.3                                  |           | Aeronautical & Allied Activities such as Taxiways,                                                              |
|                       |                                       |           | Hangers, Airport Terminal Building etc., which are                                                              |
|                       |                                       |           | required for the efficient operation of the Airport.                                                            |
| et i la ci pa         | Miller of the April 1997 of the       |           | The Corporation, for the purpose of Development of                                                              |
|                       |                                       |           | the Airport may permit various land uses and                                                                    |
|                       |                                       |           | provision of services within this zone, which are                                                               |
|                       |                                       |           | compatible and required for the Airport, with due                                                               |
|                       |                                       |           | regard to the provision/regulations stipulated by the                                                           |
|                       |                                       |           | Ministry of Civil Aviation, Govt. of India or the Authority authorised by MoCA.                                 |
|                       | Nil                                   |           | After clause no.13 Special Economic Zone, the                                                                   |
|                       | Addition                              | of        | following shall be added –                                                                                      |
|                       | new land                              |           | 14. Airport & Allied Activities/Services                                                                        |
|                       | zone                                  | in        | 12. Airport & Allied Activities/Services                                                                        |
|                       | regulation                            | 111       | 12. Amport & Amou Activities/Services                                                                           |
| 1.5                   | 14.4                                  |           | and an an an an an an an an an an an an an                                                                      |
| egu                   |                                       | 6-1       | Building Operations                                                                                             |
| 0                     | New                                   | 0         | After the provision (regulation) 16.3 (1a) at H, the                                                            |
|                       | provision                             | in        | following provision shall be added –                                                                            |
| -                     | regulation                            | 111       | HH - Airport & Allied Activities/Services -                                                                     |
| A su correspondente a | inport octivities Seef 11.37 draft in | wifed and | Auport & Amed Activities/Services                                                                               |

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|   | 1. 170 |                  |                                                         |
|---|--------|------------------|---------------------------------------------------------|
|   |        | 16.3 (1a) at     | Maximum permissible FSI = 1.00                          |
| - |        | 'HH' ******      | a a a stand the man and the test and the                |
|   | Regu   | lation No.17 – ( | Open Spaces around Buildings                            |
|   | 5      | Addition of      | After the provision (regulation) 17.6, the following    |
|   |        | new provision    | provision shall be added -                              |
|   |        | at 17.7          | 17.7 - The restrictions on development & height of      |
|   |        |                  | buildings in the vicinity of Airport & also in the area |
| 1 |        |                  | under landing & take of zones, as defined by the        |
|   |        |                  | Corporation shall be regulated in consultation with     |
| L |        |                  | Airport Authority of India (AAI), Govt. of India.       |

And whereas, after making necessary enquiry and after consultin, Director of Town Planning, Maharashtra State, Pune Govt. is of the opinion that the said modification should be sanctioned;

Now therefore, in exercise of the powers vested under 37(2) of the said Act, Government hereby sanctions the said modification submitted by CIDCO as mentioned in column no.5 of Schedule-I and column no.3 of Schedule-II with following conditions and for that purpose adds the New Entry of sanctioned modification after the last entry in the schedule of modifications appended to the notification dated <u>18</u>.1.1980 sanctioning the said Development Plan together with Development Control Regulations.

### **Conditions** :-

- 1) It is binding on CIDCO, to take necessary prior approvals of all concerned Departments/ Authorities/Competent Authority for this proposal and it is also binding on CIDCO to comply with all the terms and conditions mentioned therein.
- 2) It is binding on CIDCO to comply with all the terms and conditions mentioned in MoEF's Environmental & CRZ clearance letter dated 22.11.2010 about 276 Ha. area. Also it is binding on CIDCO to take necessary prior approval of MoEF about additional 76 Ha. area shown for non-aeronautical activities in this proposal.
- 3) It is binding on CIDCO to comply all necessary legal proceedings regarding acquisition of all the privately owned lands, as mentioned in Enclosures-1 attached with CIDCO's letter dated 7.9.2011.

E-video airport largent activities Seef11.37 chall matification.doc

- 4) It will be the responsibility of CIDCO, if any legal consequences arise regarding this modification proposal in future.
- 5) The rehabilitation of all the persons affected due to this project, will be the memory the responsibility of CIDCO.
- 6) In the project under reference, residential zoned narrow stripped lands exists between the Airport boundary & the existing road & these lands are prone to encroachment as independent development thereat is not feasible .As such, it will be total responsibility of CIDCO that these lands are to be kept free from encroachment & they shall be used only for & Airport related services, facilities ,beautification & ancillary uses.

Note :-

A) Copy of plan & Regulations showing the sanctioned modification is available at following offices to the general public during office hours on all working days -

1) Managing Director, CIDCO, CIDCO Bhavan, Belapur, Navi Mumbai.

2) Dy.Director of Town Planning, Konkan Division, Navi Mumbai.

3) Asst.Director of Town Planning, Raigad-Alibag.

B) This notification also published on government web site at www.urban.maharashtra.gov.in

By order & in the name of the Governor of Maharashtra,

25

(Sanjay V.Pawar) Desk Officer Government Of Maharashtra

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | TION NO.<br>ARCH, 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| AVELOPMENT PLAN<br>EVELOPMENT PLAN<br>Bart)<br>Dart)<br>Dart)<br>Major Roads<br>Major  Institutional<br>M.I.D.C. Area<br>Regional Park<br>Regional Park<br>Marshalling Yard<br>Municipal Limits (Panvel & Uran)<br>Municipal Limits (Panvel & Uran)<br>No Development Zone<br>Port Area<br>Port Area<br>Fishing and Alifed Activities<br>Port Area<br>Fishing and Alifed Activities<br>Port Area<br>Fishing and Alifed Activities<br>Port Area<br>Nooland Corridor<br>Wholesale Market - Cum Warehousing<br>Woodland Corridor<br>Modland Corridor<br>Modland Corridor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Proposed Roads<br>Airport and Allied Activities/ Services Zone (New Zone)<br>NDZ<br>Commercial Zone<br>Residential<br>Resource Clanter Activities/ Services Zone (New Zone)<br>Commercial Zone<br>Resource Clanter Activities/ Services Zone (New Zone)<br>Residential<br>Commercial Zone<br>Resource Clanter Activities/ Services Zone (New Zone)<br>Resource Clanter Activities/ Caller |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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