Navi Mumbai Municipal Transport Undertaking

NMMT Headquarter, 8th Floor, Belapur Bhavan,
Sector-15, C.B.D., Belapur, Navi Mumbai - 400 614.
TEL. No.: 022-2757 9033

NMMC/T.E. /E.E./67 /2021
Date: - 01st December 2021

To,
Addl. Principal Chief Conservator of Forests (C),
Ministry of Env., Forest and Climate Change
Regional Office (WZ), E-5 Kendriya Paryavaran Bhawan,
E-5 Area Colony, Link Road-3, Ravishankar Nagar,
Bhopal-462016

Dear Sir,

Sub: Submitting the Half yearly compliance report of the project "Proposed Construction of Integrated Bus Terminus Cum Commercial Complex at Plot No.3, Sector 9 A, Vashi, Navi Mumbai, Maharashtra 400703

Ref: 1. Environmental Clearance (EC): SEIAA -EC-0000002069 Dated November 7, 2019.

We, Navi Mumbai Municipal Transport have been accorded with Environmental Clearance (EC) from State Level Environment Impact Assessment Authority (SEIAA), Maharashtra
The vide letter No. SEIAA -EC-0000002069 Dated November 7, 2019.

Herewith, submitting the point wise half yearly compliance report to the General and Specific Conditions of EC obtained.

We are hereby request you to consider our compliance report and do the needful.

Kindly acknowledge the receipt for the same.

Thanking you,

NAVI MUMBAI MUNICIPAL TRANSPORT * HEADOFFICE *

Arvind Shinde
Executive Engineer
(Vashi Bus Depot Project)
Navi Mumbai Municipal Transport

CC:

1. Maharashtra Pollution Control Board - 7th Floor, Raigad Bhavan, Sector 11, CBD Belapur, Navi Mumbai, Maharashtra 400614
2. Environmental Department – Room No.217, 2nd Floor Mantralaya, Annexe, Mumbai 400 032

YEARLY COMPLIANCE REPORT FOR ENVIRONMENTAL CLEARANCE
(JULY 2021- DECEMBER 2021)

FOR
PROPOSED CONSTRUCTION OF INTEGRATED BUS TERMINUS CUM COMMERCIAL COMPLEX

PROJECT PROPONENT: M/s. NAVI MUMBAI MUNICIAL TRANSPORT
BEAPUR BHAVAN, 8th Floor, SECTOR 11,
CBD Belapur, Navi Mumbai
Maharashtra – 400614.

PROJECT LOCATION: VASHI BUS DEPOT
Plot No.3, Sector – 9A,
Vashi Navi Mumbai
Maharashtra – 400703.

SUBMISSION FOR

Ministry of Environment, Forest & Climate Change

(MoEFCC)

SUBMITTED BY
M/s. NAVI MUMBAI MUNICIAL TRANSPORT
DECEMBER 2021

(JULY 2021- DECEMBER 2021)

PROPOSED CONSTRUCTION OF INTEGRATED BUS TERMINUS CUM COMMERCIAL COMPLEX AT PLOT No.3, SECTOR – 9A, VASHI NAVI MUMBAI, MAHARASHTRA - 400703.

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CHAPTER-1

INTRODUCTION AND PROJECT DESCRIPTION

1.1 INTRODUCTION

Proposed Project, " Proposed Construction of Integrated Bus Terminus Cum Commercial Complex at Plot No.3, Sector 9 A, Vashi, Navi Mumbai, Maharashtra 400703 is being developed by M/s Navi Mumbai Municipal Transport and the of the project have been approved by NMMC ADTP.

This project has been granted environmental clearance vide letter Dated November 7, 2019 - SEIAA -EC-0000002069 by the State Environment Impact Assessment Authority, Maharashtra.
Copy of EC is enclosed in Annexure.

1.2 PROJECT DESCRIPTION

Table 1.1: Brief Description of project

Sl. No.	Description Details	Unit
1	Plot Area	10373.42 Sq.Mt
2	Proposed Built Up Area	47635.20 Sq.Mt
3	Total Water Requirement	138.8KLD
4	Fresh Water Demand	93KLD
5	Total Wastewater Generated	118KLD
6	Capacity of STP	125KLD
7	Total Power Requirement	3563.57KW
8	No. of RWH Pits	05
9	Solid Waste Generation	519.33
10	Total Parking	420 Nos
11	Total No of Towers	01
12	No of Floors	21 FLOORS
13	Height of tower	90Mtr

1.3 PRESENT STATUS

Project is in construction phase.

1.4 PURPOSE OF THE REPORT

This six-monthly report is being submitted as per the condition stipulated in the Environmental Clearance letter.
Further, the study will envisage the environmental impacts that have generated in the local environment due to the project.

The environmental assessment is being carried out to verify: -

- That the project does not have any adverse environmental impacts in the project area and its surrounding
- Compliance with the conditions stipulated in the Environmental Clearance Letter.
- The Project Management is implementing the environmental mitigation measures as suggested in the approved Form-1, Form-1A, Environmental Management Plan (EMP) and building plans.
- The project proponent is implementing the environmental safeguards in true spirit.
- Any non-conformity in the project with respect to the environmental implication of the project.

CHAPTER-2
COMPLIANCE OF STIPULATED CONDITIONS OF ENVIRONMENTAL CLEARANCE
Name of Project: PROPOSED CONSTRUCTION OF INTEGRATED BUS TERMINUS CUM COMMERCIAL COMPLEX
Clearance No.: SEIAA -EC-0000002069 Dated November 7, 2019.
Period of compliance Report: JULY 2021- DECEMBER 2021.

Sr No	Environment Clearance Conditions	Compliances Status
	Specific Conditions:	
I	The PP to get NOC from Competent authority with reference to Thane Creek flamingo sanctuary if the project site falls within 10KM radius rom the said sanctuary boundary. The planning Authority to ensure fulfilment of this condition before granting CC.	Condition was noted for the compliance. Flamingo. NOC Received post 60th meeting held at NBWL; NOC for Wildlife (Flamingo) received on 1st February 2021. (Copy Enclosed)
II	PP to explore the possibility to buy electric buses under CER activity.	Condition has been noted for the compliance and process has been initiated for purchasing 30 Electric Buses along with chargers (Copy Enclosed)
III	PP to submit report of AAQM modelling study	Condition has been noted for the compliance and AAQM modelling study report has been submitted on 13/08/2019. (Copy Enclosed)
IV	PP to submit CER Plan to Municipal commissioner, and submit the acknowledgement copy to Member Secretary, SEIAA	Condition has been noted for the compliance and CER Plan submitted to Municipal commissioner and acknowledgement copy submitted to Member Secretary, SEIAA on 13/08/2019. (Copy Enclosed)
V	PP to ensure that CER plan get approved from Municipal Commissioner/District Collector	Condition has been noted for the compliance and Complied (Copy Attached)
VI	PP shall comply to standard EC conditions mentioned in the Office Memorandum issued by MoEF & CC vide F.No.22-34/2018-IA.III dt.04.01.2019	Condition has been noted for the compliance and has been complied.
VII	SEIAA decided to grant EC for - FSI:15560.13m2, Non FSI:32280.09m2 & Total BUA:47815.81m2. IOD no.NMMC/TPO/ADTP/3881/2018, Approval Date-27.09.2018	Condition has been noted for the compliance and has been complied.

Sr No	Environment Clearance Conditions	Compliances Status
	General Conditions:	
I	E-waste shall be disposed through Authorized vendor as per E-waste (Management and Handling) Rules, 2016.	Condition has been noted for the compliance.
II	The Occupancy Certificate shall be issued by the Local Planning Authority to the project only after ensuring sustained availability of drinking water, connectivity of sewer line to the project site and proper disposal of treated water as per environmental norms.	Condition has been noted for the compliance
III	This environmental clearance is issued subject to obtaining NOC from Forestry & Wildlife angle including clearance from the standing committee of the National Board for Wildlife as if applicable & this environment clearance does not necessarily implies that Forestry & Wild life clearance granted to the project which will be considered separately on merit.	NOT APPLICABLE
IV	PP has to abide by the conditions stipulated by SEAC& SEIAA.	Condition has been noted for the compliance and complied accordingly.
V	The height, Construction built up area of proposed construction shall be in accordance with the existing FSI/FAR norms of the urban local body & it should ensure the same along with survey number before approving layout plan & before according to commencement certificate to proposed work. Plan approving authority should also ensure the zoning permissibility for the proposed project as per the approved development plan of the area.	Condition has been noted for the compliance and has been complied.
VI	If applicable Consent for Establishment" shall be obtained from Maharashtra Pollution Control Board under Air and Water Act and a copy shall be submitted to the Environment department before start of any construction work at the site.	Condition has been noted for the compliance and has been complied. (Copy Attached)

VII	All required sanitary and hygienic measures should be in place before starting construction activities and to be maintained throughout the construction phase.	Condition has been noted for the compliance and has been complied.
VIII	Adequate drinking water and sanitary facilities should be provided for construction workers at the site. Provision should be made for mobile toilets. The safe disposal of wastewater and solid wastes generated during the construction phase should be ensured.	Condition has been noted for the compliance and has been complied.
IX	The solid waste generated should be properly collected and segregated. dry/inert solid waste should be disposed off to the approved sites for land filling after recovering recyclable material.	Condition has been noted for the compliance and has been complied.
X	Disposal of muck during construction phase should not create any adverse effect on the neighbouring 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.	Condition has been noted for the compliance and has been complied.
XI	Arrangement shall be made that wastewater and storm water do not get mixed.	Condition has been noted for the compliance.
XII	All the topsoil excavated during construction activities should be stored for use in horticulture / landscape development within the project site.	Condition has been noted for the compliance and has been complied.
XIII	Additional soil for levelling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.	Condition has been noted for the compliance and has been complied.
XIV	Green Belt Development shall be carried out considering CPCB guidelines including selection of plant species and in consultation with the local DFO/ Agriculture Dept.	Condition has been noted for the compliance.
XV	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.	Condition has been noted for the compliance.
XVI	Construction spoils, including bituminous material and other hazardous materials must not be allowed to contaminate watercourses and the dumpsites for such material must be secured so that they should not leach into the ground water.	Condition has been noted for the compliance and has been complied.

XVII	Any hazardous waste generated during construction phase should be disposed off as per applicable rules and norms with necessary approvals of the Maharashtra Pollution Control Board.	Condition has been noted for the compliance.
XVIII	The diesel generator sets to be used during construction phase should be low sulphur diesel type and should conform to Environments (Protection) Rules prescribed for air and noise emission standards.	Condition has been noted for the compliance and has been complied.
XIX	The diesel required for operating DG sets shall be stored in underground tanks and if required, clearance from concern authority shall be taken.	Condition was noted for the compliance. Diesel is bought in barrels as and when required.
XX	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.	Condition was noted for the compliance and records maintained
XXI	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.	Condition has been noted for the compliance.
XXIII	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. (The above condition is applicable only if the project site is located within the 100Km of Thermal Power Stations).	NOT APPLICABLE
XXIII	Ready mixed concrete must be used in building construction.	Condition was noted for the compliance and complied accordingly.
XXIV	Storm water control and its re-use as per CGWB and BIS standards for various applications.	Condition has been noted for the compliance and provisions considered.
XXV	Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.	Condition was noted for the compliance and complied by using Ready Mix Concrete
XXVI	The ground water level and its quality should be monitored regularly in consultation with Ground Water Authority.	NOT APPLICABLE AS NO BORE WELL AT PROJECT SITE

XXVII	The installation of the Sewage Treatment Plant (STP) should be certified by an independent expert and a report in this regard should be submitted to the MPCB and Environment department before the project is commissioned for operation. Discharge of this unused treated affluent, if any should be discharge in the sewer line. Treated effluent emanating from STP shall be recycled/refused to the maximum extent possible. Discharge of this unused treated affluent, if any should be discharge in the sewer line. Treatment of 100% gray water by decentralized treatment should be done. Necessary measures should be made to mitigate the odour problem from STP.	Condition has been noted for the compliance.
XXVIII	Permission to draw ground water and construction of basement if any shall be obtained from the competent Authority prior to construction/operation of the project.	Condition has been noted for the compliance. Bore / Well at project Site.
XXIX	Separation of gray and black water should be done by the use of dual plumbing line for separation of gray and black water.	Condition has been noted for the compliance.
XXX	Fixtures for showers, toilet flushing, and drinking should be of low flow either by use of aerators or pressure reducing devices or sensor-based control.	Condition has been noted for the compliance.
XXXI	Use of glass may be reduced up to 40% to reduce the electricity consumption and load on air conditioning. If necessary, use high quality double glass with special reflective coating in windows.	Condition has been noted for the compliance.
XXXII	Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill requirement.	Condition has been noted for the compliance.

XXXIII	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 like installing solar street lights, common solar water heaters system. Project proponent should install, after checking feasibility, solar plus hybrid non-conventional energy source as source of energy.	Condition has been noted for the compliance.
XXXIV	Diesel power generating sets proposed as source of backup 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 low sulphur diesel. The location of the DG sets may be decided with in consultation with Maharashtra Pollution Control Board.	Condition has been noted for the compliance.
XXXV	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.	Condition has been noted for the compliance and complied accordingly.
XXXVI	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.	Condition has been noted for the compliance and complied accordingly.
XXXVII	Opaque wall should meet prescriptive requirement as per Energy Conservation Building Code, which is proposed to be mandatory for all air-conditioned spaces while it is aspiration for non-air-conditioned spaces by use of appropriate thermal insulation material to fulfill requirement.	Condition has been noted for the compliance.
XXXVIII	The building should have adequate distance between them to allow movement of fresh air and passage of natural light, air and ventilation.	Condition has been noted for the compliance and complied accordingly.

XXXIX	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.	Condition has been noted for the compliance and complied accordingly
XL	Under the provisions of Environment (Protection) Act, 1986, legal action shall be initiated against the project proponent if it was found that construction of the project has been started without obtaining environmental clearance.	Condition has been noted for the compliance.
XLI	Six monthly monitoring reports should be submitted to the Regional office MoEF, Bhopal with copy to this department and MPCB.	Condition has been noted for the compliance.
XLII	Project proponent shall ensure completion of STP, MSW disposal facility, green belt development prior to occupation of the buildings. As agreed during the SEIAA meeting, PP to explore possibility of utilizing excess treated water in the adjacent area for gardening before discharging it into sewer line No physical occupation or allotment will be given unless all above said environmental infrastructure is installed and made functional including water requirement in Para 2. Prior certification from appropriate authority shall be obtained.	Condition has been noted for the compliance.
XLIII	Wet garbage should be treated by Organic Waste Converter and treated waste (manure) should be utilized in the existing premises for gardening. And, no wet garbage will be disposed outside the premises. Local authority should ensure this.	Condition has been noted for the compliance.
XLIV	Local body should ensure that no occupation certification is issued prior to operation of STP/MSW site etc. with due permission of MPCB.	Condition has been noted for the compliance.
XLV	A complete set of all the documents submitted to Department should be forwarded to the Local authority and MPCB.	Condition has been noted for the compliance and complied.
XLVI	In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Department.	Condition has been noted for the compliance. No Change in Scope of work.
XLVII	A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.	Condition has been noted for the compliance.

XLVIII	Separate funds shall be allocated for implementation of environmental protection measures/EMP along with item-wise breaks-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should reported to the MPCB & this department.	Condition has been noted for the compliance and complied accordingly.
XLIX	The project management shall advertise at least in two local newspapers widely circulated in the region around the project, one of which shall be in the Marathi language of the local concerned within seven days of issue of this letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the Maharashtra Pollution Control Board and may also be seen at Website at http://ec.maharashtra.gov.in.	Condition has been noted for the compliance and has been complied (Copy Enclosed)
L	Project management should submit half yearly compliance reports in respect of the stipulated prior environment clearance terms and conditions in hard & soft copies to the MPCB & this department, on 1st June & 1st December of each calendar year.	Condition has been noted for the compliance.
LI	A copy of the clearance letter shall be sent by proponent to the concerned Municipal Corporation 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.	Condition has been noted for the compliance.
LII	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 sector 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.	Condition has been noted for the compliance.

LIII	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.	Condition has been noted for the compliance
LIV	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.	Condition has been noted for the compliance.

CHAPTER-3

DETAILS OF ENVIRONMENTAL MONITORING

3.1 AMBIENT AIR QUALITY MONITORING

3.1.1 Ambient Air Quality Monitoring Stations

Ambient air quality monitoring has been carried out at one location at the Project in the month of November 2021 site to assess the ambient air quality. This will enable to have a comparative analytical understanding about air quality and the changes in the air environment in the study area with respect to the condition prevailing. The location of the ambient air quality monitoring stations were taken at North West Corner of the plot.

The sampler was placed near the site office and was free from any obstructions. Surroundings of the sampling site represent residential environmental setting.

3.1.2 Ambient Air Quality Monitoring Methodology

Monitoring was conducted in respect of the following parameters:

PARAMETER	METHOD
Particulate Matter ($PM_{2.5}$)	Gravimetric method (CPCB guidelines 2012, NAAQS Volume -I
Particulate Matter (PM_{10})	IS 5182 (Part-23):2006, Reaffirmed -2017
Sulphur Dioxide (SO_2)	IS 5182 (Part-02):2006, Reaffirmed -2017
Nitrogen Dioxide (NO_2)	IS 5182 (Part-06):2006, Reaffirmed -2017
Ammonia (NH_3)	Indophenol Blue method 4. 1 (CPCB guidelines 201 2, NAAQS Volume-I)
Carbon Monoxide (CO)	IS 5182(Part-10): 1999, Reaffirmed -2009
Benzene(C_6H_6)	IS 5182(Part-11): 2006

Ozone (O_3)	Chemical Method (NAAQS Volume-I)
Lead (Pb)	ASS Method (NAAQS Volume-I)
Nickel (Ni)	ASS Method (NAAQS Volume-I)
Arsenic (As)	ASS Method (NAAQS Volume-I)
Benzo(a)pyrene (BaP)	IS 5182(Part-12): 2004

The duration of sampling of PM2.5, PM10, SO_2 and NO2 was 24 hourly continuous sampling per day and CO were sampled for 1 hours continuous, thrice in 24-hour duration monitoring. The monitoring was conducted for one day at each location. This is to allow a comparison with the National Ambient Air Quality Standards.

The air samples were analysed as per standard methods specified by Central Pollution Control Board (CPCB) and IS: 5182.

Respirable Dust Samplers instruments have been used for monitoring Particulate Matter (PM10), Respirable fraction (<10 microns) and gaseous pollutants like SO_2, and NO_2. Pulse pumps and mylar bags were used for collection of Carbon monoxide samples. Gas Chromatography techniques have been used for the estimation of CO.

3.1.3 Ambient Air Quality Monitoring Results

Parameter	Result	Limit as per NAAQS	Unit
Particulate Matter ($PM_{2.5}$)	42	60	mg/m^3
Particulate Matter (PM_{10})	87	100	mg/m^3
Sulphur Dioxide (SO_2)	25	80	mg/m^3
Nitrogen Dioxide(NO_2)	36	80	mg/m^3
Ammonia (NH_3)	< 10.0	400	mg/m^3
Carbon Monoxide (CO)	1.2	04	mg/m^3
Benzene(C_6H_6)	< 0.05	05	mg/m^3
Ozone (O_3)	< 33.0	100	mg/m^3
Lead (Pb)	0.058	1.0	mg/m^3
Nickel (Ni)	< 12.0	20	mg/m^3
Arsenic (As)	< 1.2	06	mg/m^3
Benzo(a)pyrene (BaP)	< 0.2	01	mg/m^3

3.2 AMBIENT NOISE MONITORING

3.1.1 Ambient Noise Monitoring Locations

The main objective of noise monitoring in the study area is to assess the present ambient noise levels at North West corner of the Plot due to various construction allied activities around the site and increased vehicular movement. A preliminary reconnaissance survey has been undertaken to identify the major noise generating sources in the area. Ambient noise monitoring was conducted at North West corner in the month of November 2021.

3.2.2 Methodology of Noise Monitoring

Noise levels were measured using integrated sound level meter manufactured by Kusam – Meco KM929 MK I Sr. No.AIR-I-057 Sound Level Meter has been designed to meet the measurement requirement of noise engineers, noise quality control & health prevention in various environments, such as noise measurement in factory, Office, Traffic Road, Family & all other noise measurement applications.

Noise level monitoring was carried out continuously for 24-hours with one-hour interval starting at 06:25 hrs to 05:25 hrs next day. The noise levels were monitored on working days only.

During each hour Leq 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. Monitoring was carried out at 'A' response and fast mode.

3.2.3 Ambient Noise Monitoring Results

The location of ambient noise monitoring results is summarized in the below tabulation

Day Time	Noise Level dB(A)	Night-time	Noise Level dB(A)
06:25	60.1	22:25	60.4
07:25	63.8	23:25	58.8
08:25	62.5	00:25	63.3
09:25	68.9	01:25	56.1
10:25	70.2	02:25	60.6
11:25	67.2	03:25	53.1
12:20	65.5	04:25	57.9
13:25	68.4	05:25	58.8
14:25	68.1		
15:25	63.8		
16:25	68.7		
17:25	66.5		
18:25	64.2		
19:25	66		
20:25	65		
21:25	66.5		
Day Time Avg.	65.9	Night-time Avg.	57

3.2.4 Discussion on Ambient Noise Levels in the Study Area

Day Time Noise Levels:
The day-time noise level was found to within limit prescribed for residential area.
Night-time Noise Levels:
The night-time noise level was found to within limit prescribed for residential area.

3.3 GROUNDWATER QUALITY MONITORING

3.3.1 Groundwater Quality Monitoring Locations

Facility at project site is using water through tanker for the construction purpose and RO water for drinking purpose. There is no bore well present at site. So, ground water monitoring is not required.

3.4 SOIL MONITORING

3.4.1 Soil Monitoring Locations

The objective of the soil monitoring is to identify the impacts of ongoing project activities on soil quality and predict impacts, which have arisen due to execution of various constructions allied activities. Accordingly, a study of assessment of the soil quality has been carried out.

To assess impacts of ongoing project activities on the soil in the area, the physico-chemical characteristics of soils were examined by obtaining soil samples from selected point and analysis of the same. One sample of soil was collected from the project site in the month of November, 2021 for studying soil characteristics.

3.4.2 Methodology of Soil Monitoring

Monitoring was conducted in respect of the following parameters:

TEST PARAMETER	TEST METHOD
pH (10 % Solution)	Test Method
Loss on Drying @ 105°C	SW-846-9045-C
Loss on Ignition @550°C	APHA 2540
Sulphate as SO_4	APH A 2540
Chloride as Cl	IS 3025(Part 24)2009
Cooper	IS 3025(Part 32)2007
Cobalt	IS. 3025(P-45)1993
Lead	IS: 3025(P-45)1993
Iron	IS:3025(P-34)1988
Manganese	IS:3025(P-31)1988
Zinc	APHA 23rd Edition
Nickel	IS 3025 (Part 49)2009
Chromium	IS 3025 (Part 54)2003

3.4.3 Soil Monitoring Results

The physico-chemical characteristics of the soil, as obtained from the analysis of the soil sample are presented

Test Parameter	Result	Unit	Test Method
pH (10 % Solution)	7.1	%	Test Method
Loss on Drying @ 105°C	7.3	%	SW-846-9045-C
Loss on Ignition @550°C	4.3	mg/L	APHA 2540
Sulphate as SO_4	37	mg/kg	APH A 2540
Chloride as Cl	114	mg/kg	IS 3025(Part 24)2009
Cooper as Cu	125	mg/kg	IS 3025(Part 32)2007
Cobalt as Co	<2	mg/kg	IS. 3025(P-45)1993
Lead as Pb	74	mg/kg	IS: 3025(P-45)1993
Iron as Fe	54225	mg/kg	IS:3025(P-34)1988
Manganese as Mn	3112	mg/kg	IS:3025(P-31)1988
Zinc as Zn	72	mg/kg	APHA 23rd Edition
Nickel as Ni	123	mg/kg	IS 3025 (Part 49)2009
Chromium as Cr	76	mg/kg	IS 3025 (Part 54)2003

3.4.4 Discussion on Soil Characteristics in the Study Area

The soil in study area is characterized by moderate organic content. The soil quality in the project area has not been affected by the project activities.

Serving for more than 35 years
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PAPL
PADMAJA AEROBIOLOGICALS PVT. LTD.
Public Testing Laboratory
Recognised by Ministry of Environment Forest & Climate Change (MoEFCC)
Gazette Notification No. S.O.3744(E) Valid upto : 16.10.2024
ISO 9001 : 2015, ISO 45001:2018 Certified
CIN : U73100MH1995PTC092502
NABL Accreditation Certificate No. TC-5088 Valid upto 31.12.2021.

TEST REPORT
AMBIENT AIR QUALITY MONITORING

Report No.	PAPL/A-92/11-21	**Report Date**	29/11/2021				
Work Order No.	--						
Name of Customer	M/s. Navi Mumbai Municipal Transport						
Address	Construction of Integrtaed Bus Terminus Commercial complex on Plot No. 3, Sector 9A, Vashi, Navi Mumbai.400703						
MoEF Certificate No.	S O 3744(E) dated 17.10.2019	**Valid up to**		16/10/2024			
Type of sampling	**AAQM**	24 Hrs.	√	**AAQM**	24 Hrs.	**AAQM**	24 Hrs.
Instrument used	RDS	√		FDS		√	
	ID No.	PAPL/LAB/016		ID No.		PAPL/LAB/014	
	Calibration Due Date	31/08/2022		Calibration Date		01/09/2022	
Date of Sampling	15/11/2021	**Sample Ref. No**	388/A-92/11-21				
Location of sampling	North West Corner near Steel Yard						
Sample Collected By	Padmaja Aerobiologicals Pvt. Ltd.						

POLLUTION PARAMETERS

Parameter	Result	Limit as per NAAQS	Unit	Method
Particulate Matter ($PM_{2.5}$)	45	60	µg/m³	Gravimetric method (CPCB guidelines 2012, NAAQS Volume –I)
Particulate Matter (PM_{10})	85	100	µg/m³	IS 5182(Part-23):2006,Reaffirmed-2017
Sulphur Dioxide (SO_2)	22	80	µg/m³	IS 5182(Part-02):2001,Reaffirmed-2017
Nitrogen Dioxide (NO_2)	34	80	µg/m³	IS 5182(Part-06):2006,Reaffirmed-2017
Ammonia (NH_3)	<10.0	400	µg/m³	Indophenol Blue method 4.1 (CPCB guidelines 2012,NAAQS Volume-I)
Carbon monoxide (CO)	1.1	04	mg/m³	IS 5182(Part-10):1999,Reaffirmed -2009
Benzene (C_6H_6)	<0.05	05	µg/m³	IS 5182(Part-11):2006
Ozone (O_3)	<33.0	100	µg/m³	Chemical Method (NAAQS Volume-I)
Lead (Pb)	0.060	1.0	µg/m³	AAS Method (NAAQS Volume-I)
Nickel (Ni)	<12.0	20	ng/m³	AAS Method (NAAQS Volume-I)
Arsenic (As)	<1.2	06	ng/m³	AAS Method (NAAQS Volume-I)
Benzo(a)pyrene (BaP)	<0.2	01	ng/m³	IS 5182(Part-12):2004

Sampling conditions	Rain	No	Constr ction site near by	Yes
	Wind	No	Vehicular Activity	No

Remark:--

Note: This test report may not be produced in part or full, without the permission of this laboratory.
This test report refers only to the sample submitted for the testing.

Analyst

For Padmaja Aerobiologicals Pvt. Ltd.

'NANDAN' Plot No - 36, Sec-24, Near Bank Of India, Turbhe, Navi Mumbai - 400 705.
Tel : 022-2783 2532 / 2783 2817 Telefax : 022-2783 2818 E-Mail : paplturbhe@yahoo.co.in Web: www.padmajalab.com

NAVI MUMBAI MUNICIPAL CORPORATION

ENVIRONMENT DEPARTMENT

Below Agroli Bridge, C.B.D. Belapur, Navi Mumbai 400 614.

(ISO 9001:2015 Certified)

Location :- Navi Mumbai Municipal Transport Sec-9, Vashi ,Navi Mumbai.
Date :- 26/11/2021 & 27/11/2021

AMBIENT AIR QUALITY

Date & Time	Location	VOC (mg/m3)	PM 10 (< 100 µg/m3)	PM 2.5 (< 60 µg/m3)	NH_3 (<0.4 mg/m3)	H_2S (mg/m3)	CO (<4 mg/m3)	CH_4 (mg/m3)
26/11/2021 10.00am To 6.00pm	Navi Mumbai Municipal Transport Sec -9, Vashi.	10.5	98.0	71.0	0.05	0.00	0.00	45.5
27/11/2021 10.00am To 6.00pm		5.7	99.5	79.5	0.05	0.00	0.0	29.0

Analysed By

For Chemist

Reported By

Field Chemist

Checked By

Laboratory Incharge
Environment Laboratory

NAVI MUMBAI MUNICIPAL CORPORATION

ENVIRONMENT DEPARTMENT

Below Agroli Bridge, C.B.D. Belapur, Navi Mumbai 400 614.

(ISO 9001:2015 Certified)

Location :- Navi Mumbai Municipal Transport Sec-9 , Vashi ,Navi Mumbai.

Date :- 26/11/2021 & 27/11/2021

AMBIENT AIR QUALITY

Date & Time	Location	SO2 (< 80 µg/m3)			Nox (< 80 µg/m3)			NH3 (< 400 µg/m3)			H2S (µg/m3)			RSPM
		Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	(< 60 µg/m3)
26/11/2021 10.00am to 6.00pm	Navi Mumbai Municipal Transport Sec -9, Vashi.	9.8	8.2	11.4	30.7	26.7	34.6	36.6	35.1	38.1	2.5	2.2	2.8	65.4
27/11/2021 10.00am to 6.00pm		10.2	9.8	10.6	37.4	32.5	42.3	44.3	35.7	52.9	2.6	2.5	2.8	68.1

Analysed By

Chemist

FOR

Reported By

Field Chemist

Checked By

Lab Incharge

Environment Laboratory

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Gazette Notification No. S.O.3744(E) Valid upto : 16.10.2024
ISO 9001 : 2015, ISO 45001:2018 Certified
CIN : U73100MH1995PTC092502
NABL Accreditation Certificate No. TC-5086 Valid upto 31.12.2021.

AIR-F-011

Ref. No.: 389/A-93/11-21

Date: 29/11/2021

Work Order No. :- --

Name of the Industry: M/s. Navi Mumbai Municipal Transport
Construction of Integrtaed Bus Terminus Commercial complex on
Plot No .3, Sector 9A, Vashi, Navi Mumbai.400703.

CERTIFICATE OF ANALYSIS
NOISE LEVEL MEASUREMENTS

Date of Sampling: 15/11/2021 to 16/11/2021

LOCATION: North East Corner near Site Entrance

Day Time	Noise Level dB(A)	Night Time	Noise Level dB(A)
06:25	60.1	22:25	59.8
07:25	63.8	23:25	57.5
08:25	62.5	00:25	61.5
09:25	68.9	01:25	54.8
10:25	70.2	02:25	56.2
11:25	67.2	03:25	52.4
12:25	65.5	04:25	56
13:25	68.4	05:25	58
14:25	68.1		
15:25	63.8		
16:25	68.7		
17:25	66.5		
18:25	64.2		
19:25	66		
20:25	65		
21:25	66.5		
Day Time Avg.	**65.9**	**Night Time Avg.**	57

Remark:--
Instrument used: -Kusam-Meco KM 929 MK1 Sr.No. PAPL/LAB/064
Calibration Due date: - 31/08/2022.
Limit During Day Time < 75dB(A)
Limit During Night Time < 70dB(A)

For Padmaja Aerobiologicals Pvt.

'NANDAN' Plot No - 36, Sec-24, Near Bank Of India, Turbhe, Navi Mumbai - 400 705.
Tel : 022-2783 2532 / 2783 2817 Telefax : 022-2783 2818 E-Mail : papiturbhe@yahoo.co.in Web: www.padmajalab.com

NAVI MUMBAI MUNICIPAL CORPORATION

ENVIRONMENT DEPARTMENT

Below Agroli Bridge, C.B.D. Belapur, Navi Mumbai 400 614.

(ISO 9001:2015 Certified)

Location :- Navi Mumbai Municipal Transport Sec-9 , Vashi ,Navi Mumbai.
Date :- 26/11/2021 & 27/11/2021

SOUND QUALITY

Date & Time	Location	SOUND (<75dB(A))		
		Min.	Max.	Avg.
26/11/2021 10.00am To 6.00pm	Navi Mumbai Municipal Transport Sec -9, Vashi.	57.0	82.0	69.5
27/11/2021 10.00am To 6.00pm		54.0	79.0	66.5

Analysed By
For Chemist

Reported By
Field Chemist

Checked By
Lab Incharge
Environment Laboratory

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CIN : U73100MH1995PTC092502
NABL Accreditation Certificate No. TC-5088 Valid upto 31.12.2021.

WTR-F-001

CERTIFICATE OF ANALYSIS

Report No : **PAPL/EW-31/11-21** **Date: -** 23.11.2021
Sample Ref. No. : 309/EW-31/11-21
Name of Industry : **Navi Mumbai Municipal Transport**
Address : Construction of Integrated Bus Terminus cum Commercial complex on Plot no 3 ,sector 9A, Vashi Navi Mumbai - 400703
Name of Sample : Soil Sample
Sample Quantity : 1 kg **Date of Collection** : 13.11.2021
Sample Collected by : PAPL **Date of Receiving** : 13.11.2021

Sr. No.	Test Parameter	Result	Unit	Test Method
1	pH (10 % Solution)	7.1	---	SW-846-9045-C
2.	Loss on Drying @ 105°C	7.3	%	APHA 2540
3.	Loss On Ignition @550°C	4.3	%	APHA 2540
4.	Sulphate as SO_4	37	mg/kg	IS 3025(Part 24)2009
5.	Chloride as Cl	114	mg/kg	IS 3025(Part 32)2007
6.	Copper as Cu	125	mg/kg	IS: 3025(P-45)1993
7.	Cobalt as Co	<2	mg/kg	IS: 3025(P-45)1993
8.	Lead as Pb	74	mg/kg	IS:3025(P-34)1988
9.	Iron as Fe	54225	mg/kg	IS:3025(P-31)1988
10.	Manganese as Mn	3112	mg/kg	APHA 23rd Edition
11.	Zinc as Zn	72	mg/kg	IS 3025(Part 49)2009
12.	Nickel as Ni	123	mg/kg	IS 3025(Part 54)2003
13.	Chromium as Cr	76	mg/kg	IS 3025 (Part 52)2003

Remark: ----

ANALYSED BY **FOR PADMAJA AEROBIOLOGICALS PVT. LTD.**

Abbreviations: ---

'NANDAN' Plot No - 36,Sec-24, Near Bank Of India, Turbhe, Navi Mumbai - 400 705.
Tel : 022-2783 2532 / 2783 2817 Telefax : 022-2783 2818 E-Mail : papiturbhe@yahoo.co.in Web: www.padmajalab.com

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ISO 9001 : 2015, ISO 45001:2018 Certified
CIN : U73100MH1995PTC092502
NABL Accreditation Certificate No. TC-5088 Valid upto 31.12.2021.

AIR-F-007

Ref. No.: 307/A-56/11-21

Date: 29/11/2021

Work Order No. :- --

Name of the Industry: M/s. Navi Mumbai Municipal Transport
Construction of Integrated Bus Terminus cum
Commercial complex on Plot No. 3, Sector 9A,
Vashi, Navi Mumbai.400703

CERTIFICATE OF ANALYSIS

D.G SET NOISE LEVEL MEASUREMENT

Date of Sampling: 13/11/2021

Time	Locations	Noise Level in dB (A) (Day Time)	Limit dB (A)
12:02 hrs.	D.G. Set 125 KVA(Door Open-East side)	96.2	--
12:06 hrs.	D.G. Set 125 KVA(Door Closed-East side)	73.6	<75
12:03 hrs.	D.G. Set 125 KVA(Door Open-West side)	98.5	--
12:07 hrs.	D.G. Set 125 KVA(Door Closed-West side)	72.2	<75
12:04 hrs.	D.G. Set 125 KVA(Door Open-North Side)	88.2	--
12:08 hrs.	D.G. Set 125 KVA(Door Closed-North Side)	73.4	<75
12:05 hrs.	D.G. Set 125 KVA(Door Open-South Side)	89.6	--
12:09 hrs.	D.G. Set 125 KVA(Door Closed-South Side)	72.8	<75

Remark: --
Instrument used: - Kusam-Meco KM 929 MK1 Sr. No. PAPL/LAB/064
Calibration Due date: - 31/08/2022.

For Padmaja Aerobiologicals Pvt. Ltd.

'NANDAN' Plot No - 36, Sec-24, Near Bank Of India, Turbhe, Navi Mumbai - 400 705.
Tel : 022-2783 2532 / 2783 2817 Telefax : 022-2783 2818 E-Mail : paplturbhe@yahoo.co.in Web: www.padmajalab.com

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ISO 9001 : 2015, ISO 45001:2018 Certified
CIN : U73100MH1995PTC092502
NABL Accreditation Certificate No. TC-5088 Valid upto 31.12.2021.

AIR-F-005

CERTIFICATE OF ANALYSIS

ANALYSIS REPORT FOR STACK EMISSION

Sample / Report Ref. No.	306/A-55/11-21
Work Order No.	--
Report Date	29/11/2021
Name of Industry Address:	M/s. Navi Mumbai Municipal Transport Construction of Integrated Bus Terminus cum Commercial complex on Plot No. 3, Sector 9A, Vashi, Navi Mumbai.400703
Sample Collected by	PADMAJA AEROBIOLOGICALS PVT. LTD.
Date of Sampling	13/11/2021

PARTICULARS OF STACK

Stack Attached to	D.G. Set (125KVA)
Stack Diameter (Meter)	0.1016
Stack Height (Meter)	1.0 Above Roof
Stack Temperature (^{O}C)	128
Stack Velocity of Flue Gases (m/s)	13.4
Stack Volume of Flue Gases (Nm^3/hr)	290
Type of Fuel	Diesel

POLLUTION PARAMETERS

Parameter	Result	Limit	Unit	Method
Total Particulate Matter (TPM)	0.16	0.3	g/kw-hr	IS-11255 (Part 1) 1985 R-2019
SO_2 Conc.	0.12	NS	Kg/day	IS-11255 (Part 2) 1985 R-2019
NOx Conc.	0.10	9.2	g/kw-hr	IS 11255 (Part 7) 2005 Reaffirmed 2012

Remark: --
Instrument used: - Polltech make Model PEM – SMK10, Sr. No. AIR-I-006
Calibration Due date 18/03/2022
NS:-Not Specified

Analyst

For Padmaja Aerobiologicals Pvt. Ltd.

'NANDAN' Plot No - 36, Sec-24, Near Bank Of India, Turbhe, Navi Mumbai - 400 705.
Tel : 022-2783 2532 / 2783 2817 Telefax : 022-2783 2818 E-Mail : paplturbhe@yahoo.co.in Web: www.padmajalab.com

F.No.6-1/2021 WL
Government of India
Ministry of Environment, Forest and Climate Change
(Wildlife Division)

2nd Floor, Jal Wing,
Indira Paryavaran Bhawan,
JorBagh Road, Aliganj,
New Delhi 110003
Date: 01.02.2021

To
The Principal Secretary,
Forest Department,
Wan Bhavan, Ramgiri Road, Civil Lines,
Nagpur 440001.

Sub: Construction of Integrated Bus Terminus cum Commercial complex on plot no. 3, Sector 9a, Vashi, Navi Mumbai, dist. Thane by Navi Mumbai Municipal Transport- reg.

Sir,

Reference is invited to the subject mentioned above. The 60th Meeting of Standing Committee of National Board for Wild Life was held on 5th January, 2021 *through Video Conference under the* Chairmanship of Hon'ble Minister for Environment, Forest & Climate Change.

After discussions, the Standing Committee decided to recommend the proposal subject to the following:

A. **Conditions imposed by the Chief Wild Life Warden:**

1. Project personnel, engaged in the project work shall observe the provisions of all the existing legal provisions' especially the Environment (Protection) Act, 1986, Wild Life (Protection) Act, 1972 and rules made there under & also take all precautionary measures for conservation & protection of flora, fauna in the vicinity of the project.

2. No dumping of debris on wet lands/mud flat and forest area will be done by project proponent.

3. All the other mandatory permissions from different statutory authorities should be obtained prior to commencement of work.

4. The project proponent shall deposit 2% cost of the (Rs.168.00 Crore) proposed project which passes through the deemed ESZ of the Thane Creek Flamingo Sanctuary for management of the sanctuary.

B. The annual compliance certificate on the stipulated conditions should be submitted by the project proponent to the State Chief Wild Life Warden and an annual compliance certificate shall be submitted by the State Chief Wild Life Warden to Government of India.

Details of the recommendations have been illustrated in the minutes of the meeting posted online in the "PARIVESH" portal of this Ministry.

Yours faithfully,

(Surender Gugloth)
Scientist 'D'
Email: ddwlmef@gmail.com

Copy to:

1. Chief Wild Life Warden, Government of Maharashtra, Forest Department, Van Bhavan, Ramgiri Road, Civil Lines, Nagpur 440001.
2. Regional Officer, Integrated Regional Office, Ministry of Environment, Forest and Climate Change, Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur-440001.
3. The Inspector General of Forests, FC Division, MoEF&CC, New Delhi.
4. The Joint Secretary, IA Division, MoEF&CC, New Delhi.

Ref: NMMT/TM/ENGG/ 2019/14 Date: 14-02-2019

Revised Letter of Award

To:
M/s. JBM Solaris Electric Vehicles Pvt Ltd.,
Plot No. 118, HSIDC, Sector 59, Ballabgard,
Faridabad, Pin - 121004.

Subject: **Letter of Award for Supply of Battery Operated 9M Electric 30 Buses with chargers.**

Ref: **1) Tender No.NMMT/TM/ENGG/07/2018-19**

2) Transport Committee Resolution No.103, dated 23-01-2019

This is to notify you that your above referred bid submitted pursuant to Tender for Selection of a Contractor for "Supply of Battery Operated Electric 30 Buses with Chargers and Annual Maintenance Contract (AMC)" dated 14/08/2018, the following price offered in your Price Bid from amongst the bids submitted and is hereby accepted by the NMMT:

Sr.	Description	Qty.	Quoted Rates (Basic Price)	GST @12%	Destination Price (Price per Unit)
1	Supply of 9 Metre AC 900 mm Floor Height	30	₹1,19,19,643/-	₹14,30,357/-	₹1,33,50,000/-
				Total for 30 Buses	**₹40,05,00,000/-**
2	Supply of Chargers	10	₹11,82,203/-	₹2,12,797/-	₹13,95,000/-
				Total for 10 Charger	**₹1,39,50,000/-**
				Total (1+2)	**₹41,44,50,000/-**

(In Rupees Forty One Crore Forty Four Lac Fifty Thousand Only)

Pursuant to the provisions of the RFP, you are hereby required to undertake the following:

i. Countersign this letter of award at the place indicated below to indicate your acknowledgment of the Letter of Award by the Navi Mumbai Municipal Transport Undertaking to you and return it within a period of 07 days from the date of this letter;

ii. You are required to send your duly authorised representative (with the proof of due authorisation in the form of power of attorney or a Board Resolution) to execute the Contract with paid stamp duty of Rs 4,15,000/- which shall be executed without any deviation as per tender.

Transport Manager
Navi Mumbai Municipal Transport Undertaking

नवी मुंबई
महानगरपालिका

Navi Mumbai
Municipal Corporation

Ref No: NMMC/TM/ENG/2019/68

Date: 29/06/2019

To
The Under Secretary (AH),
Department of Heavy Industry
Room No. 387, Udyog Bhawan, New Delhi - 110011

Subject: Proposal for the deployment of Electric Buses in response to the EOI issued by DHI dated 04/06/2019

Reference: Department of Heavy Industry's Expression of Interest issued on 03/06/2019 inviting detailed proposals from cities, for extending demand incentives under FAME India scheme Phase II for deployment of electric buses for public transport, we are hereby submitting our Expression of Interest, in the prescribed format, for consideration of the Department of Heavy Industry. We agree to abide by the conditions outlined in the said EOI.

We as a result of this declare that our proposal submitted in response to this EOI is made in good faith and the information contained is true and correct to the best of our knowledge and belief. If any of the information provided here is found to be misleading, we are liable to be disqualified from the EOI selection process.

(Dr. R.Ramaswami N.)
Municipal Commissioner
Navi Mumbai Municipal Corporation

नवी मुंबई महानगरपालिका परिवहन उपक्रम

NAVI MUMBAI MUNICIPAL TRANSPORT

कार्यालय : नवी मुंबई महानगरपालिका परिवहन उपक्रम,
बेलापूर भवन, ८वा मजला, सेक्टर-११,
सीबीडी बेलापूर, नवी मुंबई - ४०० ६१४.
दूरध्वनी : ०२२ - २७५७९०३२
फॅक्स : ०२२ - २७५७ ९०३३

Office : Navi Mumbai Municipal Transport
Belapur Bhavan, 8th Floor, Sector-11,
CBD Belapur, Navi Mumbai - 400 614.
Tel.: 022 - 2757 9032
Fax : 022 - 2757 9033

E-mail : nmmtmail@gmail.com

NMMC/TM/E.E.(Civil)/ 141 /2019
Date:13.8.2019

To

The Member Secretary
State Environmental Impact Assessment Authority,
15th Floor, New Administrative Block,
Department of Environment, Mantralaya,
Mumbai, Maharashtra.

Subject : Point wise reply raised by Honourable SEIAA during 170th Meeting on 15th July2019 for Proposed Integrated Bus Terminus cum Commercial Complex Project On Plot No. 3, Sector 9A, Vashi, Navi Mumbai, Dist. Thane by **Navi Mumbai Municipal Transport.**

Dear Sir,

With reference to the 170th SEIAA meeting, we are submitting herewith the point wise reply.

Sr. No.	Queries Raised during 170th Meeting of SEIAA	Reply
1	PP to submit report of AAQM modelling study.	AAQM modelling study report is attached as an **Annexure 1.**
2	PP to submit CER plan to Municipal Commissioner, and submit the acknowledgement copy to Member Secretary, SEIAA	The acknowledgement copy of submission of CER plan to Municipal Commissioneris attached as an **Annexure 2.**

We request you to consider our project for grantofEnvironmental Clearance.

Thanking you,

Yours Faithfully,

Transport Manager
Navi Mumbai Municipal Transport

Air Pollution & Air Quality Report

For

Proposed Integrated Bus Terminus cum Commercial Complex at Plot No. 3, Sector 9A, Vashi, Navi Mumbai, Dist. Thane, Maharashtra.

buildingenvironment

2019

Document Control:

Document	Air Pollution & Air Quality Report for "Proposed Integrated Bus Terminus cum Commercial Complex at Vashi".
Version (Date)	R0 (09/08/2019)
Prepared by	Mr. Ashok Bandgar
Reviewed and approved by	Mr. Nilesh Potdar & Mr. Hrushikesh Kolatkar

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF FIGURES

1 Introduction

M/s. Navi Mumbai Municipal Transport. has Proposed Integrated Bus Terminus cum Commercial Complex on Plot No. 3, Sector 9A, Vashi, Navi Mumbai, Dist. Thane of the Maharashtra State.

1.1 Project Location

The geo-graphical location of the project falls in the Latitude :19°04'30.45" N Longitude: 72°59'50.27" E. The project has direct access to Vashi Road and Vashi Turbhe Road. The Vashi railway Station is the nearest railway station located at aerial distance of 1.30 km from site, which provides local connectivity. The site is well connected to major landmarks in and around Mumbai & Navi Mumbai by roads as well as rail. The map depicting the road network in the vicinity of the project is shown in Figure 1-1.

Figure 1-1:Project Location

1.2 Objective of Study

The study aims to achieve the following objectives:

1. To determine the impacts of background concentration of air pollutants in study area;

2. To project emission inventories using mathematical models taking into account of vehicle population/ improvements in vehicle technology, fuel quality changes and other activities having impact on ambient air quality thereof;
3. To determine the impact of project in different scenarios/cases.
4. To assess some control options for reductions of air pollutants in the project site after studying the results from dispersion modeling.

2 Meteorology of the study area

Various meteorological parameters which influence the dispersion of air pollutants include: wind speed, wind direction, temperature, precipitation, relative humidity, mean mixing depth (MMD) and nature of terrain. Hourly meteorological secondary data was obtained from Envitrans for Thane Geographical location, & which has been used for plotting annual variation of average wind speed, wind direction, temperature and wind-rose plot from Dec 2017 to Nov 2018. The maximum temperature 41.5°C was observed in the month March, 2018 and minimum 16.2°C in month Feb 2018. The maximum wind speed 22.32 m/s from SW direction was recorded in month July & Sept 2018. & avg wind speed was observed as 1.24 m/s in year Dec 2017-Nov 2018. The maximum relative humidity is observed 99% in each month and minimum is recorded as 19% in the month Jan. The month wise min and max values of meteorological parameters for year Nov 2017 to Dec 2018 are shown in following Table 2-1.

Table 2-1:Meteorological data for year Dec 2017 to Nov 2018

Study Period	Temp (°C)		Predominant Wind Direction	Wind Speed (Km/hr)		Relative humidity (%)	
	Max	Min		Max	min	Max	min
Dec	36.4	16.9	NE	11.16	1.8	99	23
Jan	38.5	15.9	NE	11.16	1.8	99	19
Feb	40.4	16.2	NE	11.16	1.8	99	21
Mar	41.5	21.8	NE	12.96	1.8	99	30
Apr	40.1	22.9	NNW	18.36	1.8	99	58
May	40.4	25.8	W	16.56	1.8	99	39
Jun	37.2	23.9	SW	20.52	1.8	99	65
Jul	33.1	23	SW	22.32	1.8	99	57
Aug	31.1	24.4	SW	14.76	0	99	53
Sep	40.4	23.2	SW	22.32	0	99	53
Oct	40	20.9	NE	14.76	1.8	99	26
Nov	38.4	19	NE	14.76	1.8	99	33

Source: Secondary Meteorological data for year Dec 2017 to Nov 2018 by Envitrans for Thane geographical location.

The seasonal wind rose plot during 1st March 2018 to 31th May 2018 shows predominant wind direction as W to E which is shown in Figure 2-1. The calm period was found to be 63.3 % out of the annual period.

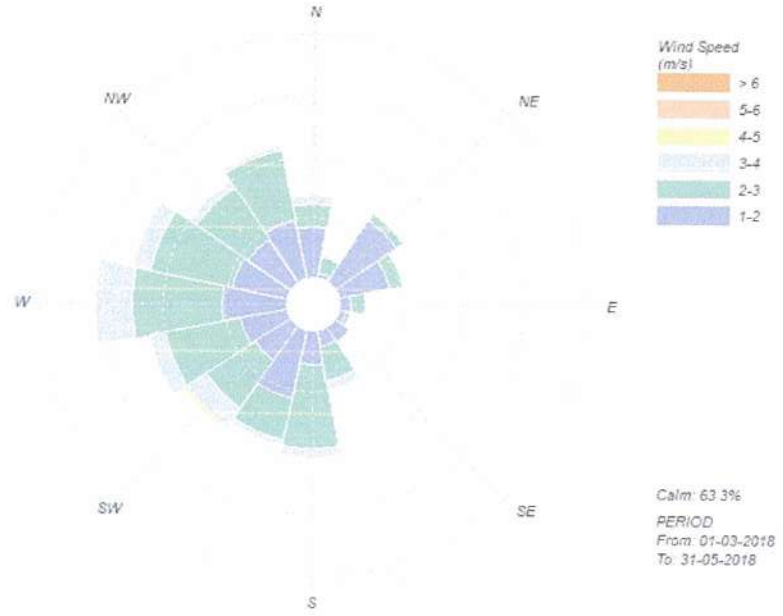
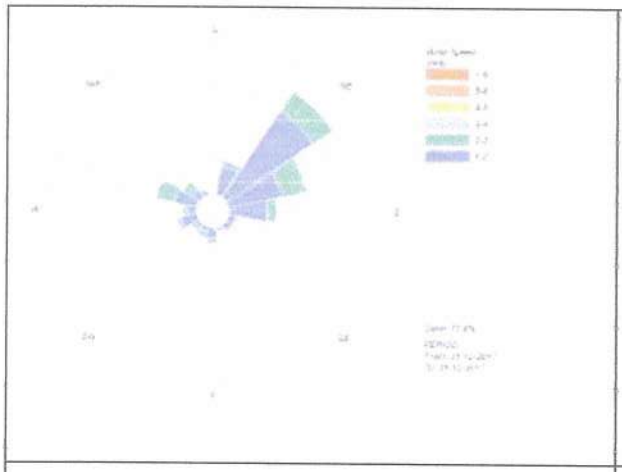
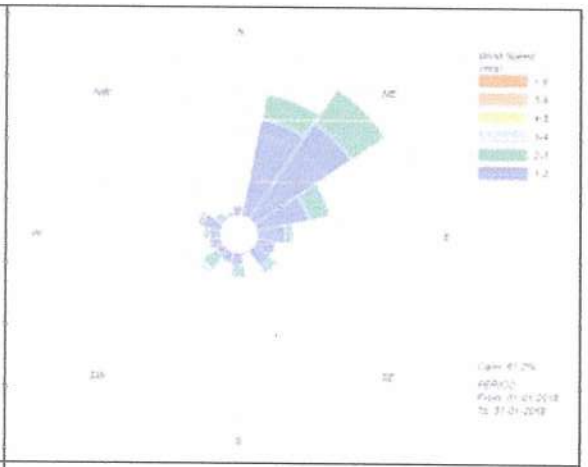
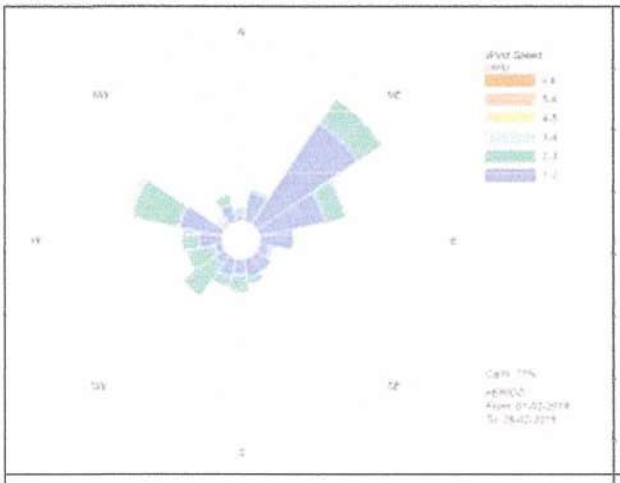
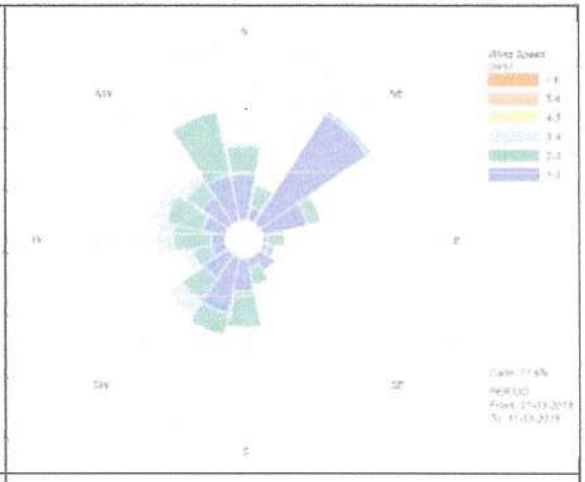
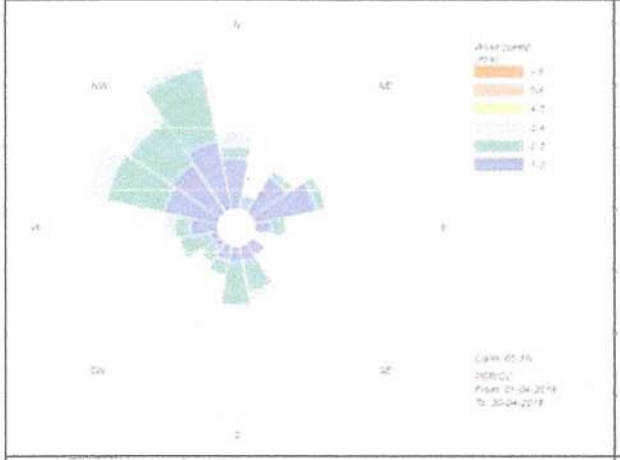
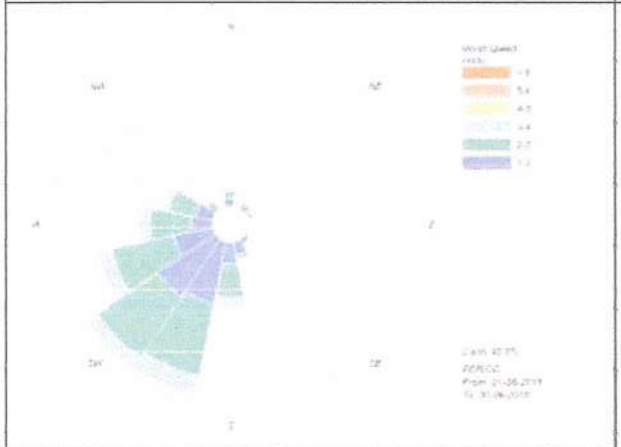
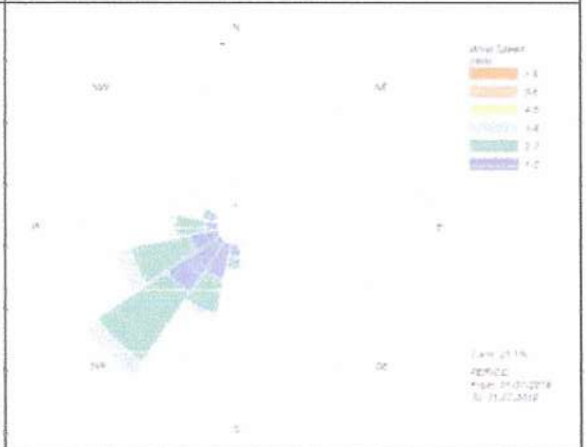


Figure 2-1: Seasonal wind-rose plot for Thane Geographical location, Maharashtra, India.

The prevailing wind direction at site is shown through following wind roses prepared for each month throughout the year Dec 2017 to Nov 2018 are shown in Figure 2-2 below:

	
Wind-rose diagram for Dec 2017	Wind-rose diagram for Jan 2018

	
Wind-rose diagram for Feb 2018	Wind-rose diagram for March 2018
	
Wind-rose diagram for April 2018	Wind-rose diagram for May 2018
	
Wind-rose diagram for June 2018	Wind-rose diagram for July 2018

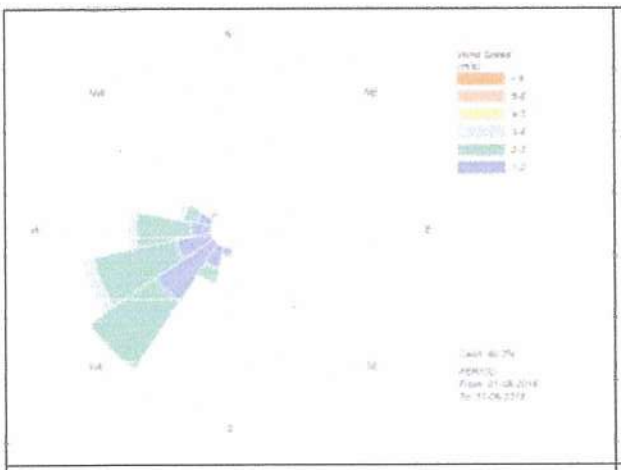
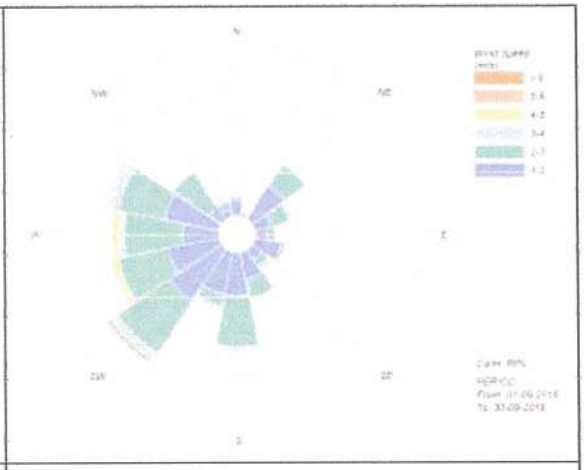
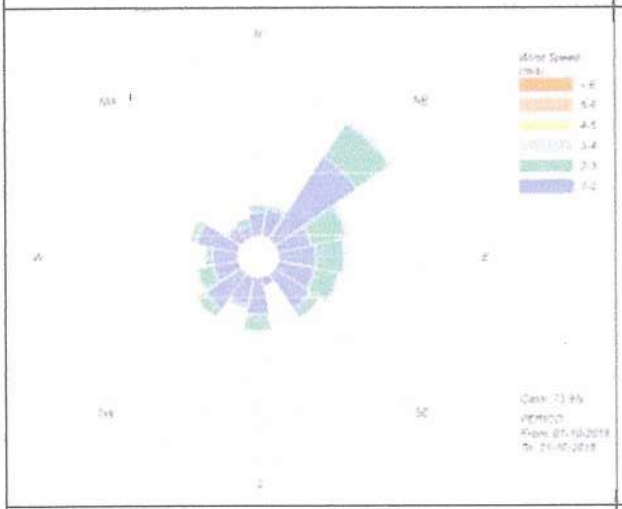
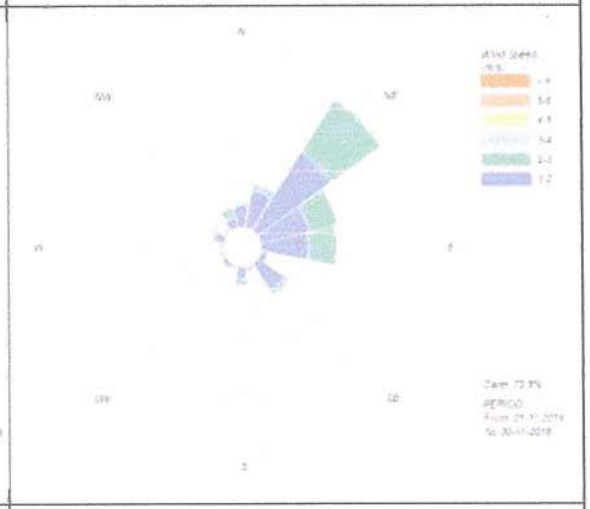
	
Wind-rose diagram for August 2018	Wind-rose diagram for September 2018
	
Wind-rose diagram for October 2018	Wind-rose diagram for November 2018

Figure 2-2:Month wise wind rose for Geographical location Thane

3 Ambient Air Quality of Study area

Ambient air quality data for summer season from 1st March to 27th May 2019 has been collected from MPCB portal for nearest monitoring station Dr. D.Y. Patil College, Nerul which is operating continuously. The ambient air quality data gives the total concentration of air pollutants arising from nearby sources such as road vehicles, residential areas, industries and other man-made sources. Dispersion of air pollutant is dependent upon many meteorological factors, most significantly dependent upon wind velocity, wind direction and temperature. in Table 3-1 and Graphical representation is given in Figure 3-1. It was observed from the monitored results that

the pollutant concentrations values are found to be within the National Ambient Air Quality Standards (NAAQS).

Table 3-1: Min, max, average and 98th percentile ambient air quality data recorded at Nerul.

Station Name	Pollutant	Minimum	Maximum	Average	98th percentile
Nerul	SO2 µg/m3	36	82	47.09	59.14
	NO2 µg/m3	42	61	55.15	60.38
	RSPM µg/m3	48	198	110.7	174.9
	PM10 µg/m3	33.6	138.6	77.49	122.43

Note: Mean percentage composition of RSPM at Vashi location, 70% of PM10 & 30% of PM2.5

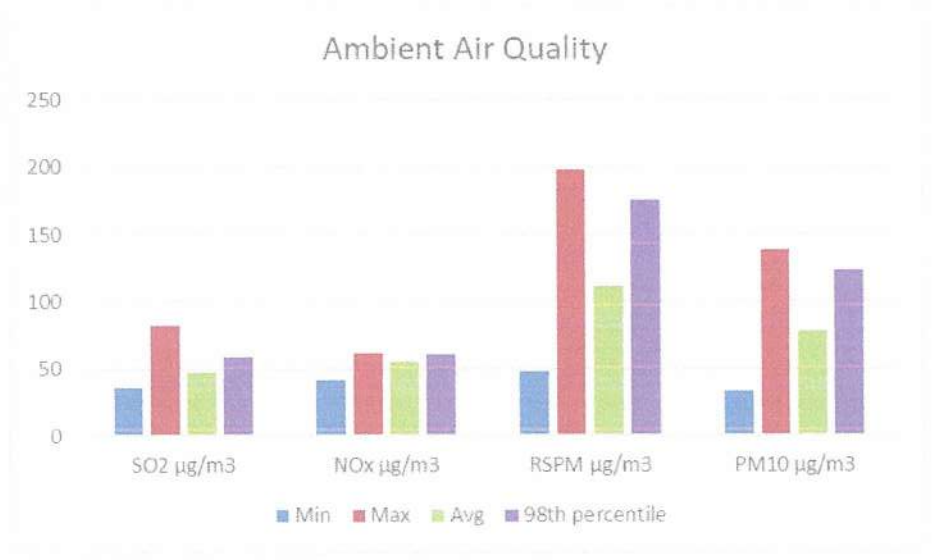


Figure 3-1: Graphical Representation of Baseline Status of pollutants SO2, NO2 & PM10 at Nerul monitoring station

SO2: The Minimum, Maximum, average and 98th percentile concentrations of SO2 were recorded during March to May 2019 at Nerul monitoring location is as 36.00 µg/m3, 82.00 µg/m3, 47.09 µg/m3 and 59.14 µg/m3 respectively. The maximum conc is recorded on single day of total period considered for study and which is exceeding the NAAQS limits for industrial, residential, rural and other areas (80 µg/m3). However, the average and 98th percentile concentration for March to May 2019 is found to be within the prescribed NAAQS limits for industrial, residential, rural and other areas (80 µg/m3).

NO2: The Minimum, Maximum, average and 98th percentile concentrations of NO2 were recorded during March to May 2019 at Nerul monitoring location is as 42.00 µg/m3, 61.00 µg/m3, 55.15 µg/m3 and 60.38 µg/m3 respectively. The min, Max, average and 98th percentile

concentration for March to May 2019 is found to be within the prescribed NAAQS limits for industrial, residential, rural and other areas (80 µg/m3).

RSPM: The Minimum, Maximum, average and 98th percentile concentrations of RSPM was recorded during March to May 2019 at Nerul monitoring location is as 48.00 µg/m3, 198.00 µg/m3, 110.70 µg/m3 and 174.90 µg/m3 respectively. The maximum, average and 98th percentile conc values are exceeding the NAAQS limits for industrial, residential, rural and other areas (100 µg/m3). The min concentration for March to May 2019 is found to be within the prescribed NAAQS limits for industrial, residential, rural and other areas (100 µg/m3).

PM 10: The Minimum, Maximum, average and 98th percentile concentrations of NO2 were recorded during March to May 2019 at Nerul monitoring location is as 33.60 µg/m3, 138.60 µg/m3, 77.49 µg/m3 and 122.43 µg/m3 respectively. The maximum and 98th percentile conc values are exceeding the NAAQS limits for industrial, residential, rural and other areas (100 µg/m3). However, the min and average concentration for March to May 2019 is found to be within the prescribed NAAQS limits for industrial, residential, rural and other areas (100 µg/m3).

CO: The ambient CO data is not available on MPCB portal as well as NMMC portal. The background concentration of Carbon monoxide (CO) is taken from EIA report of Nagaland State guest houses cum Emporium at Vashi, Navi Mumbai. The monitoring surveys of the study area (project area) were carried out for one season, during the months of March 2017 to May 2017. The baseline measurement carried out at all ambient air monitoring sites was consistently less than 0.4 mg/m3 and it also within the prescribed limit of NAAQs for CO of Industrial, Residential, Rural and Other Areas.

4 Traffic Studies

Vehicular emission is one of the major sources of air pollution in the study area. Pollutants from vehicular exhaust are released at ground level and hence, their impacts on the recipient population are likely to be of significant. Traffic surveys were conducted for Vashi road and Vashi Turbhe road to study baseline traffic scenario. The traffic study includes: count of total number of vehicles, segregation of different types of vehicles and vehicular movement at a given location.

4.1 Hourly traffic distribution of Vashi Turbhe Road

The hourly traffic count on Vashi Turbhe Road is shown in the graph, which is shown in Figure 4-1.

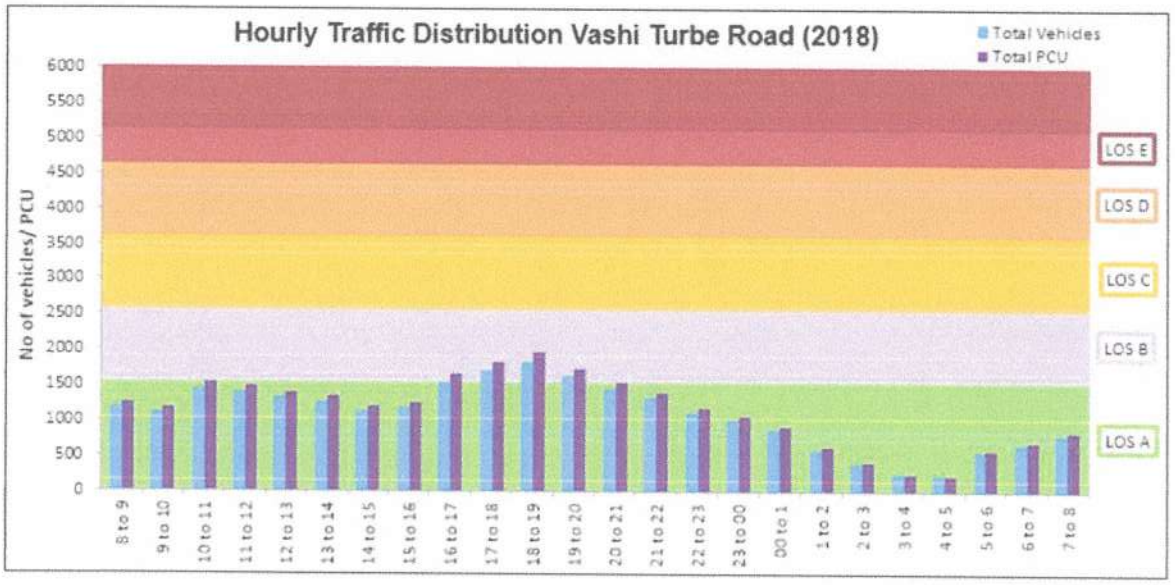


Figure 4-1: Hourly Traffic Counts at Vashi Turbhe Road

As per Figure 4-1, the peaks are well established during 18.00 to 19.00 Hrs. The modal split shows the percent composition of vehicles on Vashi Turbhe road. Cars contributes 31% of the traffic on Vashi Turbhe Road. The impact of the project traffic would be predominantly on Vashi Turbhe road and Vashi Road, which connects Thane Belapur Road and Sion Panvel Highway respectively. The hourly distribution of different types of vehicles on the Vashi Turbhe road is given in Figure 4-2

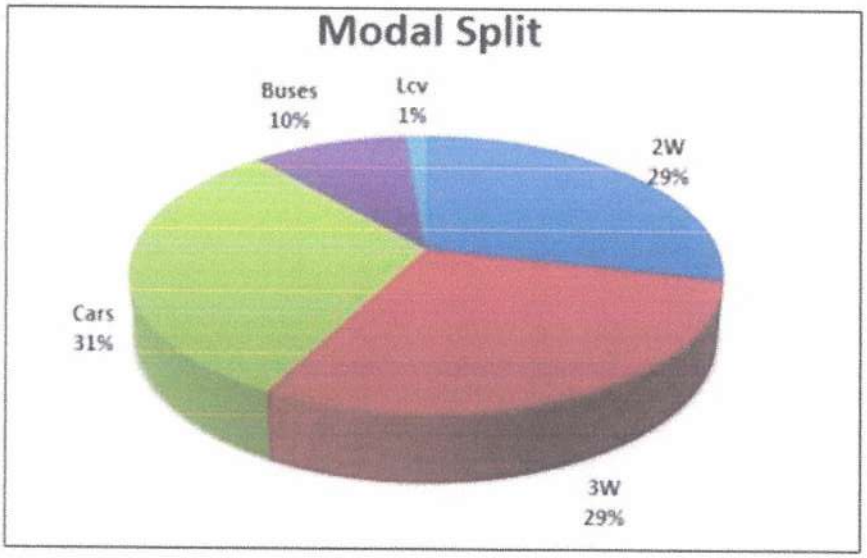


Figure 4-2: Hourly Traffic Distribution for Vashi Turbhe Road

4.2 Hourly traffic distribution of Vashi Road

The hourly traffic count and traffic distribution on Vashi Road is shown in Figure 4-3 & Figure 4-4

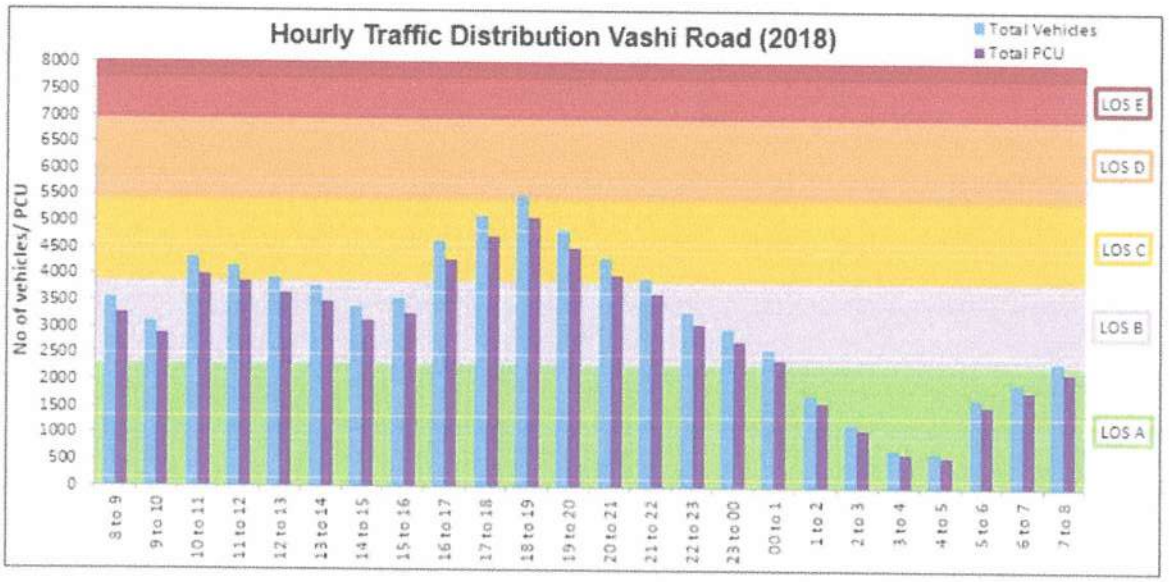


Figure 4-3: Hourly Traffic Counts at Vashi Road

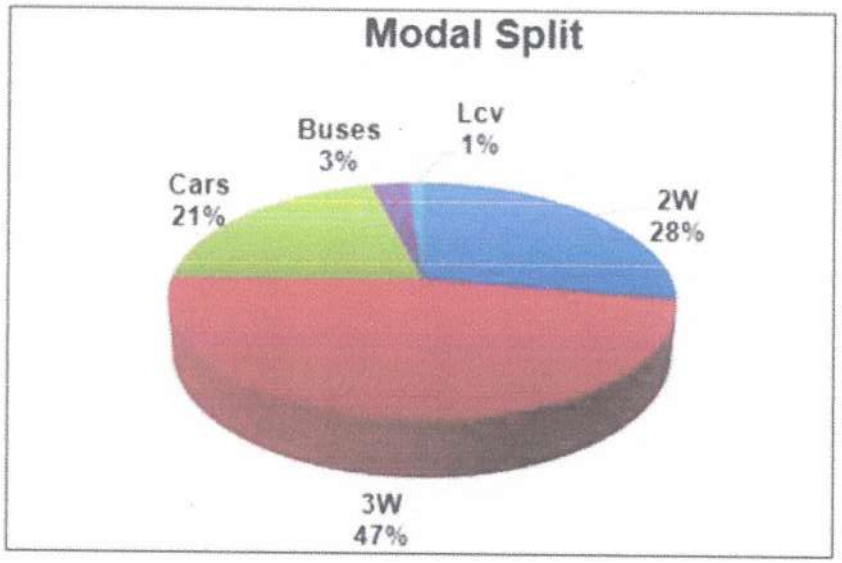


Figure 4-4: Hourly Traffic Distribution for Vashi Road

It is equally important for the project to consider the Passenger Car Unit (PCU) which impact the mode of transport (such as headway, speed and density) compared to a single car. Roads in India

carry heterogeneous traffic, where road space is shared among many traffic modes with different physical dimensions. The PCU's for the present studies are calculated based on the observed traffic volume and the PCU factors for each category of vehicles as per Indian Highway Capacity Manual (Indo-HCM). The peak hourly PCU count is represented in Table 4-1.

Table 4-1: Peak Hour PCU Count Year 2018

Road	Volume	PCU
	1800 – 1900 hr.	1800 – 1900 hr.
Vashi Turbhe Road	1835	1959
Vashi Road	5499	5094

The hourly peak PCU and traffic on Vashi Turbhe Road and Vashi road seems to be comparatively medium especially compared to the other connecting roads in the area.

4.3 Projections for vehicular growth

In traffic study 5 percent of annual traffic growth is considered for external roads to forecast the Base Traffic for "Scenario – 2025" on Vashi Turbhe Road & Vashi Road. The exact growth cannot be predicted for this road since its uncertainty for year of actual implementation and operation. The projected traffic has been summarized in Table 4-2.

Table 4-2: Traffic predictions (PCU/hr)

Road	Present PCU	PCU in 2025	Projected PCU over base year	Project vehicles addition in operation phase (in PCU)	Total PCU considered for modelling in operation phase	Total Volume considered for modelling in operation phase
Vashi Turbhe Road	1959	2645	686	52	738	801
Vashi Road	5094	6877	1783	52	1835	1482

4.4 Congestion analysis

The current and projected total traffic on the road is compared with existing and future road capacity. This V/C ratio of peak traffic volume and capacity is used as an index to determine level of congestion on link which is likely to occur when projected traffic is operative on link. Pedestrian traffic is assumed to use footpaths and not affect the road capacity. The summary of results shows the future traffic flow on Vashi Turbhe road and Vashi Road is shown in Table 4-3.

Table 4-3: Traffic Capacity Analysis

Road Name	Projected peak traffic volume in 2025 (PCU/hr)	Design Traffic capacity as per IRC 106:1990 (PCU/hr)	V/C Ratio	LOS
Vashi Turbhe Road	5697	7714	0.35	B
Vashi Road	6929	7714	0.90	D

Under configuration of the year 2025 the Vashi Turbhe Road and Vashi road will operate at V/C ratio up to 0.35 & 0.9 respectively during the peak hour after completion of the proposed development, which indicates the traffic will continue to run as usual with appropriate vigil during peak hours after commissioning of project. Mitigation measures will have to be adopted after 2020 to cater to the increasing traffic.

5 Dispersion modelling and Result analysis

The modelling is carried out using AERMOD Cloud Gaussian dispersion model for area and point sources. During construction phase only construction vehicles and construction related activities will add the emissions in to the ambient air and which will not cause for major impact on air quality. Air Emissions during operation phase (Year 2025) are from CNG Generator, vehicles of commercial unit and addition of new buses. There will be higher air emission impact of the project during operation phase. Hence the air quality modelling is carried out for operation phase only.

5.1 Methodology for modelling

The AERMOD Cloud modeling tool was used for air quality study, which is based on Gaussian plume dispersion (Point source and area source) and simplified form of the three-dimensional transmission-distribution equation. The Short-term model incorporates the COMPLEX1 screening model dispersion algorithms for receptors in complex terrain. The model is capable of handling multiple sources, including point, volume, area and open pit source types. To run the model, the main model input files include: input run-stream file and meteorological data file. Run-stream setup file contains modelling options, source information, receptor locations, meteorological data file specifications and output options. However, meteorological data file contains all the required meteorological data on hourly basis.

AERMOD Cloud software developed by taking into consideration of the Indian regulatory (Ministry of Environment and Forests and Central Pollution Control Board) requirements. AERMOD Cloud is used extensively and recommended by the Ministry of Environment and Forests to assess air pollution concentration from a wide variety of sources. Indian regulatory compliance requirements have incorporated within AERMOD Cloud, the requirements include the National Ambient Air Quality Standards 2009, Guidelines for Conducting Air Quality Modeling, EIA Manual and Notifications.

In the present study AERMOD Cloud model is used to predict the dispersion of pollutants over the study area to predict pollutant concentrations near highways or roads by approximating them as area sources. The inputs to the model are defined in two functional pathways as represented in the following sections. Each of these functional parameters include several options that may be user defined or set as default, the details of some of these essential elements of AERMOD Cloud runs have been explained in the discussions. The elevated terrain has been assumed while running the model.

5.2 Emission Sources

Air modelling is carried out considering grid of 4.00 km x 4.00 km with 400 m column and grid spacing in study area. The entire carriage way of the roads is marked and considered as line area sources. The average release height of vehicular emission is taken as 0.15 m. The CNG generator of capacity 450 KVA is proposed as power backup during operation phase. The project location is considered at the Centre of the Grid. Figure 5-1 shows the location of the proposed project site and road connectivity.

Figure 5-1: Project location & connecting roads

5.3 Model Input:

The data base included in model are meteorological data and the source emissions data. Background concentrations were calculated using monitored values from sites.

Model Used	AERMOD Cloud for line area & point source
Source Type	**Line area source**: vehicular emissions on carriageway (within project site, Vashi road and Vashi-turbhe road **Point sources:** - CNG based Gen-set during operation phase (Scenario-1) - Diesel based Gen-set during operation phase (Scenario-2)
Modelling Grid	1 Cartesian Grid, 4.00 km x 4.00 km
Emission Factor	Vehicles - Emission rates in g/s.m^2 based on Euro VI emission factors.

	Generator Set: - CNG Gen set emissions are considered from manufactured data Daily 1-hour working; - Diesel Gen set emissions are considered from AP-42 (Small stationery engine which are applicable for power rating less than 600hp) data Daily 1-hour working;
Met File (ISC Met Ready file)	1st December 2017 to 30th November 2018 for Thane Geographical Location.; Secondary met data source: Envitrans
Prediction Years	2025 (Operation Phase) – assumption based on discussion with client;

6 Modelling Case-1: Project & Access Roads

Model outputs were obtained for emissions of each of the pollutants at cartesian receptor grid (4.00 km X 4.00 km). The concentration level contours of dispersed pollutants are plotted in AERMOD Cloud in the given grid. Isopleths are plotted for each of the pollutants and the concentration by the line source i.e. future scenario including growth rate and additional vehicle assumed to be added due to project. This map is superimposed on the Google Earth imagery of the project location. To determine the impact during operation phase two different scenarios are considered.

- Scenario 1: CNG based Gen-set & Vehicular Emissions
- Scenario 2: Diesel based Gen-set & Vehicular Emissions

6.1 Scenario 1: CNG based Gen-set & Vehicular Emissions

Air quality modelling is carried out considering emissions from CNG Generator, vehicles of commercial unit (6m wide internal road) and projected traffic of surrounding roads (Vashi Turbhe Road, 28m wide carriageway & Vashi Road, 27m wide carriage way).

Power generator characteristics have been shown in Table 6-1, which includes, stack height, exit temperature of flue gas, exit velocity and exhaust pipe diameter of generator.

Table 6-1: Genset data required for model run

Genset No.	KVA	Stack height (m)	Exit Gas Temp (K)	Exit Gas Velocity (m/s)	Exhaust pipe dia. (m)
1	450	90.41	700	10	0.2

The Euro VI emission factors has been considered for estimating the emissions of road vehicles which are shown in

Table 6-2 below and emissions of CNG generator are taken from manufactured data as shown in

Table 6-3. The analysis of modelling result for criteria pollutants CO, NO2 and PM10 is given along the isopleth.

Table 6-2: Emission Factors of project vehicles in 2025

Sr No	Road	No of vehicles (vehicles/Hour)									Emission Factor (g/s/sq.m)		
		2W	3W	4W	LCV	Bus	Truck	2/3 Axle	MAV	Total	CO	NO2	PM10
1	Vashi Turbhe Road	212	216	285	76	9	3	0	0	801	$4.70x10^{-6}$	$4.921x10^{-7}$	$1.11x10^{-8}$
2	Vashi Road	392	677	353	42	15	3	1	0	1482	$1.27x10^{-5}$	$1.07x10^{-6}$	$2.61x10^{-8}$
3	Project inside road	0	0	40	0	407	0	0	0	447	$1.63x10^{-5}$	$3.92x10^{-5}$	$1.09x10^{-7}$

Table 6-3: CNG Genset emission rates

Sr No.	Rating (KVA)	CO (g/s)	NO_2 (g/s)
1	450	0.005922	0.2076

CNG Genset emission rates are taken from the manufactured data.

6.1.1 Modelling Results for CO

The predicted max GLC of pollutant CO is found as 389.25 µg/m3 at 5.2 m height and 225m NNE from centre of grid. The spread of emissions is found along the roads with higher conc at road centre than surrounding. The width of spread for conc. 15 µg/m3 to 52.44 µg/m3 is higher than other emission contour levels. The observed 8 hourly max GLC conc is found within the prescribed NAAQ standard of 2000µg/m3 & is shown in Table 6-4.

Table 6-4: Predicted and Resultant CO Concentration

Baseline max CO (µg/m3)	Predicted max GLC (µg/m3)	Resultant GLC conc (µg/m3)	NAAQ Standard (µg/m3)
400	389.25	789.25	2000

The maximum resultant GLC 789.25 µg/m3 is found at 225m NNE from centre of the grid. The resultant GLC is within the NAAQ standard of 2000µg/m3. The emission isopleths generated by AERMOD Cloud is illustrated in the Figure 6-1: Isopleth for predicted CO Concentration.

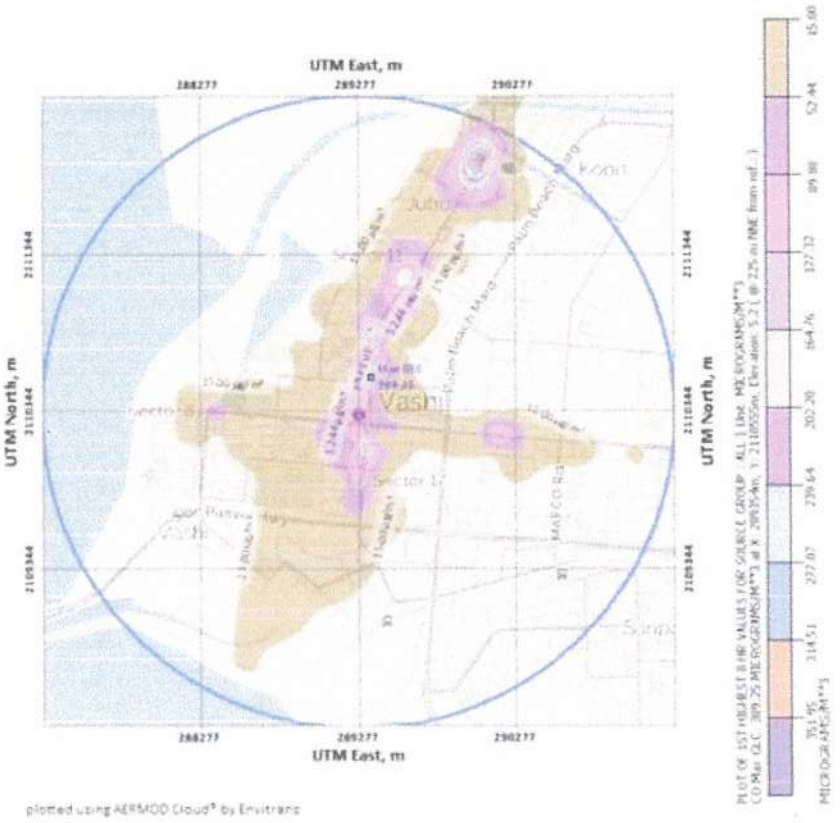


Figure 6-1: Isopleth for predicted CO Concentration

The colour shown in the isopleth corresponds to the average 8-hour CO concentration & the value of which is shown in the legend given along with the isopleth.

6.1.2 Modelling Results for NO2

The predicted max GLC of pollutant NO2 is found as 28.98 µg/m3 at 5.4 m height and 0.00 m from centre of the grid. The spread of emissions is found along the roads with higher conc at road centre than surrounding. The width of spread for conc. 1.2 µg/m3 to 3.99 µg/m3 is higher than other emission contour levels. The observed 24 hourly max GLC conc is found within the prescribed NAAQ standard of 80µg/m3 & is shown in Table 6-5.

Table 6-5: Predicted and Resultant NO2 Concentration

Baseline 98th percentile (µg/m3)	Predicted max GLC (µg/m3)	Resultant GLC conc (µg/m3)	NAAQ Standard (µg/m3)
60.38	28.98	89.36	80

The maximum resultant GLC 89.36 µg/m3 is found at centre of grid. The resultant GLC is exceeding the NAAQ standard of 80µg/m3. The emission isopleths generated by AERMOD Cloud is illustrated in the Figure 6-2.

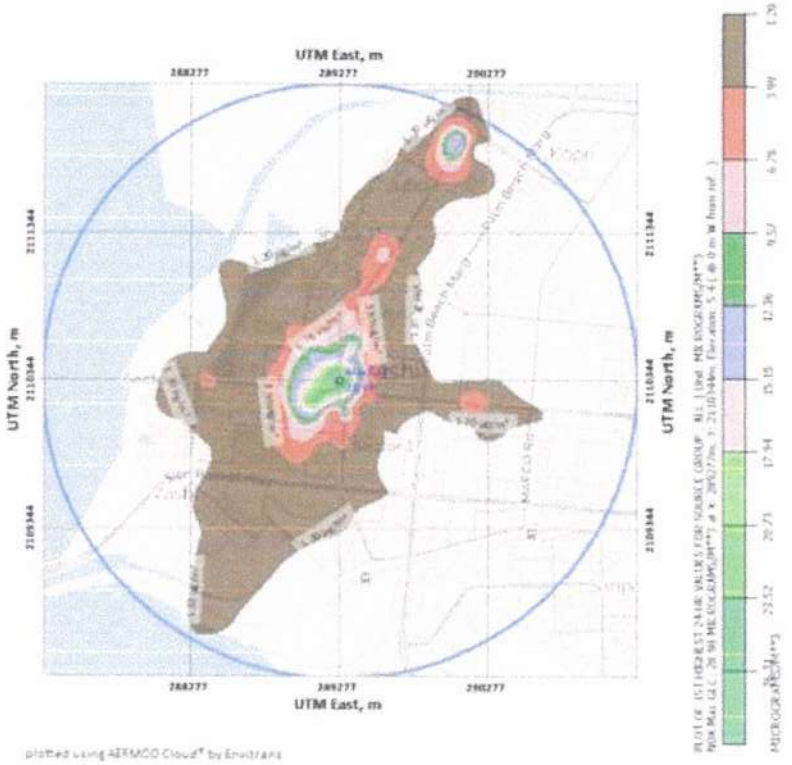


Figure 6-2 : Isopleth of predicted NO2 Concentration

The colour shown in the isopleth corresponds to the average daily 24-hour NO2 concentration & the value of which is shown in the legend given along with the isopleth.

6.1.3 Modelling Results for PM10

As per manufactured data no harmful particulate matter and smoke can be generated from CNG based Genset. Only Road vehicular emissions are considered for pollutant PM10 modeling. The predicted max GLC of pollutant PM10 is found as 0.32 µg/m3 at 5.2 m height and 225 m NNE from centre of the grid. The spread of emissions is found along the roads with higher conc at road centre than surrounding. The width of spread for conc. 0.001 µg/m3 to 0.03 µg/m3 is higher than other emission contour levels. The observed 24 hourly max GLC conc is found within the prescribed NAAQ standard of 100µg/m3 & is shown in Table 6-6.

Table 6-6: Predicted and Resultant NO2 Concentration

Baseline (98th percentile) (µg/m3)	Incremental max GLC (µg/m3)	Resultant GLC conc (µg/m3)	NAAQ Standard (µg/m3)
122.43	0.32	122.75	100

The maximum resultant GLC 122.75 µg/m3 is found at 225m NNE from center of grid. The resultant GLC is exceeding the NAAQ standard of 100µg/m3. The emission isopleths generated by AERMOD Cloud is illustrated in the Figure 6-3.

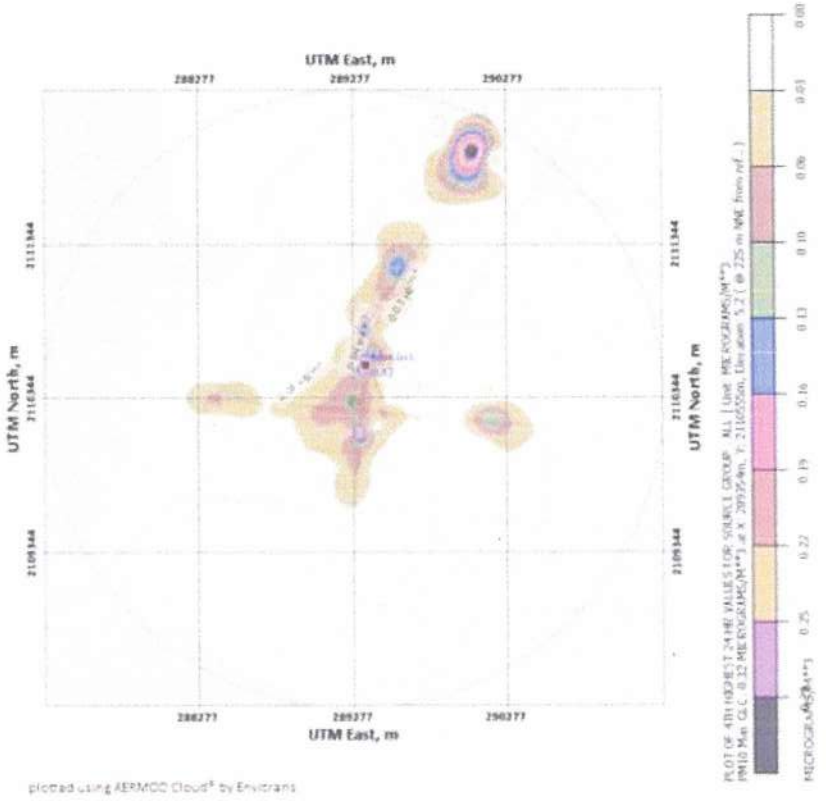


Figure 6-3: Isopleth of predicted PM10 Concentration

The colour shown in the isopleth corresponds to the average daily 24-hour PM10 concentration & the value of which is shown in the legend given along with the isopleth.

6.2 Scenario 2: Diesel based Gen-set & Vehicular Emissions

In this scenario Air quality modelling is carried out considering emissions from Diesel generator, vehicles of commercial unit (6m wide internal road) and projected traffic of surrounding roads (Vashi Turbhe Road, 28m wide carriageway & Vashi Road, 27m wide carriage way).

Power generator characteristics and emission rates have been shown in Table 6-7 & Table 6-8 respectively. The DG characteristics includes, stack height, exit temperature of flue gas, exit velocity and exhaust pipe diameter of generator.

Table 6-7: DG set data required for model run

Sr No.	KVA	Stack height (m)	Exit Gas Temp (K)	Exit Gas Velocity (m/s)	Exhaust pipe dia. (m)
1	450	90.41	700	10	0.2

The road vehicular emissions are considered as mentioned in scenario 1 above.

The AP-42 emission factors for small stationary diesel engines are considered in modeling scenario 2 as shown in Table 6-8 below.

Table 6-8: DG set emission rates

Sr No.	Rating KVA	CO (g/s)	NO2 (g/s)	PM10 (g/s)
1	450	0.4061	1.8848	0.1338

6.2.1 Modelling Results for CO

The predicted max GLC of pollutant CO is found as 389.26 µg/m3 at 5.2 m height and 225m NNE from center of grid. The spread of emissions is found along the roads with higher conc at road center than surrounding. The width of spread for conc. 10 µg/m3 to 47.54 µg/m3 is higher than other emission contour levels. The observed 8 hourly max GLC conc is found within the prescribed NAAQ standard of 2000µg/m3 & is shown in Table 6-9.

Table 6-9: Predicted and Resultant CO Concentration

Baseline max CO (µg/m3)	Predicted max GLC (µg/m3)	Resultant GLC conc (µg/m3)	NAAQ Standard (µg/m3)
400	389.26	789.26	2000

The maximum resultant GLC 789.26 µg/m3 is found at 225m NNE from centre of the grid. The resultant GLC is within the NAAQ standard of 2000µg/m3. The emission isopleths generated by AERMOD Cloud is illustrated in the Figure 6-4.

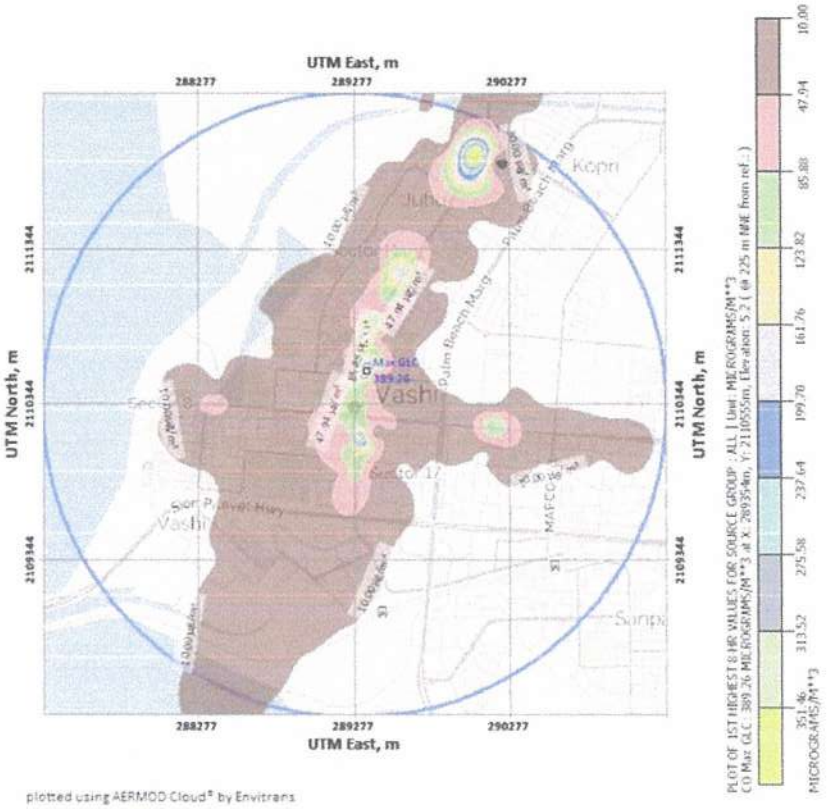


Figure 6-4: Isopleth for predicted CO Concentration

The colour shown in the isopleth corresponds to the average 8-hour CO concentration & the value of which is shown in the legend given along with the isopleth.

6.2.2 Modelling Results for NO_2

The predicted max GLC of pollutant NO2 is found as 28.99 µg/m3 at 5.4 m height and 0.00 m from centre of the grid. The spread of emissions is found along the roads with higher conc at road centre than surrounding. The width of spread for conc. 1.0 µg/m3 to 3.81 µg/m3 is higher than other emission contour levels. The observed 24 hourly max GLC conc is found within the prescribed NAAQ standard of 80µg/m3 & is shown in Table 6-10.

Table 6-10: Predicted and Resultant NO_2 Concentration

Baseline 98th percentile (µg/m3)	Predicted max GLC (µg/m3)	Resultant GLC conc (µg/m3)	NAAQ Standard (µg/m3)
60.38	28.99	89.37	80

The maximum resultant GLC 89.37 µg/m3 is found at centre of grid. The resultant GLC exceeds the NAAQ standard of 80µg/m3. The emission isopleths generated by AERMOD Cloud is illustrated in the Figure 6-5.

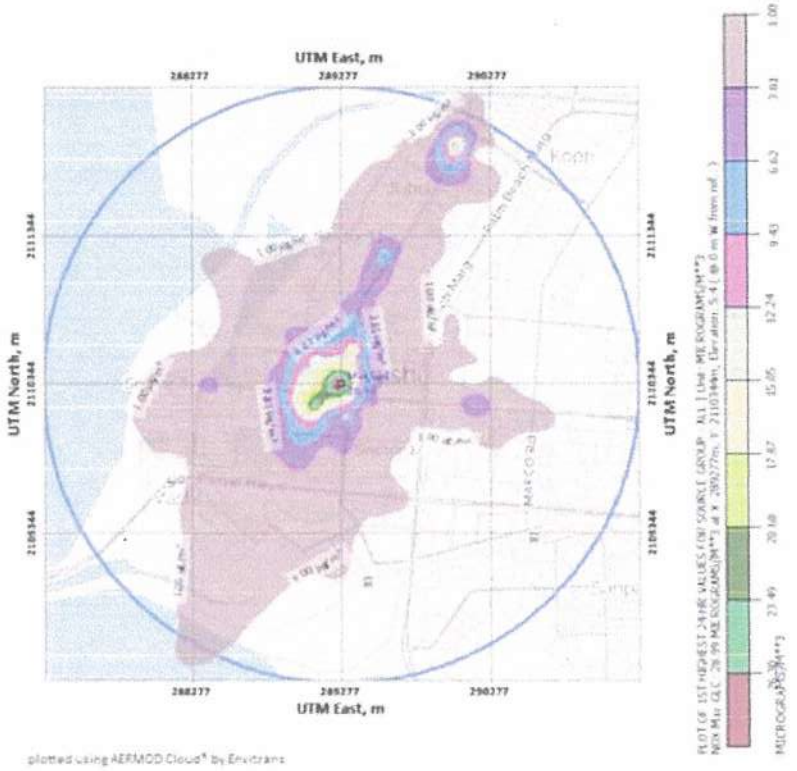


Figure 6-5: Isopleth of predicted NO2 Concentration

The colour shown in the isopleth corresponds to the average daily 24-hour NO2 concentration & the value of which is shown in the legend given along with the isopleth.

6.2.3 Modelling Results for PM10

The predicted max GLC of pollutant PM10 is found as 0.32 µg/m3 at 5.2 m height and 225 m NNE from centre of the grid. The spread of emissions is found along the roads with higher conc at road centre than surrounding. The width of spread for conc. 0.01 µg/m3 to 0.05 µg/m3 is higher than other emission contour levels. The observed 24 hourly max GLC conc is found within the prescribed NAAQ standard of 100µg/m3 & is shown in Table 6-11.

Table 6-11: Predicted and Resultant PM10 Concentration

Baseline 98th percentile (µg/m3)	Predicted max GLC (µg/m3)	Resultant GLC conc (µg/m3)	NAAQ Standard (µg/m3)
122.43	0.32	122.75	100

The maximum resultant GLC 122.75 µg/m3 is found at 225m NNE from centre of grid. The resultant GLC is exceeding the NAAQ standard of 100µg/m3. The emission isopleths generated by AERMOD Cloud is illustrated in the Figure 6-6.

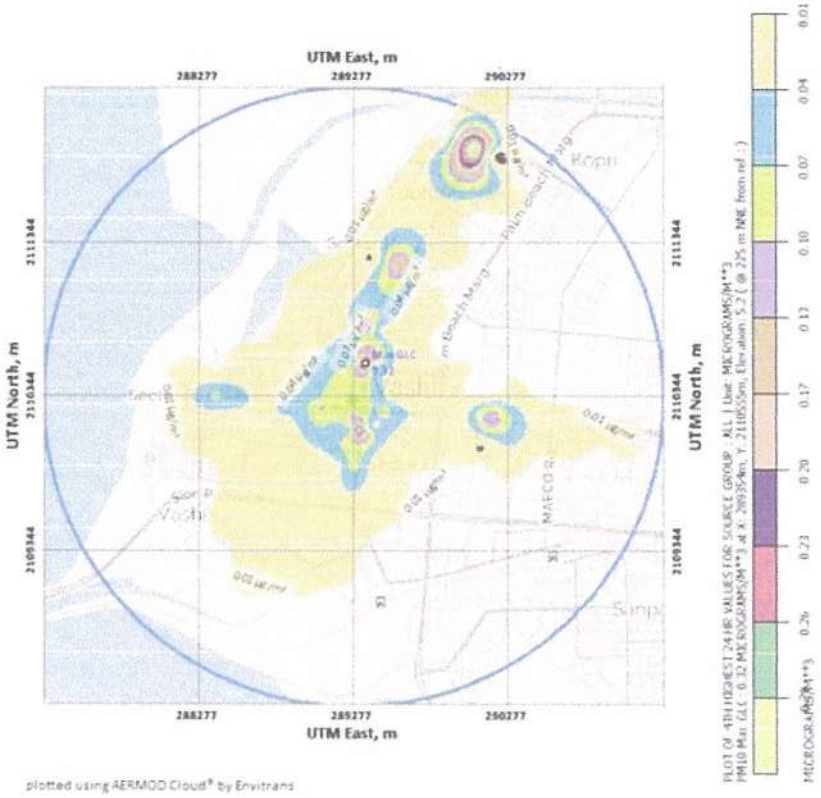


Figure 6-6: Isopleth of predicted PM10 Concentration

The colour shown in the isopleth corresponds to the average daily 24-hour PM10 concentration & the value of which is shown in the legend given along with the isopleth.

7 Modelling Case-2: Only Project

In this case, the emission sources from project (Generator set and commercial vehicles) are considered. The access roads (Vashi road and Vashi-Turbhe road are not considered). The proposed project will add the emissions of 450 KVA power generator and daily peak hourly 52 number of cars for commercial unit in year 2025. The emission factors of CNG Gen-set are considered from Table 6-3 and Diesel Gen-Set from Table 6-8 above. The emissions of 52 cars are derived from Euro-VI emission standards considering the total retrieval time 18 minutes for commercial unit cars from parking area to exit point. For air quality modeling two scenarios are assumed.

- Scenario 1: CNG Gen-set & Commercial vehicles inside project area
- Scenario 2: Diesel Gen-set & Commercial vehicles inside project area

7.1 Scenario 1: CNG Gen-set & Commercial vehicles inside project area

7.1.1 Modelling Results for CO

The predicted max GLC of pollutant CO is found as 19.18 µg/m3 at 5.1 m height and 225m WSW from centre of grid. The width of spread for emission dispersion is 1.2 µg/m3 to 3.01 µg/m3 which is larger than other emission contour levels. The observed 8 hourly max GLC conc is found within the prescribed NAAQ standard of 2000µg/m3 & is shown in Table 6-9 Table 7-1.

Table 7-1: Predicted and Resultant CO Concentration

Baseline max CO (µg/m3)	Predicted max GLC (µg/m3)	Resultant GLC conc (µg/m3)	NAAQ Standard (µg/m3)
400	19.18	419.18	2000

The maximum resultant GLC 419.18 µg/m3 is found at 225m WSW from centre of the grid. The resultant GLC is within the NAAQ standard of 2000µg/m3. The emission isopleths generated by AERMOD Cloud is illustrated in the Figure 7-1.

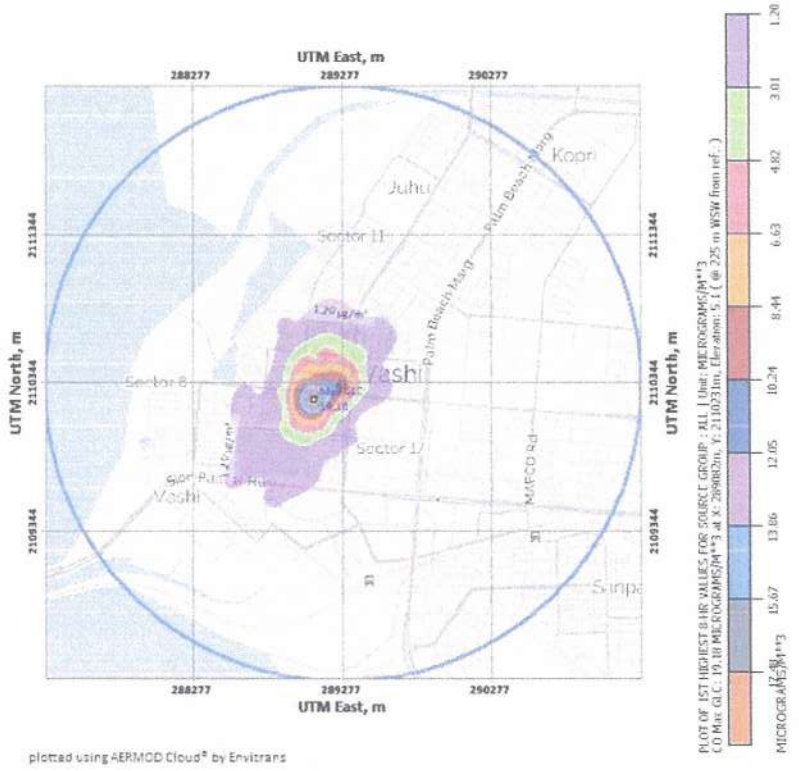


Figure 7-1: Isopleth for predicted CO Concentration

The colour shown in the isopleth corresponds to the average 8-hour CO concentration & the value of which is shown in the legend given along with the isopleth.

7.1.2 Modelling Results for NO_2

The predicted max GLC of pollutant NO2 is found as 2.5 µg/m3 at 5.1 m height and 225 m WSW from centre of the grid. The width of the emission spread for conc. 0.25 µg/m3 to 0.48 µg/m3 is found larger than other emission contour levels. The observed 24 hourly max GLC conc is found within the prescribed NAAQ standard of 80µg/m3 & is shown in Table 7-2.

Table 7-2: Predicted and Resultant NO2 Concentration

Baseline 98th percentile (µg/m3)	Predicted max GLC (µg/m3)	Resultant GLC conc (µg/m3)	NAAQ Standard (µg/m3)
60.38	2.5	62.88	80

The maximum resultant GLC 62.88 µg/m3 is found at 225m WSW from centre of grid. The resultant GLC is within the NAAQ standard of 80µg/m3. The emission isopleths generated by AERMOD Cloud is illustrated in the Figure 7-2.

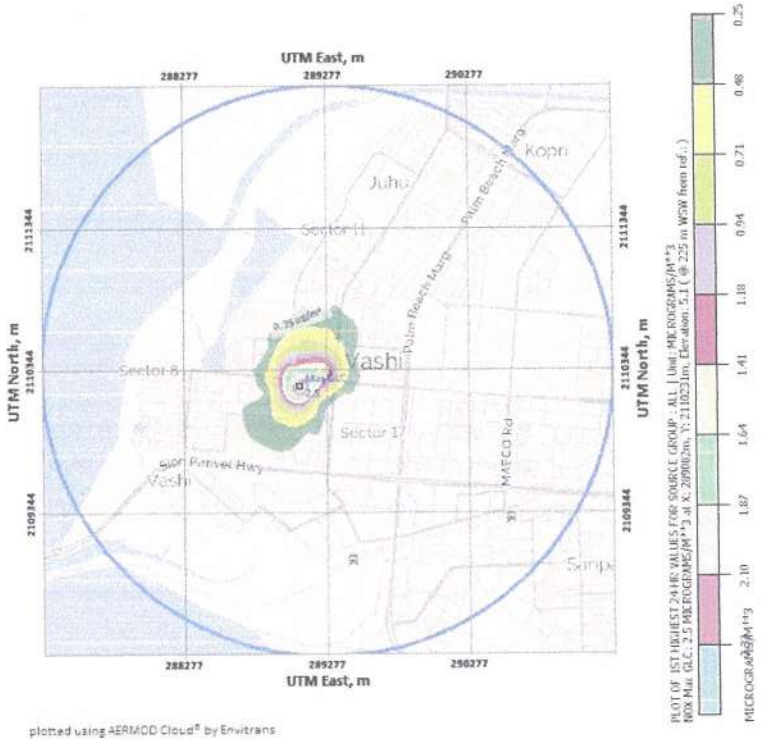


Figure 7-2: Isopleth of predicted NO2 Concentration

The colour shown in the isopleth corresponds to the average daily 24-hour NO2 concentration & the value of which is shown in the legend given along with the isopleth.

7.1.3 Modelling Results for PM10

The predicted max GLC of pollutant PM10 is found as 0.03 µg/m3 at 5.1 m height and 225 m WSW from centre of the grid. The width of spread for conc. 0.001 µg/m3 to 0.01 µg/m3 is more than other emission contour levels. The observed 24 hourly max GLC conc is found within the prescribed NAAQ standard of 100µg/m3 & is shown in Table 7-3.

Table 7-3: Predicted and Resultant PM10 Concentration

Baseline 98th percentile (µg/m3)	Predicted max GLC (µg/m3)	Resultant GLC conc (µg/m3)	NAAQ Standard (µg/m3)
122.43	0.03	122.46	100

The maximum resultant GLC 122.46 µg/m3 is found at 225m WSW from centre of grid. The resultant GLC is exceeding the NAAQ standard of 100µg/m3. The emission isopleths generated by AERMOD Cloud is illustrated in the Figure 7-3.

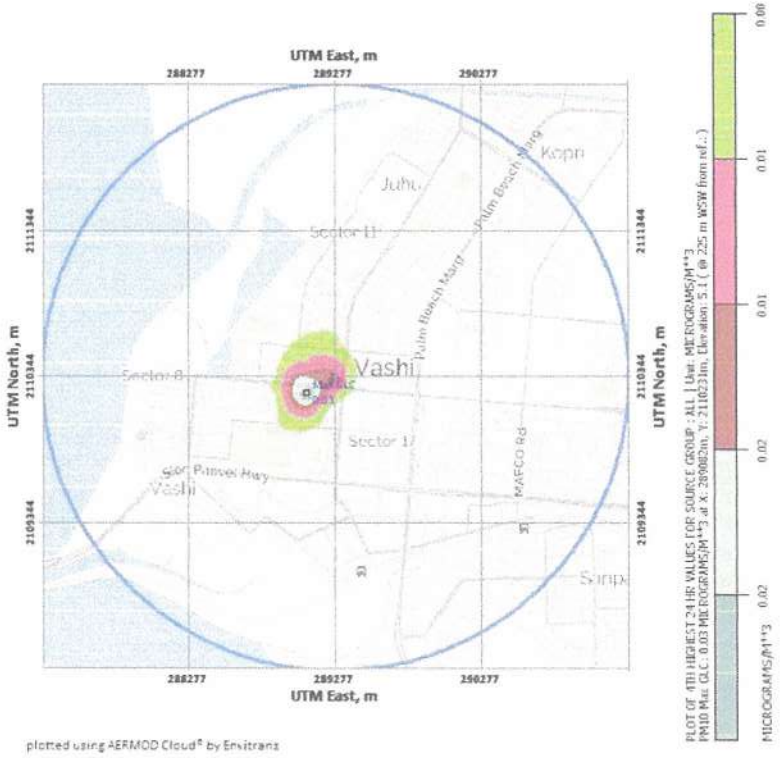


Figure 7-3: Isopleth of predicted PM10 Concentration

The colour shown in the isopleth corresponds to the average daily 24-hour PM10 concentration & the value of which is shown in the legend given along with the isopleth.

7.2 Scenario 2: Diesel Gen-set & Commercial vehicles inside project area

Modal input data and methodology is used as mentioned above. For determination of air quality impact due to project related emission sources in operation phase such as CO, NOx and PM10.

7.2.1 Modeling Results for CO

The predicted max GLC of pollutant CO is found as 19.18 µg/m3 at 5.1 m height and 225m WSW from centre of grid. The width of spread for emission dispersion is 1.2 µg/m3 to 3.01 µg/m3 which is larger than other emission contour levels. The observed 8 hourly max GLC conc is found within the prescribed NAAQ standard of 2000µg/m3 & is shown in Table 6-9 Table 7-4.

Table 7-4: Predicted and Resultant CO Concentration

Baseline max CO (µg/m3)	Predicted max GLC (µg/m3)	Resultant GLC conc (µg/m3)	NAAQ Standard (µg/m3)
400	19.18	419.18	2000

The maximum resultant GLC 419.18 µg/m3 is found at 225m WSW from centre of the grid. The resultant GLC is within the NAAQ standard of 2000µg/m3. The emission isopleths generated by AERMOD Cloud is illustrated in the Figure 7-4.

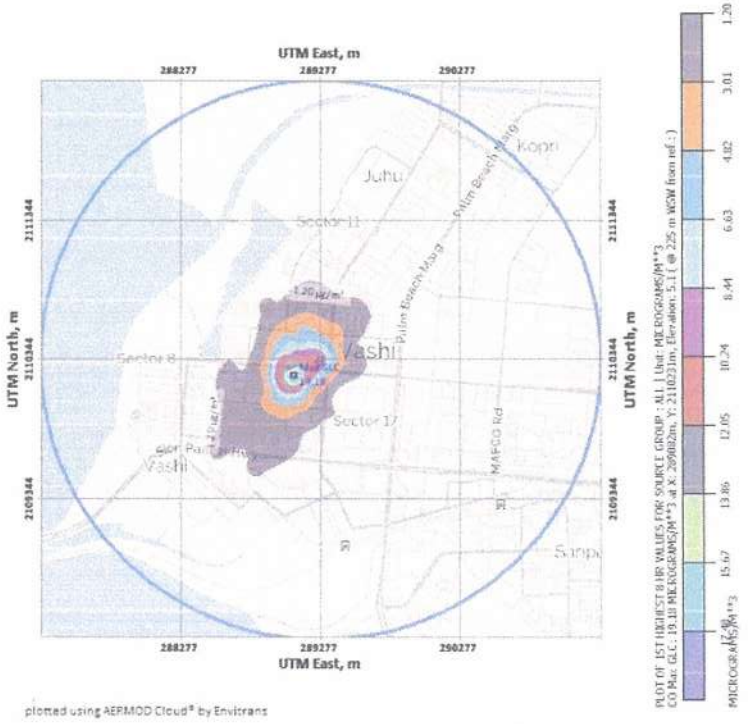


Figure 7-4: Isopleth for predicted CO Concentration

The colour shown in the isopleth corresponds to the average 8-hour CO concentration & the value of which is shown in the legend given along with the isopleth.

7.2.2 Modelling Results for NO_2

The predicted max GLC of pollutant NO2 is found as 2.76 µg/m3 at 5.1 m height and 225 m WSW from centre of the grid. The width of the emission spread for conc. 0.25 µg/m3 to 0.48 µg/m3 is

found larger than other emission contour levels. The observed 24 hourly max GLC conc is found within the prescribed NAAQ standard of 80µg/m3 & is shown in Table 7-5.

Table 7-5: Predicted and Resultant NO2 Concentration

Baseline 98th percentile (µg/m3)	Predicted max GLC (µg/m3)	Resultant GLC conc (µg/m3)	NAAQ Standard (µg/m3)
60.38	2.76	63.14	80

The maximum resultant GLC 63.14 µg/m3 is found at elevation 5.1m and 225m WSW from centre of grid. The resultant GLC within the NAAQ standard of 80µg/m3. The emission isopleths generated by AERMOD Cloud is illustrated in the Figure 7-5.

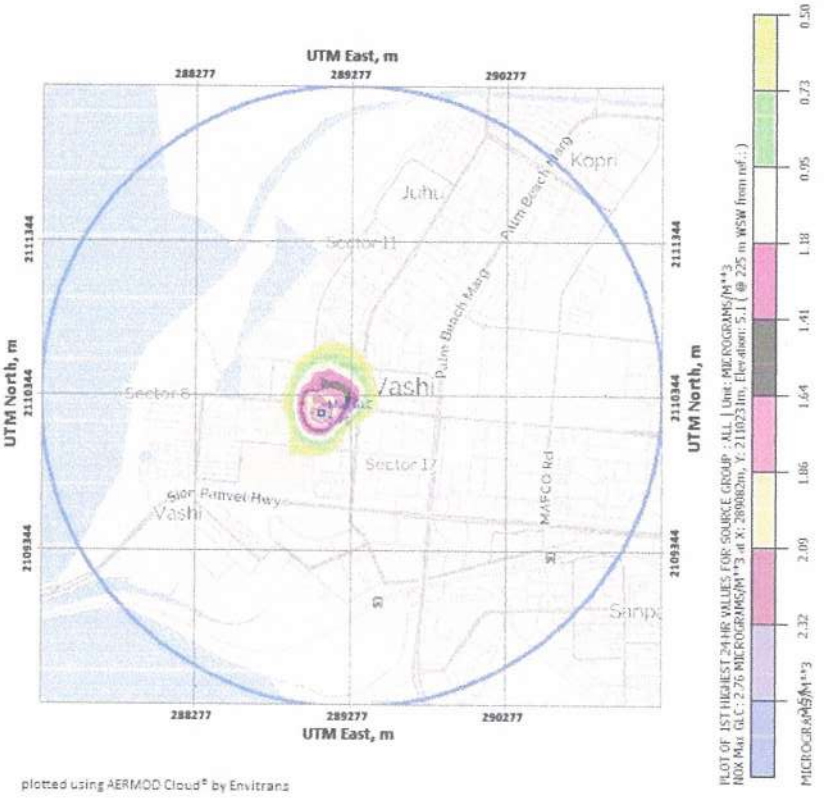


Figure 7-5: Isopleth of predicted NO2 Concentration

The colour shown in the isopleth corresponds to the average daily 24-hour NO2 concentration & the value of which is shown in the legend given along with the isopleth.

7.2.3 Modelling Results for PM10

The predicted max GLC of pollutant PM10 is found as 0.04 µg/m3 at 5.1 m height and 225 m WSW from centre of the grid. The width of spread for conc. 0.001 µg/m3 to 0.01 µg/m3 is more

than other emission contour levels. The observed 24 hourly max GLC conc is found within the prescribed NAAQ standard of 100µg/m3 & is shown in Table 7-6.

Table 7-6: Predicted and Resultant PM10 Concentration

Baseline 98th percentile (µg/m3)	Predicted max GLC (µg/m3)	Resultant GLC conc (µg/m3)	NAAQ Standard (µg/m3)
122.43	0.04	122.47	100

The maximum resultant GLC 122.47 µg/m3 is found at 225m WSW from centre of grid. The resultant GLC is exceeding the NAAQ standard of 100µg/m3. The emission isopleths generated by AERMOD Cloud is illustrated in the Figure 7-6.

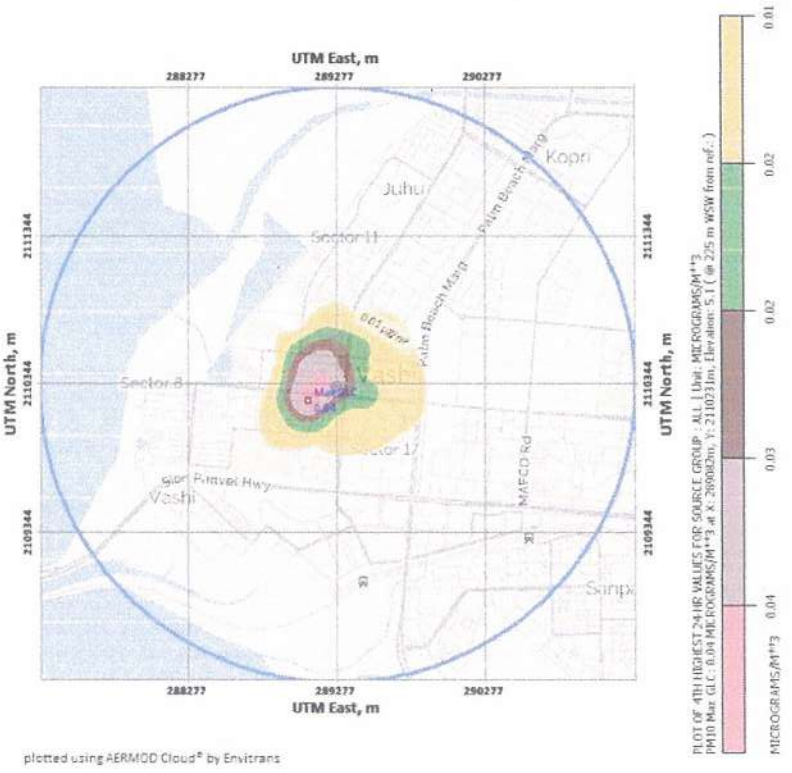


Figure 7-6: Isopleth of predicted PM10 Concentration

The colour shown in the isopleth corresponds to the average daily 24-hour PM10 concentration & the value of which is shown in the legend given along with the isopleth.

8 Comparative Analysis of Modeling Results

In this section, the comparative analysis is presented for two modeling cases considered above. The comparison is done between two scenarios – CNG and Diesel gensets.

8.1 Comparison of Incremental Emissions

The comparative analysis for incremental emissions is presented in Table 8-1 below. The contribution of proposed project in the overall predicted max GLC was also presented. The analysis shows that the contribution of project in the additional emissions are only between 4% to 13%.

Table 8-1: Incremental Emissions (Max GLC)

	Scenario 1: CNG based Gen-sets			Scenario 1: Diesel based Gen-sets		
	Project & Access Roads	Only Project	Project Contribution (%)	Project & Access Roads	Only Project	Project Contribution (%)
CO ($\mu g/m^3$)	389.25	19.18	4.92%	389.26	19.18	4.92%
NO2 ($\mu g/m^3$)	28.98	2.5	8.62%	28.99	2.76	9.52%
PM10 ($\mu g/m^3$)	0.32	0.03	9.37%	0.32	0.04	12.5%

8.2 Comparison of Resultant Emissions

The comparative analysis for resultant emissions is presented in Table 8-2 below. The max GLC of CO for both the scenario is within the NAAQS limit. The cumulative max GLC of NO2 is exceeding the NAAQS limit. Similar to NO_2 cumulative max GLC of PM10 is exceeding the NAAQS limit.

Table 8-2: Resultant Emissions

	Scenario 1: CNG based Gen-sets		Scenario 1: Diesel based Gen-sets		NAAQS Limits ($\mu g/m^3$)
	Project & Access Roads	Only Project	Project & Access Roads	Only Project	
CO ($\mu g/m^3$)	789.25	419.18	789.26	419.18	2000

NO_2 ($\mu g/m^3$)	89.36	62.88	89.37	63.14	80
PM_{10} ($\mu g/m^3$)	122.75	122.46	122.75	122.47	100

9 Recommendations

- Vehicular traffic management plan to be implemented so as to maintain the smooth traffic flow and avoid congestion during normal operations in and around the project.
- PUC certifications to be promoted for vehicles coming inside the campus.
- Stack height to be maintained as per CPCB requirements.
- Minimum possible usage of power generator set.
- Use of only standard fuel for gen sets.
- Timely maintenance and emission compliance monitoring for gen set.
- Plantation should be maintained properly in and around the project boundary.

o/c

नवी मुंबई महानगरपालिका परिवहन उपक्रम

NAVI MUMBAI MUNICIPAL TRANSPORT

कार्यालय : नवी मुंबई महानगरपालिका परिवहन उपक्रम,
बेलापूर भवन, ८वा मजला, सेक्टर-११,
सीबीडी बेलापूर, नवी मुंबई - ४०० ६१४.
दूरध्वनी : ०२२ -२७५७९०३२
फॅक्स : ०२२ - २७५७ ९०३३

Office : Navi Mumbai Municipal Transport
Belapur Bhavan, 8th Floor, Sector-11,
CBD Belapur, Navi Mumbai - 400 614.
Tel.: 022 - 2757 9032
Fax : 022 - 2757 9033

E-mail : nmmtmail@gmail.com

Ref.NMMT/T.M./ 81 /2019

Date 31/07/2019

To,
Hon. Municipal Commissioner,
Navi Mumbai Municipal Corporation,
4th Floor, H.O., 15 A, Plot, Sector, 1, 2, Palm Beach Rd,
CBD Belapur, Navi Mumbai, Maharashtra - 400614.

Sub: Corporate Environmental Responsibility (CER) Plan for Proposed Integrated Bus Terminus cum Commercial Complex on Plot No 3, Sector 9A, Vashi, Navi Mumbai. by Navi Mumbai Municipal Corporation.

Ref: 1. Our Application for EC, UID No. SEIAA-STATEMENT-1793
2. Minutes of the 170th Meeting of SEIAA dt 15/07/2019

Respected Sir,

Navi Mumbai Municipal Transport (NMMT) intends to develop an Integrated Bus Terminus cum Commercial Complex on the subject plot.

The application seeking Environment Clearance has been submitted. The UID number is 1793. The proposal has been presented in the 170th Meeting of SEIAA dt.15th July 2019. SEIAA has informed us to submit the CER plan to Hon. Municipal Commissioner and submit the acknowledgement copy to Member Secretary, SEIAA. Copy of minutes of meeting is enclosed.

An Undertaking of CER Activities had been submitted to SEAC II. As per this Undertaking NMMT has to purchase atleast 04 Electric Buses costing Rs.1.335 Crores alongwith the charger costing Rs.13.95 lakhs.

NMMT has already initiated the process of purchasing 30 Electric Buses aiongwith Chargers amounting to Rs.41.44 Crores. The Letter of Award has been issued to M/S JBM Solaris Electric Vehicles Pvt. Ltd. (Copy enclosed)

Besides this NMMT has submitted DPR to purchase another 200 Electric Buses. (Copy enclosed)

Thanking You,

Yours Faithfully,

Encl: As above.

1/8/19
प्रधान सचिव (पर्यावरण) यांचे स्वीय सहायक
मंत्रालय, मुंबई-४०० ०३२.

Transport Manager
Navi Mumbai Municipal Transport.

C.C.: Hon.Member Secretary, SEIAA, Maharashtra.

"नवी मुंबईच्या पर्यावरण समतोलासाठी / संतुलनासाठी
सार्वजनिक वाहतूक व्यवस्थेचा वापर करा."

नवी मुंबई महानगरपालिका परिवहन उपक्रम
NAVI MUMBAI MUNICIPAL TRANSPORT

कार्यालय : नवी मुंबई महानगरपालिका परिवहन उपक्रम,
बेलापूर भवन, ८वा मजला, सेक्टर-११,
सीबीडी बेलापूर, नवी मुंबई - ४०० ६१४.
दूरध्वनी : ०२२ - २७५७९०३२
फॅक्स : ०२२ - २७५७ ९०३३

Office : Navi Mumbai Municipal Transport
Belapur Bhavan, 8th Floor, Sector-11
CBD Belapur, Navi Mumbai - 400 614
Tel : 022 - 2757 9032
Fax : 022 - 2757 9033

E-mail : nmmtmail@gmail.com

Ref.NMMT/T.M./ 81 /2019 Date 31/07/2019

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Navi Mumbai Municipal Corporation,
4th Floor, H.O., 15 A, Plot, Sector, 1, 2, Palm Beach Rd,
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An Undertaking of CER Activities had been submitted to SEAC II. As per this Undertaking NMMT has to purchase atleast 04 Electric Buses costing Rs.1.335 Crores alongwith the charger costing Rs.13.95 lakhs.

NMMT has already initiated the process of purchasing 30 Electric Buses alongwith Chargers amounting to Rs.41.44 Crores. The Letter of Award has been issued to M/S JBM Solaris Electric Vehicles Pvt. Ltd. (Copy enclosed)

Besides this NMMT has submitted DPR to purchase another 200 Electric Buses. (Copy enclosed)

Thanking You,

Yours Faithfully,

Encl: As above.

Transport Manager
Navi Mumbai Municipal Transport.

C.C.: Hon.Member Secretary, SEIAA, Maharashtra.

P.A. to Municipal Commissioner
Navi Mumbai Municipal Corporation

Ref: NMMT/TM/ENGG/2019/14

Date: 14-02-2019

Revised Letter of Award

To:
M/s. JBM Solaris Electric Vehicles Pvt Ltd.,
Plot No. 118, HSIDC, Sector 59, Ballabgard,
Faridabad, Pin - 121004.

Subject: **Letter of Award for Supply of Battery Operated 9M Electric 30 Buses with chargers.**

Ref: **1) Tender No.NMMT/TM/ENGG/07/2018-19**

2) Transport Committee Resolution No.103, dated 23-01-2019

This is to notify you that your above referred bid submitted pursuant to Tender for Selection of a Contractor for "Supply of Battery Operated Electric 30 Buses with Chargers and Annual Maintenance Contract (AMC)" dated 14/08/2018, the following price offered in your Price Bid from amongst the bids submitted and is hereby accepted by the NMMT:

Sr.	Description	Qty.	Quoted Rates (Basic Price)	GST @12%	Destination Price (Price per Unit)
1	Supply of 9 Metre AC 900 mm Floor Height	30	₹1,19,19,643/-	₹14,30,357/-	₹1,33,50,000/-
				Total for 30 Buses	**₹40,05,00,000/-**
2	Supply of Chargers	10	₹11,82,203/-	₹2,12,797/-	₹13,95,000/-
				Total for 10 Charger	**₹1,39,50,000/-**
				Total (1+2)	**₹41,44,50,000/-**

(In Rupees Forty One Crore Forty Four Lac Fifty Thousand Only)

Pursuant to the provisions of the RFP, you are hereby required to undertake the following:

i. Countersign this letter of award at the place indicated below to indicate your acknowledgment of the Letter of Award by the Navi Mumbai Municipal Transport Undertaking to you and return it within a period of 07 days from the date of this letter;

ii. You are required to send your duly authorised representative (with the proof of due authorisation in the form of power of attorney or a Board Resolution) to execute the Contract with paid stamp duty of Rs 4,15,000/- which shall be executed without any deviation as per tender.

Transport Manager
Navi Mumbai Municipal Transport Undertaking

JBM Solaris Electric Vehicles Private Limited

नवी मुंबई
महानगरपालिका

Navi Mumbai
Municipal Corporation

कार्यालय : मनपा मुख्यालय, भूखंड क्र. १,
किल्ले गावठाण जवळ, पामबीच जंक्शन, सेक्टर १५ ए,
सी बी. डी. बेलापूर, नवी मुंबई ४००६१४.
दूरध्वनी : ०२२ २७५६ ७०७० / १/२/३/४/५
फॅक्स : ०२२ २७५७७०७०

Head Office : Plot No. 1,
Near Kille Gaothan, Palmbeach Junction
Sector 15A, C.B.D. Belapur, Navi Mumbai- 400 614
Tel : 022 - 2756 7070 / 1/2/3/4/5
Fax : 022 - 27577070

Ref No NMMT/TM/ENGG/2019/68

Date: 29/06/2019

To
The Under Secretary (AEI),
Department of Heavy Industry,
Room No. 387, Udyog Bhawan, New Delhi – 110011.

Subject: Proposal for the deployment of Electric Buses in response to the EOI issued by DHI dated 04/06/2019

Reference Department of Heavy Industry's Expression of Interest issued on 04/06/2019 inviting detailed proposals from cities, for extending demand incentives under FAME India scheme Phase II for deployment of electric buses for public transport, we are hereby submitting our Expression of Interest, in the prescribed format, for consideration of the Department of Heavy Industry. We agree to abide by the conditions outlined in the said EOI.

We as a result of this declare that our proposal submitted in response to this EOI is made in good faith and the information contained is true and correct to the best of our knowledge and belief. If any of the information provided here is found to be misleading, we are liable to be disqualified from the EOI selection process.

(Dr. Ramaswami N.)
Municipal Commissioner
Navi Mumbai Municipal Corporation

ANNEXURE-B

A. **General details along with documentary proof;**

• Name of City	**Navi Mumbai**
• The population of the city	As Per Census 2011- 11,20,547 Est. on 2018 -1.68 Million
• Vehicular density (Number of buses per 10,000 persons)	03
• The average level of pollutant PM 2.5 of the city over 2018	74.64
• No. of Vehicles Registered in City	510884
• Road density (Road length per100 sq.km.)	5.06
• Do state have separate EV Policy	Yes Attached a copy of EV Policy
• Category wise Registration charges of EVs	Charges Nil for EV's Attached a copy of EV policy
• Information about Parking Fee of EVs	Not exempted
• Information about Toll Tax applicable to EVs	Not exempted
• The number of Diesel/CNG buses running on a wet lease model.	Diesel 114 Buses on GCC Agreement Copy attached
• The average cost of leasing of buses if taken on lease including fuel along with documentary proof	**GCC Contract (2016 Rates):** Standard Bus: Rs 38.25 / km Midi Bus: Rs 30.24 / km Premium Segment AC Rs 56.70 /km **Avg. Rs 41.73 /km** **Current Rates (June 2019):** Standard Bus: Rs 47.69 / km Midi Bus: Rs 37.70 / km Premium Segment AC Rs 70.70 /km **Avg. Rs 52.03 /km**
• Expected number of E3W and E4W to be registered in the city during 2019-20	E3W - 50 Nos. E4W- 50 Nos.
• Number of Electric Buses rolled out by the city from its resources	Ordered 30 Nos of Midi (9.5 Mtr) Electric Buses to JBM Electric Vehicles Pvt Ltd and delivery expected by 15th August 2019.
• Number of charging stations installed in the city from its resources	Proposed - 3 Nos in Depot

- Break-up of existing Diesel/CNG buses based on its total run per day in the following table:

No of Buses	Less than 125 km	125 to 175 km	175 to 225 km	More than 225 km
Bus owned and run by Govt Entity				471
Buses hired by STUs and run for city buses.				
Buses own and run by a private entity on route permit				
Total Buses	-	-	-	471

Details of information about Parking depot

Name of Parking Depot	Maintained by	No of buses being parked
Turbhe Depot	OWN	210
Asudgaon Depot	OWN	147
Ghansoli	Operator	114

B. **Description of Project Proposal**

NMMT has been the trendsetter for public transportation in Maharashtra. NMMT was torch bearer for introducing the high end city buses, Hybrid Buses & Electric Buses and onwards incorporating latest technological features like automatic transmission, fire detection, electronic braking systems and electronic control air suspensions.

The plan and design of the city of Navi Mumbai (formerly known as New Bombay) was initiated as a result of the increasing congestion of Mumbai which had grown manifold by the 70s making it impossible to accommodate any more people. Hence, Navi Mumbai was built as a twin city of Mumbai so that its population could be managed as Mumbai, composed of seven islands, had major limitations with respect to physical expansion. Navi Mumbai shall get a boost in its image of being one of the pioneers to introduce these zero emission buses in its fleet. Furthermore these comfortable and safe buses shall attract urban commuters to switch to public transport there by reducing number of private vehicles on the road. This initiative shall reduce the ambient air pollution considerably which have risen to an alarming level already.

By introducing and executing Electric bus project in Navi Mumbai will sustain its pioneering position among global cities to provide access to zero emissions public transportation on mass scale.

Tangible and intangible benefits of this will take Navi Mumbai to next pedestal.

C. **Number of Buses for which funding is sought under the scheme:**

Length of Bus	Guaranteed Run per year	Total Contract Period	Number of Buses
12 M	81600	12 Years	140
9 M	72600	12 Years	60
		Total	**200**

D. **Funding commitment:**

The Buses will be operated on GCC Basis (Wet Lease). Hence, 60% of Bus Cost will be arranged by the Operator.

Presently, Rs 6 Cr per month Viability Gap Funding (VFG) is reimbursed by Municipal Corporation to Transport Undertaking. As well as it is also applicable for this project.

E. **Details about depot available for parking of electric buses.**

Two Depots are available for parking of Electric Bus.

1. Turbhe : 26953 Sq. Mtr.
2. Asudgaon : 19146 Sq. Mtr.
3. Rabale : 14500 Sq. Mtr.

F. **Details about the arrangement of upstream electricity supply for charging of electric buses.**

Required High Voltage electric supply is already available at Depot level.

G. **Any other information in support of proposal submitted by STU**

Detailed Project Report is attached for more information.

H. **Details of Annexure:**

i) Census Data of Navi Mumbai City
ii) Maharashtra Pollution Control Board Data about Pollution Level
iii) RTO Data regarding registration of vehicles
iv) State EV Policy Copy
v) Existing GCC (Wet Lease) Contract Agreement

(Dr. Ramaswami N.)
Municipal Commissioner
Navi Mumbai Municipal Corporation

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY

सत्यमेव जयते

Environment department,
Room No. 217, 2nd floor,
Mantralaya, Annexe,
Mumbai- 400 032.
Date:November 7, 2019

To,
M/s. Navi Mumbai Municipal Transport.
at Proposed Integrated Bus Terminus cum Commercial Complex Project On Plot No. 3, Sector 9A, Vashi, Navi Mumbai, Dist. Thane.

Subject: Environment Clearance for Proposed Integrated Bus Terminus cum Commercial Complex Project On Plot No. 3, Sector 9A, Vashi, Navi Mumbai, Dist. Thane by M/s. Navi Mumbai Municipal Transport.

Sir,

This has reference to your communication on the above mentioned subject. The proposal was considered as per the EIA Notification - 2006, by the State Level Expert Appraisal Committee-II, Maharashtra in its 102nd meeting and recommend the project for prior environmental clearance to SEIAA. Information submitted by you has been considered by State Level Environment Impact Assessment Authority in its 179th meetings.

2. It is noted that the proposal is considered by SEAC-II under screening category Category B2 of Projects and activity number 8(a) – Building & Construction Projects as per EIA Notification 2006.

Brief Information of the project submitted by you is as below :-

1.Name of Project	Proposed Integrated Bus Terminus cum Commercial Complex
2.Type of institution	Government
3.Name of Project Proponent	M/s. Navi Mumbai Municipal Transport.
4.Name of Consultant	Building Environment India Pvt. Ltd
5.Type of project	Integrated Bus Terminus cum Commercial Complex
6.New project/expansion in existing project/modernization/diversification in existing project	New Project
7.If expansion/diversification, whether environmental clearance has been obtained for existing project	Not applicable
8.Location of the project	Proposed Integrated Bus Terminus cum Commercial Complex Project On Plot No. 3, Sector 9A, Vashi, Navi Mumbai, Dist. Thane.
9.Taluka	Vashi
10.Village	Vashi
Correspondence Name:	M/s. Navi Mumbai Municipal Transport.
Room Number:	–
Floor:	8th Floor
Building Name:	Belapur Bhavan
Road/Street Name:	Sector 11
Locality:	C.B.D. Belapur
City:	Navi Mumbai
11.Whether in Corporation / Municipal / other area	Navi Mumbai Municipal Corporation
12.IOD/IOA/Concession/Plan Approval Number	Letter of Intent (LOI) received from NMMC bearing Ref. No. NMMC/TPO/ADTP/3881/2018 dt. 27/09/2018
	IOD/IOA/Concession/Plan Approval Number: Letter of Intent (LOI) received from NMMC bearing Ref. No. NMMC/TPO/ADTP/3881/2018 dt. 27/09/2018
	Approved Built-up Area: 15560.00
13.Note on the initiated work (If applicable)	Not Applicable
14.LOI / NOC / IOD from MHADA/ Other approvals (If applicable)	Letter of Intent (LOI) received from NMMC bearing Ref. No. NMMC/TPO/ADTP/3881/2018 dt. 27/09/2018

15.Total Plot Area (sq. m.)	10373.42 Sq.m
16.Deductions	Nil
17.Net Plot area	10373.42 Sq.m
18 (a).Proposed Built-up Area (FSI & Non-FSI)	**FSI area (sq. m.):** 15,560.13 Sq.m
	Non FSI area (sq. m.): 32,280.09 Sq.m
	Total BUA area (sq. m.): 47840
18 (b).Approved Built up area as per DCR	**Approved FSI area (sq. m.):** 15,560.13 Sq.m
	Approved Non FSI area (sq. m.): 32,280.09 Sq.m
	Date of Approval: 27-09-2018
19.Total ground coverage (m2)	4632.93 Sq.m
20.Ground-coverage Percentage (%) (Note: Percentage of plot not open to sky)	44.66 %
21.Estimated cost of the project	1500000000

22.Production Details

Serial Number	Product	Existing (MT/M)	Proposed (MT/M)	Total (MT/M)
1	Not applicable	Not applicable	Not applicable	Not applicable

23.Total Water Requirement

Dry season:	Source of water	NMMC
	Fresh water (CMD):	93 KLD
	Recycled water - Flushing (CMD):	44 KLD
	Recycled water - Gardening (CMD):	1.8 KLD
	Swimming pool make up (Cum):	–
	Total Water Requirement (CMD) :	138.8
	Fire fighting - Underground water tank(CMD):	–
	Fire fighting - Overhead water tank(CMD):	-
	Excess treated water	66.40 KLD
Wet season:	Source of water	NMMC
	Fresh water (CMD):	93 KLD
	Recycled water - Flushing (CMD):	44 KLD
	Recycled water - Gardening (CMD):	–
	Swimming pool make up (Cum):	–
	Total Water Requirement (CMD) :	137 KLD
	Fire fighting - Underground water tank(CMD):	–
	Fire fighting - Overhead water tank(CMD):	–
	Excess treated water	68.20 KLD
Details of Swimming pool (If any)	Not applicable	

24.Details of Total water consumed									
Particulars	Consumption (CMD)			Loss (CMD)			Effluent (CMD)		
Water Requirement	Existing	Proposed	Total	Existing	Proposed	Total	Existing	Proposed	Total
Domestic	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

25.Rain Water Harvesting (RWH)	Level of the Ground water table:	0.5 – 6.0 M below ground level
	Size and no of RWH tank(s) and Quantity:	Not applicable
	Location of the RWH tank(s):	Not applicable
	Quantity of recharge pits:	Not applicable
	Size of recharge pits :	Not applicable
	Budgetary allocation (Capital cost) :	Not applicable
	Budgetary allocation (O & M cost) :	Not applicable
	Details of UGT tanks if any :	Underground Level
26.Storm water drainage	Natural water drainage pattern:	The arrangement for disposal of SW through and from the plot as per the remarks of SW department, NMMC
	Quantity of storm water:	0.29 m3/sec
	Size of SWD:	600mm wide with1:300 slope
27.Sewage and Waste water	Sewage generation in KLD:	118 KLD
	STP technology:	RMBR technology
	Capacity of STP (CMD):	1 no. of STP of capacity 120.0 KLD
	Location & area of the STP:	Ground level
	Budgetary allocation (Capital cost):	45 Lacs
	Budgetary allocation (O & M cost):	5.0 Lacs / year

28.Solid waste Management		
Waste generation in the Pre Construction and Construction phase:	**Waste generation:**	Debris & excavated material generated would be disposed by covered trucks to the authorized sites with permission from NMMC.
	Disposal of the construction waste debris:	Construction debris would be disposed of by covered trucks to the authorized sites with the permission of NMMC.
Waste generation in the operation Phase:	**Dry waste:**	519.33 kg/day
	Wet waste:	222.57 kg/day
	Hazardous waste:	Not applicable
	Biomedical waste (If applicable):	Not applicable
	STP Sludge (Dry sludge):	3.54 (3% of STP capacity)
	Others if any:	Not applicable
Mode of Disposal of waste:	**Dry waste:**	Handed over to NMMC.
	Wet waste:	shall be processed in OWC to use as manure in premises for plants, excess shall be sold /handover to outside parties.
	Hazardous waste:	Shall be handed over to authorized common hazardous waste disposal site
	Biomedical waste (If applicable):	Not applicable
	STP Sludge (Dry sludge):	Used as manure within the premises for plants. Excess shall be sold /handover to outside parties or gardens.
	Others if any:	Not applicable
Area requirement:	**Location(s):**	2nd Floor.
	Area for the storage of waste & other material:	49 sq.mt
	Area for machinery:	9 Sqm
Budgetary allocation (Capital cost and O&M cost):	**Capital cost:**	16 lakhs
	O & M cost:	5 Lakhs

29.Effluent Charecterestics					
Serial Number	**Parameters**	**Unit**	**Inlet Effluent Charecterestics**	**Outlet Effluent Charecterestics**	**Effluent discharge standards (MPCB)**
1	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Amount of effluent generation (CMD):		Not applicable			
Capacity of the ETP:		Not applicable			
Amount of treated effluent recycled :		Not applicable			
Amount of water send to the CETP:		Not applicable			
Membership of CETP (if require):		Not applicable			
Note on ETP technology to be used		Not applicable			
Disposal of the ETP sludge		Not applicable			

30.Hazardous Waste Details

Serial Number	Description	Cat	UOM	Existing	Proposed	Total	Method of Disposal
1	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

31.Stacks emission Details

Serial Number	Section & units	Fuel Used with Quantity	Stack No.	Height from ground level (m)	Internal diameter (m)	Temp. of Exhaust Gases
1	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

32.Details of Fuel to be used

Serial Number	Type of Fuel	Existing	Proposed	Total
1	Not applicable	Not applicable	Not applicable	Not applicable
Source of Fuel		Not applicable		
Mode of Transportation of fuel to site		Not applicable		

33.Energy

Power requirement:	**Source of power supply :**	MSEB
	During Construction Phase: (Demand Load)	---
	DG set as Power back-up during construction phase	---
	During Operation phase (Connected load):	3,563.57KW
	During Operation phase (Demand load):	2,649.74KW
	Transformer:	–
	DG set as Power back-up during operation phase:	1No, D.G. set of capacity 450 KVA
	Fuel used:	Diesel
	Details of high tension line passing through the plot if any:	Not applicable

34.Energy saving by non-conventional method:

- Energy efficient lifts
- Energy efficient pumps/ Equipment for fire- fighting, plumbing, STP & OWC.
- L.E.D for common lighting

36.Detail calculations & % of saving:

Serial Number	Energy Conservation Measures	Saving %
1	• Energy efficient lifts • Energy efficient pumps/ Equipment for fire- fighting, plumbing, STP & OWC. • L.E.D for common lighting	Overall Energy Saving is more than 3% on Total Demand load. Solar PV Electricity Generation 80KW and total demand load 2,649.74KW

37.Details of pollution control Systems

Source	Existing pollution control system	Proposed to be installed
Not applicable	Not applicable	Not applicable

Budgetary allocation (Capital cost and O&M cost):	**Capital cost:**	68 Lacs
	O & M cost:	7 Lacs/annum

38.Environmental Management plan Budgetary Allocation

a) Construction phase (with Break-up):

Serial Number	Attributes	Parameter	Total Cost per annum (Rs. In Lacs)
1	1	Water for Dust Suppression	2.0
2	1	Site As per ECBC Sanitation Facility, Disinfection & Health Check up	35.60
3	1	Environmental Monitoring	1.50
4	--	Total Cost	39.1

b) Operation Phase (with Break-up):

Serial Number	Component	Description	Capital cost Rs. In Lacs	Operational and Maintenance cost (Rs. in Lacs/yr)
1	1	STP	45.00	5.0
2	1	Solid Waste Management	16.00	5.0
3	1	Gardening & Landscaping	15.43	4.48
4	1	Solar Panel	68.00	7.00
5	1	DMP	228.12	22.55
6	1	Environmental Monitoring	MOEF approved agency for monitoring	16.39
7	--	Total	372.55	60.42

39.Storage of chemicals (inflamable/explosive/hazardous/toxic substances)

Description	Status	Location	Storage Capacity in MT	Maximum Quantity of Storage at any point of time in MT	Consumption / Month in MT	Source of Supply	Means of transportation
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

40.Any Other Information

No Information Available

	CRZ/ RRZ clearance obtain, if any:	Not Applicable
	Distance from Protected Areas / Critically Polluted areas / Eco-sensitive areas/ inter-State boundaries	Not Applicable
	Category as per schedule of EIA Notification sheet	Category B2 of Projects and activity number 8(a) – Building & Construction Projects
	Court cases pending if any	Not Applicable
	Other Relevant Informations	---
	Have you previously submitted Application online on MOEF Website.	No
	Date of online submission	-

3. The proposal has been considered by SEIAA in its 179th meeting & decided to accord environmental clearance to the said project under the provisions of Environment Impact Assessment Notification, 2006 subject to implementation of the following terms and conditions:

Specific Conditions:

I	The PP to get NOC from competent authority with reference to Thane creek flamingo sanctuary if the project site falls within 10 Km radius from the said sanctuary boundary. The planning authority to ensure fulfilment of this condition before granting CC.
II	PP to explore the possibility to buy electric buses under CER activity.
III	PP to submit report of AAQM modelling study.
IV	PP to submit CER plan to Municipal Commissioner, and submit the acknowledgement copy to Member Secretary, SEIAA.
V	PP to ensure that CER plan get approved from Municipal Commissioner/District Collector.
VI	PP Shall comply with Standard EC conditions mentioned in the Office Memorandum issued by MoEF & CC vide F.No.22-34/2018-IA.III dt.04.01.2019.
VII	SEIAA decided to grant EC for -FSI: 15560.13 m2, Non FSI: 32280.09 m2 & Total BUA: 47815.81 m2. (IOD no.NMMC/TPO/ADTP/3881/2018, Approval Date-27.09.2018)

General Conditions:

I	E-waste shall bedisposed through Authorized vendor as per E-waste (Management and Handling) Rules, 2016.
II	The Occupancy Certificate shall be issued by the Local Planning Authority to the project only after ensuring sustained availability of drinking water, connectivity of sewer line to the project site and proper disposal of treated water as per environmental norms.
III	This environmental clearance is issued subject to obtaining NOC from Forestry & Wild life angle including clearance from the standing committee of the National Board for Wild life as if applicable & this environment clearance does not necessarily implies that Forestry & Wild life clearance granted to the project which will be considered separately on merit.
IV	PP has to abide by the conditions stipulated by SEAC& SEIAA.
V	The height, Construction built up area of proposed construction shall be in accordance with the existing FSI/FAR norms of the urban local body & it should ensure the same along with survey number before approving layout plan & before according commencement certificate to proposed work. Plan approving authority should also ensure the zoning permissibility for the proposed project as per the approved development plan of the area.
VI	If applicable Consent for Establishment" shall be obtained from Maharashtra Pollution Control Board under Air and Water Act and a copy shall be submitted to the Environment department before start of any construction work at the site.
VII	All required sanitary and hygienic measures should be in place before starting construction activities and to be maintained throughout the construction phase.
VIII	Adequate drinking water and sanitary facilities should be provided for construction workers at the site. Provision should be made for mobile toilets. The safe disposal of wastewater and solid wastes generated during the construction phase should be ensured.
IX	The solid waste generated should be properly collected and segregated. dry/inert solid waste should be disposed off to the approved sites for land filling after recovering recyclable material.
X	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.

XI	Arrangement shall be made that waste water and storm water do not get mixed.
XII	All the topsoil excavated during construction activities should be stored for use in horticulture / landscape development within the project site.
XIII	Additional soil for leveling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.
XIV	Green Belt Development shall be carried out considering CPCB guidelines including selection of plant species and in consultation with the local DFO/ Agriculture Dept.
XV	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.
XVI	Construction spoils, including bituminous material and other hazardous materials must not be allowed to contaminate watercourses and the dumpsites for such material must be secured so that they should not leach into the ground water.
XVII	Any hazardous waste generated during construction phase should be disposed off as per applicable rules and norms with necessary approvals of the Maharashtra Pollution Control Board.
XVIII	The diesel generator sets to be used during construction phase should be low sulphur diesel type and should conform to Environments (Protection) Rules prescribed for air and noise emission standards.
XIX	The diesel required for operating DG sets shall be stored in underground tanks and if required, clearance from concern authority shall be taken.
XX	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.
XXI	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.
XXII	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. (The above condition is applicable only if the project site is located within the 100Km of Thermal Power Stations).
XXIII	Ready mixed concrete must be used in building construction.
XXIV	Storm water control and its re-use as per CGWB and BIS standards for various applications.
XXV	Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
XXVI	The ground water level and its quality should be monitored regularly in consultation with Ground Water Authority.
XXVII	The installation of the Sewage Treatment Plant (STP) should be certified by an independent expert and a report in this regard should be submitted to the MPCB and Environment department before the project is commissioned for operation. Discharge of this unused treated affluent, if any should be discharge in the sewer line.Treated effluent emanating from STP shall be recycled/refused to the maximum extent possible. Discharge of this unused treated affluent, if any should be discharge in the sewer line.Treatment of 100% gray water by decentralized treatment should be done. Necessary measures should be made to mitigate the odour problem from STP.
XXVIII	Permission to draw ground water and construction of basement if any shall be obtained from the competent Authority prior to construction/operation of the project.
XXIX	Separation of gray and black water should be done by the use of dual plumbing line for separation of gray and black water.
XXX	Fixtures for showers, toilet flushing and drinking should be of low flow either by use of aerators or pressure reducing devices or sensor based control.
XXXI	Use of glass may be reduced up to 40% to reduce the electricity consumption and load on air conditioning. If necessary, use high quality double glass with special reflective coating in windows.
XXXII	Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill requirement.
XXXIII	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 like installing solar street lights, common solar water heaters system. Project proponent should install, after checking feasibility, solar plus hybrid non-conventional energy source as source of energy.
XXXIV	Diesel power generating sets proposed as source of backup 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 low sulphur diesel. The location of the DG sets may be decided with in consultation with Maharashtra Pollution Control Board.
XXXV	Noise should be controlled to ensure that it does not exceed the prescribed standards. During nighttime the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.
XXXVI	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.
XXXVII	Opaque wall should meet prescriptive requirement as per Energy Conservation Building Code, which is proposed to be mandatory for all air-conditioned spaces while it is aspiration for non-air-conditioned spaces by use of appropriate thermal insulation material to fulfill requirement.

XXXVIII	The building should have adequate distance between them to allow movement of fresh air and passage of natural light, air and ventilation.
XXXIX	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.
XL	Under the provisions of Environment (Protection) Act, 1986, legal action shall be initiated against the project proponent if it was found that construction of the project has been started without obtaining environmental clearance.
XLI	Six monthly monitoring reports should be submitted to the Regional office MoEF, Bhopal with copy to this department and MPCB.
XLII	Project proponent shall ensure completion of STP, MSW disposal facility, green belt development prior to occupation of the buildings. As agreed during the SEIAA meeting, PP to explore possibility of utilizing excess treated water in the adjacent area for gardening before discharging it into sewer line No physical occupation or allotment will be given unless all above said environmental infrastructure is installed and made functional including water requirement in Para 2. Prior certification from appropriate authority shall be obtained.
XLIII	Wet garbage should be treated by Organic Waste Converter and treated waste (manure) should be utilized in the existing premises for gardening. And, no wet garbage will be disposed outside the premises. Local authority should ensure this.
XLIV	Local body should ensure that no occupation certification is issued prior to operation of STP/MSW site etc. with due permission of MPCB.
XLV	A complete set of all the documents submitted to Department should be forwarded to the Local authority and MPCB.
XLVI	In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Department.
XLVII	A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.
XLVIII	Separate funds shall be allocated for implementation of environmental protection measures/EMP along with item-wise breaks-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should reported to the MPCB & this department.
XLIX	The project management shall advertise at least in two local newspapers widely circulated in the region around the project, one of which shall be in the Marathi language of the local concerned within seven days of issue of this letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the Maharashtra Pollution Control Board and may also be seen at Website at http://ec.maharashtra.gov.in.
L	Project management should submit half yearly compliance reports in respect of the stipulated prior environment clearance terms and conditions in hard & soft copies to the MPCB & this department, on 1st June & 1st December of each calendar year.
LI	A copy of the clearance letter shall be sent by proponent to the concerned Municipal Corporation 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.
LII	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 sector 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.
LIII	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.
LIV	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.

4. The environmental clearance is being issued without prejudice to the action initiated under EP Act or any court case pending in the court of law and it does not mean that project proponent has not violated any environmental laws in the past and whatever decision under EP Act or of the Hon'ble court will be binding on the project proponent. Hence this clearance does not give immunity to the project proponent in the case filed against him, if any or action initiated under EP Act.

5. In case of submission of false document and non-compliance of stipulated conditions, Authority/ Environment Department will revoke or suspend the Environment clearance without any intimation and initiate appropriate legal action under Environmental Protection Act, 1986.

6. The Environment department reserves the right to add any stringent condition or to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the department or for that matter, for any other administrative reason.

7. Validity of Environment Clearance: The environmental clearance accorded shall be valid as per EIA Notification, 2006, and amendments by MoEF&CC Notification dated 29th April, 2015.

8. In case of any deviation or alteration in the project proposed from those submitted to this department for clearance, a fresh reference should be made to the department to assess the adequacy of the condition(s) imposed and to incorporate additional environmental protection measures required, if any.

9. The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management and Handling) Rules, 1989 and its amendments, the public Liability Insurance Act, 1991 and its amendments.

10. Any appeal against this Environment clearance shall lie with the National Green Tribunal (Western Zone Bench, Pune),New Administrative Building, 1stFloor, D-, Wing, Opposite Council Hall, Pune, if preferred, within 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Shri. Anil Diggikar (Member Secretary SEIAA)

Copy to:

1. SECRETARY MOEF & CC
2. IA- DIVISION MOEF & CC
3. MEMBER SECRETARY MAHARASHTRA POLLUTION CONTROL BOARD MUMBAI
4. REGIONAL OFFICE MOEF & CC NAGPUR
5. MAHARASHTRA STATE ELECTRICITY DISTRIBUTION CO. LTD.

RAIL WHEEL FACTORY

Website: www.rwf.indianrailways.gov.in

Tender Notice No. RWF/EL/OT/2019-20/03 Dated: 21.11.2019

E- TENDERS: On Behalf of the President of India, the Dy. Chief Project Manager, invites electronic tender for the following works online through the Website http://www.ireps.gov.in (Works):

Sl. No.	Description	Tender No.	Estimated Value in Rs.	EMD in Rs.	Closing Date & Time	Cost of Tender Document (Rs.)
1	Provision of Lights in Car Sheds of Type - 2, 3 & 4 Quarters at RWF, Yelahanka, Bengaluru - 560 064	RWF/PCEE/EL/TD/2019-20/08 Dtd: 21-11-2019	8,52,655/-	17,100/-	20-12-2019 at 11.00 Hrs	2,360/-

For detailed tender notice please refer RWF Website Dy. Chief Project Manager

Navi Mumbai Municipal Transport

CIVIL Department

Public Notice

Tender Description :- This is for information that, Proposed Integrated Bus Terminus cum Commercial Complex Project On Plot No. 3, Sector 9A, Vashi, Navi Mumbai, Dist. Thane by M/s. Navi Mumbai Municipal Transport has obtained Environment Clearance by State Level Environment Impact Assessment Authority (SEIAA), Maharashtra vide letter No. SEIAA-EC-0000002069 dated 7th November, 2019.

Copy of said Environment Clearance is available with Maharashtra Pollution Control Board and may also be seen at **https://www.ecmpcb.in**

Sd/-
Transport Manager,
N.M.M.T.

JHARKHAND URBAN INFRASTRUCTURE DEVELOPMENT COMPANY

3rd Floor, Pragati Sadan (RRDA Building) Kutchery Chowk, Ranchi-834001, Jharkhand

PR Ref: 221329 CIN: U45200JH2013SGC001752
NIT No. : JUIDCO/PMAY/V-III/Lohardaga/2019/331
Tender ID: 2019_UDD_43587_1
Project Name: Construction of 340 Dwelling units in 17 number of G+3 blocks (including structural design) under Pradhan Mantri Awas Yojana (Urban) at Jurlya, Lohardaga.

Corrigendum – 1

Sl. No.	Clause No./ Reference No.	As in RFP/ Document	AMENDMENTS/ ADDENDUM
1.	Notice Invitation Tender	1. Last Date & Time for submission of online bid (Bid Due Date) - 22.11.2019 upto 1700 Hrs 2. Last Date & Time for submission of tender fee & EMD - 23.11.2019 upto 1700 Hrs 3. Date & Time for Opening of Technical Bids - 23.11.2019 at 1750 Hrs	1. Last Date & Time for submission of online bid (Bid Due Date) - 07.12.2019 upto 1700 Hrs 2. Last Date & Time for submission of tender fee & EMD - 09.12.2019 upto 1700 Hrs 3. Date & Time for Opening of Technical Bids - 09.12.2019 at 1750 Hrs

Sd/-
Project Director (Technical)

PR 222108 Urban Development(19-20)D

Administration of Dadra & Nagar Haveli, U.T.
Office of the Member Secretary Rogi Kalyan Samiti, Silvassa

File No. MS/RKS/P&T/2019-20/253 Date : 20/11/2019

e-Tender Notice

BRIHANMUMBAI MAHANAGARPALIKA

BY THE COLLECTOR, MUMBAI SUBURBAN DISTRICT, MAHARASHTRA REGIONAL AND TOWN PLANNING ACT 1966.

No. C-Dex-IX/CR-791/19/SDO-ES/LAQ/SR-34/19

Whereas, the Government in Urban Development Department under, Notification No. TPB-4392/4130/UD-11 (RDP) dated 08/05/1992 (hereinafter referred to as the said Development Plan) had issued under sub section (1) of section 31 of Maharashtra Regional & Town Planning Act 1966 (hereinafter referred to as "the said Maharashtra Act") sanctioned Revised Development Plan for 'N' Ward of Municipal Corporation of Greater Mumbai to come into force with effect from 15/07/1992.

Whereas under the said notification the land referred herein mention in the schedule below being affected by reservation for railway and was reserved for 15.25 mtrs. wide railway purpose, the land owner had served a purchase notice under section 127 of MRTP ACT 1966.

Whereas railway being appropriate authority the said purchase notice was forwarded by Municipal Corporation of Greater Mumbai to railway for further action. Due to no action by Railway, landowner approached Hon. Bombay High court by filing WP/122/2016; against Union of India through Ministry of Railway, Municipal Corporation of Greater Mumbai and State Government of Maharashtra in the said Writ Petition Municipal Corporation of Greater Mumbai mentioned that the said land reserved for 15.25 mtrs. wide D.P. Road in D.P.2034 and the said New Development Plan was approved by Government by notification No. TPB-4317/629/CR-118/2017/DP/UD-11 issued by Urban Development Department dated 08/05/2018 (hereinafter referred to as the said revised Development Plan). Municipal Corporation of Greater Mumbai has shown willingness to acquire the land for 15.25 mtrs. wide proposed D. P. Road as per D. P. 2034. The Hon. Bombay High Court by his order Dt. 18/12/2018 directed to acquire the said land, within time limit set out under the said order.

And whereas the land specified in the schedule appended hereto (hereinafter referred to as "Said Lands") are affected by the site reserved for the purpose of "15.25m. wide D.P. Road" (hereinafter referred to as the said "Public Purpose")

And whereas the Municipal Corporation of Gr Mumbai (hereinafter referred to as the said "Municipal Corporation") has made an application to the Government under sub section (1) of section 126 of the said Maharashtra Act for acquiring the said land for the said Public purpose.

And whereas, under Government Notification, Urban Development & Public Health Department No.TPS-2175-5106 UD-7 dated 3/3/1979 issued under sub section (1) of section 151 of the said Maharashtra Act, the powers exercisable by the State Government in respect of sub Section of (1) (2) & (4) of section 126 of the said Maharashtra Act relating to the acquisition of the land to be acquired for public purpose specified in the sanctioned Development Plan, have been delegated to the Collector.

And whereas the Collector, Mumbai Suburban

रुवार
दि. १२ डिसेंबर २०१९
सामना

व्यवसायविषयक

श्री गंडला घरामध्या पेठ २५०० कमवा. वाशी, पनवेल, मीरा रोड, कल्याण, नायगाव, वडाळा, रोख़ोली ट्रेनिंग फ्री - ७७७७००९१४५

श्रद्धांजली

नवीन वर्षाचे स्वागत ३१/१२/२०१९ A/C बसने स्विमिंग पूल, रेनडान्स, अंडे जा-नॉनव्हेज जेवणासह. शेखर पाठारे - ९६०४३३८४४१/ ९९६९२४९८५८.

वाढदिवस

चैत्रा सचिन यादव

आई, अण्णा, मम्मी, पप्पा, काका, काकी, आत्या, मावशी, हीडेश, धनश्री, पारस, ममता, तसेच यादव आणि आगाने समस्त परिवार

पश्चिम रेल्वे

शुध्दिपत्रक क्र.-१ दिनांकित-११.१२.२०१९

निविदा सूचना क्र. एम१८०/५/डब्ल्युआर (चुटीके-२) दि.: २७.११.२०१९ चे नवे निविदेच्या संदर्भातील मजकूर बदलत असून खालील प्रमाणे वाचावा

वर्णन	पूर्वीचे	असे वाचावे
निविदा सादरीकरण समाप्तीचा दिनांक आणि वेळ	२६.१२.२०१९ रोजी १५:०० वाजता	०२.०१.२०२० रोजी १५:०० वाजता

सर्व अटी आणि शर्ती पूर्वीप्रमाणेच राहतील. निविदा कागदपत्रे, शुद्धिपत्रक आणि अन्य माहिती या संकेतस्थळ http://www.ireps.gov.in वरून डाऊनलोड करा.

१५-१९

facebook.com/WesternRly

मध्य रेल्वे

रेल्वे भरती विभाग

वेबसाईट: www.rrccr.com

वर्ष २०१९-२० करिता मध्य रेल्वेमध्ये खेळाडू कोट्यामध्ये खुल्या जाहिरातीद्वारे भरती

रोजगार सूचना क्र. RRC/CR/02/2019 दिनांकित १४.१२.२०१९

ऑनलाईन अर्जाकरिता सुरुवात होण्याचा दिनांक आणि वेळ	१७.१२.२०१९ रोजी ११.०० वाजता
ऑनलाईन अर्जाकरिता बंद होण्याचा दिनांक आणि वेळ	१९.१२.२०१९ रोजी १७.०० वाजता

मध्य रेल्वे वर्ष २०१९-२० करिता मध्य रेल्वेच्या खेळाडू कोट्याच्या ... एकवीस २१ जागा भरण्याकरिता, पात्र खेळाडू जे भारतीय नागरिक आहेत, यांच्याकडून ऑनलाईन अर्ज मागवित आहेत. सदर जागा सर्व जाती-जमातींकरिता खुल्या आहेत. अजा/अज/इमाव करिता कोणतेही आरक्षण नाही. तसेच, चाचणीमध्ये पात्र ठरणाऱ्या उमेदवारांना पुढील प्रक्रियेकरिता आमंत्रित केले जाईल.

अधिक माहितीकरिता, दि. १४.१२.२०१९ रोजीच्या एम्प्लॉयमेन्ट न्यूज / रोजगार समाचार किंवा वेबसाईट www.rrccr.com मध्ये प्रसिद्ध झालेली रोजगार सूचना क्र. RRC/CR/02/2019 दिनांकित १४.१२.२०१९ पहावी.

अध्यक्ष रेल्वे भरती विभाग
मध्य रेल्वे

अधिक माहितीकरिता, वेबसाईट www.rrccr.com ला भेट द्या.

नवी मुंबई महानगरपालिका परिवहन उपक्रम

स्थापत्य /CIVIL विभाग

जाहिर सुचना/ Public Notice

कामाचे नाव :- महाराष्ट्र सरकार पर्यावरण विभाग रूम नं.२१७, दुसरा मजला मंत्रालय विस्तारीत, मुंबई-४०००३२ यांनी त्यांच्या पत्र क्र. SEIAA-EC-००००००२०६९ दिनांक ०७ नोव्हेंबर, २०१९ अन्वये नवी मुंबई महानगरपालिका परिवहन उपक्रमाच्या वाशी से.९ ए येथील बस स्थानक भूखंडावर बसस्थानकासह वाणिज्य संकुल विकसीत करणेसाठी पर्यावरण परवानगी दिली आहे.

सदर परवानगी पत्राच्या प्रती महाराष्ट्र शासन, पर्यावरण विभाग, मंत्रालय व महाराष्ट्र राज्य प्रदुषण नियंत्रण मंडळाकडे उपलब्ध आहेत. त्याचप्रमाणे https://www.ecmpcb.in या वन व पर्यावरण मंत्रालयाच्या वेबसाईटवर उपलब्ध आहे.

सही /-
परिवहन व्यवस्थापक
नवी मुंबई महानगरपालिका परिवहन उपक्रम

कार्यालय नगर परिषद, अंबाजोगाई
जा.क्र. ७६४५, दिनांक :- १०/१२/२०१९

नगर परिषद, अंबाजोगाई

ई-निविदा क्र. १८, बांधकाम विभाग/२०१९-२०२०

अंबाजोगाई नगर परिषद यांच्या वतीने वैशिष्ट्यपूर्ण (ठोक) योजनेअंतर्गत ई-निविदा प्रणालीद्वारे निविदा सूचना दि. १२/१२/२०१९ रोजी पुढील www.mahatenders.gov.in संकेतस्थळावर प्रसिद्ध केली आहे. निविदाबाबतच्या महत्त्वाच्या सूचना सदर संकेतस्थळावर प्रसिद्ध केलेल्या आहेत. तेव्हा इच्छुक निविदाधारकांना दिनांक २७/१२/२०१९ रोजी १७.०० वाजेपर्यंत निविदा पाहता व डाऊनलोड करता येईल.

स्वाक्षरित/-	स्वाक्षरित/-
नगर अभियंता	मुख्याधिकारी
नगर परिषद, अंबाजोगाई	नगर परिषद, अंबाजोगाई

... AND AREA DEVELOPMENT BOARD

(A Regional Unit of Mhada)
...Bhavan, Agarkarnagar,
...001 Tel 26126381 Fax 26123614

म्हाडा

... Portal : http://mahatenders.gov.in

...Engineer-II/Pune Board, Pune through the process of e-... digitally signed & unconditional online E-Tender in ...ercentage Rate) from prospective bidders for the work below. The detail tender is available on above website 2019 @ 11.00 am.

Sr No	Name of Work	Estimated Cost (Rs. in Lacs)
	External Electrification work of MHADA project for 52 MIG and 9 HIG at S.No. 417 Radhanagari Phase-II Kolhapur	15,62,203/-
	Shifting & Conversion overhead to Underground of 33KV HT Line at S. No. 526/1, Rajendra Nagar Kolhapur	8,33,418/-
	External Electrification work of MHADA project to 18 LIG and 12 Shops at S.No 599/A, Balaji park Kolhapur	7,94,487/-

पश्चिम रेल्वे

केटरणी वायर्स बदलणे

... ई-निविदा क्र. ... दिनांक : ०९-१२-२०१९ ... [illegible]

पश्चिम रेल्वे

ओव्हरहेड स्ट्रक्चरसह ...

हीटरेटचा पुरवठा आणि लावणे

[illegible]

कोल्हापूर महानगरपालिका

नियोजन विभाग

जाहिरातीचा मसुदा

कोल्हापूर महानगरपालिकेच्या वेल्फेअर सेंटरमध्ये ... [illegible] मागविण्यात येत आहेत.

अ.क्र.	विभाग, वेल्फेअर सेंटरचा पत्ता	जागेचे क्षेत्रफळ

MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010706/ 24010437
Fax: 24023516
Website: http://mpcb.gov.in
E-mail: jdwater@mpcb.gov.in

Kalpataru Point, 2nd - 4th Floor
Opp. Cine Planet Cinema,
Near Sion Circle, Sion (E)
Mumbai-400 022.

03/02/2020

Infrastructure /RED/LSI
Consent Order No: - Format 1.0/BO/JD (WPC)/UAN No.00000083050/CE/CC-2002000097 **Date: ~~/01/2020~~**

To,

M/s. Navi Mumbai Municipal Transport,
Proposed Integrated Bus Terminus
Cum Commercial Complex,
Plot No 3 Sector 9A, Vashi,
Navi Mumbai, Maharashtra

Sub: Grant of Consent to Establish for Integrated Bus Terminus Cum Commercial Complex Project in RED Category.

Ref.: 1. Minutes of Consent Committee meeting held on 13/01/2020.
2. Environmental Clearance obtained vide no. SEIAA-EC-00000002069, dtd 07.11.2019.

Your application No. **0000083050, dated 18/11/2019**

For: Grant of 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 6 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 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:

1. **The Consent to Establish is valid for period up to commissioning or up to 5 year whichever is earlier.**
2. **The capital investment of the project is Rs.168 Crs as per undertaking submitted by P.P.**
3. The Consent to Establish is valid for construction of **Integrated Bus Terminus Cum Commercial Complex Project** of **M/s. Navi Mumbai Municipal Transport, Proposed Integrated Bus Terminus Cum Commercial Complex, at Plot No 3 Sector 9A, Vashi, Navi Mumbai, Maharashtra,** on total plot area of **10373.42 Sq. Mtrs.** for total construction BUA of **47840 Sq. Mtrs.**
4. **Conditions under Water (P&CP), 1974 Act for discharge of effluent:**

Sr. no.	Description	Permitted quantity of discharge (CMD)	Standards to be achieved	Disposal
1.	Trade effluent	NIL	NA	NA
2.	Domestic effluent	118	As per Schedule –I	The treated domestic effluent shall be 60% recycled for secondary purposes and remaining shall be utilized on land for gardening and connected to sewerage system provided by Local Body.

5. Conditions under Air (P& CP) Act, 1981 for air emissions:

Sr. No.	Description of stack/ source	Number Of Stack	Standards to be achieved
1	D.G. Set (380 KVA)	1	As Per Schedule –II

6. Conditions under Municipal Solid Waste (Management and Handling) Rule, 2000:

Sr. No.	Type Of Waste	Quantity	Treatment	Disposal
1	Biodegradable	222.57 Kg/Day	OWC	Used as Manure
2	Non-Biodegradable	519.33 Kg/Day	Segregate	Hand over to Local Body for recycling
3	STP Sludge	10 Kg/Day	Drying	Used as Manure

7. Conditions under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 for treatment and disposal of hazardous waste

Sr. No.	Type Of Waste	Quantity	UOM	Treatment	Disposal
			NIL		

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.
10. Project Proponent shall provide adequate capacity of sewage treatment plant so as to achieve treated domestic effluent standard for the parameter BOD- 10 mg/lit.
11. The treated domestic effluent shall be 60 % recycled for secondary purpose such as toilet flushing, air conditioning, cooling tower make up, firefighting etc. and reaming shall be utilized on land for gardening and connected to the sewerage system provided by local body.
12. **Project Proponent shall comply with the conditions stipulated in Environmental Clearance granted by SEIAA-EC-00000002069, dtd 07.11.2019.**
13. **Project Proponent shall install online monitoring system for pH, SS and flow at the outlet of Sewage Treatment Plant.**
14. **Project Proponent 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.**
15. Project Proponent shall install organic waste converter along with composting facility for the treatment of wet garbage.

For and on behalf of the
Maharashtra Pollution Control Board

(E. Ravendiran, IAS)
Member Secretary

Received Consent fee of –

Sr. No.	Amount	DR/ DD/ RTGS/ NEFT/ TXN No.	Bank Name	Date
1	Rs. 336000/-	5457452 (NEFT)	Axis Bank	20.11.2019

Copy to:

1. Regional Officer (Navi Mumbai)/ Sub-Regional Officer (Navi Mumbai-I), M.P.C. Board. -They are directed to ensure the compliance of the consent conditions.
2. Chief Accounts Officer, MPCB, Mumbai.
3. CC/CAC desk- for record & website updating 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 of designed capacity **120 CMD** based on MBBR technology for the treatment of **118 CMD** of domestic sewage.

B] The Applicant shall operate the Sewage Treatment Plant (STP) to treat the sewage so as to achieve the following standards/ prescribed 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/l, except for pH
01	pH	6.5-9.0
02	BOD	Not more than 10
03	TSS	Not more than 20
04	COD	Not more than 50
05	NH_4N	Not more than 5
06	N-total	Not more than 10
07	Fecal Coliform (MPN/100 ml)	Less than 100

C] The treated domestic effluent shall be 60% recycled for secondary purposes such as toilet flushing, air conditioning, cooling tower make up, firefighting etc. and remaining shall be utilized on land for gardening and connected to the sewerage system provided by local body. In no case, effluent shall find its way to any water body directly/indirectly at any time. Project proponent shall provide flow meter to ensure 60% recycling of treated sewage and shall maintain the record with data logging system. PP shall achieve the treated domestic effluent standard for the parameter BOD- 10 mg/lit. The online monitoring data of the parameters Flow, BOD, TSS at the STP outlet shall be connected to MPCB Server.

1) 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 and/ or extension or addition thereto.
2) 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.
3) The Applicant shall comply with the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and as amended, and other provisions as contained in the said act.

		Water consumption quantity (CMD)
1	Industrial Cooling, spraying in mine pits or boiler feed	NIL
2	Domestic purpose	138.80
3	Processing whereby water gets polluted & pollutants are easily biodegradable	NIL
4	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	NIL

Schedule-II

Terms & conditions for compliance of Air Pollution Control:

1. **As per your application, you have proposed to installed the Air pollution control (APC) system and also erected following stack (s) and to observe the following fuel pattern-**

Sr. No.	Stack Attached To	APC System	Height in Mtrs.	Type of Fuel	Quantity & UoM	SO_2 Kg/D
1	D.G. Set (380 KVA)	Acoustic Enclosure	5.5	HSD	70 Kg/Hr	--

2. The applicant shall operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:

Total Particulate matter	Not to exceed	150 mg/Nm^3

3. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement alteration well before its life come to an end or erection of new pollution control equipment.
4. 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).

Schedule-III
Details of Bank Guarantees

Sr. No.	Consent (C to E)	Amt of BG Imposed	Submission Period**	Purpose of BG	Compliance Period	Validity
1	C to E	Rs.10 Lakh	15 Days	Towards compliance of EC & Consent to Establish conditions	COU	COU

* 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.

Schedule-IV

General Conditions:

1) The applicant shall provide facility for collection of samples of 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) The firm shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act,1981 and Environmental Protection Act 1986 and Municipal Solid Waste (Management & Handling) Rule 2000, Noise (Pollution and Control) Rules, 2000 and E-Waste (Management & Handling Rule 2011.
3) Drainage system shall be provided for collection of sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No sewage shall be admitted in the pipes/sewers downstream of the terminal manholes. No sewage shall find its way other than in designed and provided collection system.
4) Vehicles hired for bringing construction material to the site should be in good condition and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.
5) 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) Applicant 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) Applicant should make efforts to bring down noise level due to DG set, outside their 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.
6) Solid Waste – The applicant shall provide onsite municipal solid waste processing system & shall comply with Municipal Solid Waste (Management & Handling) Rule 2000 & E-Waste (M & H) Rule 2011.
7) Affidavit undertaking in respect of no change in the status of consent conditions and compliance of the consent conditions the draft can be downloaded from the official web site of the MPCB.
8) Applicant shall submit official e-mail address and any change will be duly informed to the MPCB.
9) The treated sewage shall be disinfected using suitable disinfection method.
10) The firm shall submit to this office, the 30th day of September every year, the environment statement report for the financial year ending 31st march in the prescribed Form-V as per the provision of rule 14 of the Environmental (Protection) Second Amended rule 1992.
11) **The applicant shall obtain Consent to Operate from the Board prior to commissioning of the Project.**

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Navi Mumbai Municipal Transport Undertaking

NMMT Headquarter, 8th Floor, Belapur Bhavan,
Sector-15, C.B.D., Belapur, Navi Mumbai - 400 614.
TEL. No. : 022-2757 9033

Ref: NMMC/TM/E.E/32/2021
Date:30/09/2021

To,
Addl. Principal Chief Conservator of Forests (C),
Ministry of Env., Forest and Climate Change
Regional Office (WZ), E-5 Kendriya Paryavaran Bhawan,
E-5 Area Colony, Link Road-3, Ravishankar Nagar,
Bhopal-462016

Dear Sir,

Sub: Submitting the Half yearly compliance report of the project "Proposed Construction of Integrated Bus Terminus Cum Commercial Complex at Plot No.3, Sector 9 A, Vashi, Navi Mumbai, Maharashtra 400703

Ref: 1. Environmental Clearance (EC): SEIAA -EC-0000002069 Dated November 7, 2019.

We, Navi Mumbai Municipal Transport have been accorded with Environmental Clearance (EC) from State Level Environment Impact Assessment Authority (SEIAA), Maharashtra vide letter No. SEIAA -EC-0000002069 Dated November 7, 2019.

Herewith, submitting the point wise half yearly compliance report to the General and Specific conditions of EC obtained.

We are hereby requesting you to consider our compliance report and do the needful.

Kindly acknowledge the receipt for the same.

Thanking you,

30.9.21

Arivind Shinde
Executive Engineer
Vashi Bus Depot Project
Navi Mumbai Municipal Transport

CC:

1. Maharashtra Pollution Control Board - 7th Floor, Raigad Bhavan, Sector 11, CBD Belapur, Navi Mumbai, Maharashtra 400614
2. Environmental Department – Room No.217, 2nd Floor Mantralaya, Annexe, Mumbai 400 032

लिपीक
प्रशासन विभाग
नमुंमपा परिवहन उपक्रम

Maharashtra Pollution Control Board

महाराष्ट्र प्रदूषण नियंत्रण मंडळ

FORM V

(See Rule 14)

Environmental Audit Report for the financial Year ending the 31st March 2021

Unique Application Number	Submitted Date
MPCB-ENVIRONMENT_STATEMENT-0000040149	08-11-2021

PART A

Company Information

Company Name	Application UAN number
Proposed Integrated Bus Terminus Cum Commercial Complex	MPCB-CONSENT-0000083050

Address

M/s. Navi Mumbai Municipal Transport. 8th Floor, Sector 11, Belapur Bhavan, C.B.D. Belapur, Navi Mumbai

Plot no	Taluka	Village
3	Vashi	Vashi, Navi Mumbai
Capital Investment (In lakhs)	**Scale**	**City**
16800.00	L.S.I	Thane
Pincode	**Person Name**	**Designation**
400614	Mr. Shirish Aradwad	Transport Manager
Telephone Number	**Fax Number**	**Email**
9167221982	0	vashibusdepot@gmail.com
Region	**Industry Category**	**Industry Type**
SRO-Navi Mumbai I	Orange	O21 Building and construction project more than 20,000 sq. m built up area
Last Environmental statement submitted online	**Consent Number**	**Consent Issue Date**
no	MPCB-CONSENT-0000083050	2020-02-03
Consent Valid Upto	**Establishment Year**	**Date of last environment statement submitted**
2025-02-02	2018	Nov 11 2021 12:00:00:000AM

Industry Category Primary (STC Code) & Secondary (STC Code)

Product Information

Product Name	Consent Quantity	Actual Quantity	UOM
Integrated Bus Terminus Cum Commercial Complex	514945.47	514945.47	SqFeet/Y

By-product Information

By Product Name	Consent Quantity	Actual Quantity	UOM
NA	0	0	SqFeet/Y

Part-B (Water & Raw Material Consumption)

1) Water Consumption in m3/day

Water Consumption for	Consent Quantity in m3/day	Actual Quantity in m3/day
Process	0.00	0.00
Cooling	0.00	0.00
Domestic	138.80	0.00
All others	0.00	0.00
Total	138.80	0.00

2) Effluent Generation in CMD / MLD

Particulars	Consent Quantity	Actual Quantity	UOM
Domestic Effluent	118	0	CMD

2) Product Wise Process Water Consumption (cubic meter of process water per unit of product)

Name of Products (Production)	During the Previous financial Year	During the current Financial year	UOM
OTHERS	0	0	CMD

3) Raw Material Consumption (Consumption of raw material per unit of product)

Name of Raw Materials	During the Previous financial Year	During the current Financial year	UOM
NA	0	0	CMD

4) Fuel Consumption

Fuel Name	Consent quantity	Actual Quantity	UOM
--NA--	0	0	CMD

Part-C

Pollution discharged to environment/unit of output (Parameter as specified in the consent issued)

[A] Water

Pollutants Detail	Quantity of Pollutants discharged (kL/day)	Concentration of Pollutants discharged(Mg/Lit) Except PH,Temp,Colour	Percentage of variation from prescribed standards with reasons		
	Quantity	Concentration	%variation	Standard	Reason
NA	0	0	0	0	NA

[B] Air (Stack)

Pollutants Detail	Quantity of Pollutants discharged (kL/day)	Concentration of Pollutants discharged(Mg/NM3)	Percentage of variation from prescribed standards with reasons		
	Quantity	Concentration	%variation	Standard	Reason
NA	0	0	0	0	NA

Part-D

HAZARDOUS WASTES

1) From Process

Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
0	0	0	Kg/Annum

2) From Pollution Control Facilities

Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
0	0	0	Kg/Annum

Part-E

SOLID WASTES

1) From Process

Non Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
NA	0	0	Kg/Day

2) From Pollution Control Facilities

Non Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
NA	0	0	Kg/Day

3) Quantity Recycled or Re-utilized within the unit

Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
0	0	0	Kg/Day

Part-F

Please specify the characteristics(in terms of concentration and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

1) Hazardous Waste

Type of Hazardous Waste Generated	Qty of Hazardous Waste	UOM	Concentration of Hazardous Waste
	0		NA

2) Solid Waste

Type of Solid Waste Generated	Qty of Solid Waste	UOM	Concentration of Solid Waste
NA	0	Kg/Day	NA

Part-G

Impact of the pollution Control measures taken on conservation of natural resources and consequently on the cost of production.

Description	Reduction in Water Consumption (M3/day)	Reduction in Fuel & Solvent Consumption (KL/day)	Reduction in Raw Material (Kg)	Reduction in Power Consumption (KWH)	Capital Investment(in Lacs)	Reduction in Maintenance(in Lacs)
NA	0	0	0	0	0	0

Part-H

Additional measures/investment proposal for environmental protection abatement of pollution, prevention of pollution.

[A] Investment made during the period of Environmental Statement

Detail of measures for Environmental Protection	Environmental Protection Measures	Capital Investment (Lacks)
Environmental Monitoring and Management Plan	Green Belt Development Environmental Monitoring (Air, Noise Water and Soil) Solid Waste Management	39.1

[B] Investment Proposed for next Year

Detail of measures for Environmental Protection	Environmental Protection Measures	Capital Investment (Lacks)
Environmental Monitoring and Management Plan	Green Belt Development Environmental Monitoring (Air, Noise Water and Soil) Solid Waste Management	39.1

Part-I

Any other particulars for improving the quality of the environment.

Particulars

1.Project has valid Consent to Establish Copy. 2. PP has submitted Six Monthly Compliance Report of Stipulated conditions of Environmental Conditions of Environmental Clearance. Good House keeping Practiced at the construction Area. 4. The unit personals are well trained in fire fighting and First Aid. 5. The project has a valid EC Copy. 6. The project has obtained Tree NOC.

Name & Designation

Mr. Laxman Raghunath Patil - Sectional Engineer

UAN No:

MPCB-ENVIRONMENT_STATEMENT-0000040149

Submitted On:

08-11-2021