

**Government of Maharashtra**

**File No.: SEAC-2010/CR.53/TC-2**

Environment department,  
Room No. 217, 2<sup>nd</sup> floor,  
Mantralaya Annexe,  
Mumbai 400 032  
Date: 1<sup>st</sup> July, 2011

To,  
M/s. Mumbai International Airport Ltd.  
Chhatrapati Shivaji International Airport.  
1<sup>st</sup> floor, Terminal 1B, Santacruz (E),

**Subject: Proposed non-operational area (landside) development of CSIA and construction of six buildings at Vile Parle, Sahar, Brahmanwada, Marol, Chakala, Kolkalyan and Kurla by M/s Mumbai International Airport Ltd. - Environmental clearance regarding.**

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, Maharashtra in its 41<sup>st</sup> meeting and decided to 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 37<sup>th</sup> meeting held on 18<sup>th</sup> April, 2011.

2. It is noted that the proposal is for grant of Environmental Clearance for Proposed non-operational area (landside) development of CSIA and construction of six buildings at Vile Parle, Sahar, Brahmanwada, Marol, Chakala, Kolkalyan and Kurla by M/s Mumbai International Airport Ltd. SEAC considered the project under screening category 8(b) as per EIA Notification 2006.

**Brief Information of the project is summarized as below-**

<b>Name of the Project</b>	:	Proposed non-operational area (landside) development of CSIA and construction of six buildings
<b>Project Proponent</b>	:	M/s Mumbai International Airport Ltd.
<b>Location of the project</b>	:	Vile Parle, Sahar, Brahmanwada, Marol, Chakala, Kolkalyan and Kurla
<b>Type of Project</b>	:	Construction Project
<b>Total Plot area</b>	:	170.61 Ha.
<b>Project details</b>	:	1. Area development /lateral infrastructure development of 170.61 Ha. 2. Vertical Development of Six Buildings
<b>Estimated cost of the project</b>	:	▪ Lateral Infrastructure Development - ₹ 1000 Crores ▪ Estimated Cost of Six Buildings - ₹1818 Crores

**Lateral infrastructure development of non-operational (landside) area (170.61 HA.) consists of:**

- Transport Infrastructure
- Roads (at grade, elevated), underpass, METRO connectivity



- Utilities/ Services
- Drainage, Sewerage, Water Supply, recycled water supply network, STPs etc.
- Pedestrian Infrastructure
- Skywalks, underpass, Personal Rapid Transit (PRT) System
- Sustainability measures
- Rainwater Harvesting, Green Cover & Landscaping, Water Recycling, SWM

**Building details are as follows:**

Building No. & Location	Built-up Area	Development Mix					Basement Area	Total Construction
		Convention Area & Exhibition	Retail	Hotel	Commercial/ Offices	Entertainment & Sports		
<b>Bldg - 1</b> Santacruz Forecourt Devpmt Santacruz	43,649	---	10,049	---	33,600	---	29,689	73,338
<b>Bldg - 2</b> Sahar Forecourt Development Sahar	261,593	---	97,993	69,300	69,300	25,000	264,921	526,514
<b>Bldg - 3</b> Convention Centre Development Sahar	109,194	37,100	5,894	45,200	---	21,000	84,580	193,774
<b>Bldg - 4</b> Multi Level Car Park - 1 Santacruz	28,380	---	---	---	---	---	3,379	31,759
<b>Bldg - 5</b> Multi Level Car Park - 2 Santacruz	39,624	---	---	---	---	---	3,850	43,474
<b>Bldg - 6</b> Multi Level Car Park - 3 Sahar	16,000	---	---	---	---	---	2,024	18,024
<b>Total</b>	<b>498,440</b>	<b>37,100</b>	<b>113,936</b>	<b>114,500</b>	<b>102,900</b>	<b>46,000</b>	<b>388,442.30</b>	<b>886,882.96</b>

**Water Requirement:**

**For entire area development: 20392 CMD**

Fresh water: 10583 CMD; recycled water: 9768 CMD ;

Source: MCGM/ Recycled water

**For six buildings: 2424 CMD**

(1366 CMD from MCGM and 1058 CMD from STP)

**Wastewater generated: entire area development: 9768 CMD**

**Six buildings: 1058 CMD**

Waste water will be conveyed to the zone wise sewage treatment plants by well designed system of down-take pipes and drains. Sewage collection and treatment shall be carried out through the proposed Sewage Treatment Plants (STPs) at various locations within the CSIA area. Dual plumbing network system is proposed for the purpose of distribution of potable requirement and treated water for flushing. Tertiary treated waste water from STPs will be used for HVAC, landscape & flushing.

**Mode of treatment:** 7 STPs are proposed (MBR/ MBBR or Latest Technology) to treat sewage such that maximum water is reused for non potable purposes like flushing, HVAC and irrigation.



The STPs shall be of latest technology and shall be constructed with flexibility to add the capacity phase wise in modular fashion.

#### **Rain water Harvesting:**

- Size and no of RWH tank and Quantity: Rainwater harvesting system is proposed in the form of water bodies as part of landscape planning within all major green areas, parks & gardens, on an area of approx. 1.62 Ha (4.0 acres).
- This is expected to provide approx. 15 ML of harvested rain water. The capacity shall be based on existing underground water table, drainage gradient and required over flow discharge levels. 41 CMD of rain water harvesting will be available for reuse for the entire project development.
- Size, nos. of recharge pits and Quantity: 1500mmX1500mm @ every 25m in green open spaces

#### **Storm water drainage**

- Natural water drainage pattern: Adequate storm water drainage system is planned with increase capacity (widened width) for all existing natural drains and creation of new additional secondary/ minor drains along the roads, of requisite sizes. The proposed storm water drainage system shall help in avoiding any flooding or water logging in the site area. The proposed storm water drainage system is designed with higher rainfall intensity than the rest of the city.
- Quantity of storm water : 228.56 cum/sec
- Size of SWD : 600mmX600mm – 1400mX1800mm

#### **Solid Waste Generation:**

##### **Pre Construction and Construction phase**

##### **Debris:**

- Earthwork resulting primarily from creation of basement or foundation of approximate quantity 4.13 lakh m<sup>3</sup>. The excavated soil will be suitably utilized as fill material within the site.
- in the proposed area, some old buildings/dilapidated structures existing in IAD, NAD, CPWD & CISF colonies, shall be required to demolished/dismantled. Construction waste would be generated which would include debris, concrete, steel and other metals, bricks, pallets, packaging and paper products, railings, door and window casings, fixtures, tiles, furnishings etc. Approximately 260 MT debris will be generated from demolition of abandoned structures/ buildings to be relocated. Broken bricks , tiles, metal chips shall be used for internal paving. the steel scrap, glass panes, which are recycled wastes, shall be disposed off to authorized recyclers /scrap dealers.
- Top soil preservation / conservation: Top soil will be stored and reused for the green cover area.

##### **Disposal:**

Construction waste will be segregated and reused on site or sent for recycling. Substratum removed during excavation for basement and foundation will be used as filling material on site. Balance construction wastes, if any, will be disposed to authorized MSW site. Proper facility for storage of construction wastes will be made on site.

#### **Operation Phase**

##### **1. For entire development**

##### **Segregate garbage:**

- a) Biodegradable waste: 13.58 MT/ day
- b) Non-Biodegradable waste: 16.59 MT/ day

##### **2. For six buildings**



**Segregate garbage:**

c) Biodegradable waste: 1.88 MT/ day

d) Non-Biodegradable waste: 2.29 MT/ day

**Disposal:**

Collection of segregated waste would be made from the residential areas, hotels and other commercial areas. Biodegradable waste would be transferred to mechanical composting units on MIAL's offsite solid waste treatment plant. Reusable and recyclable waste will be disposed by selling to scrap dealers. Balance inert and non biodegradable wastes will be sent to authorize municipal waste disposal site.

**E-Waste & Hazardous waste:** A small quantity of e-waste will be generated from the offices/ commercial areas. E-waste to be disposed through MPCB authorized waste dealers.

**STP Sludge (Dry sludge):** 17.36 kg (4% of sludge); Dried STP sludge to be used as manure for Gardening, remaining to be disposed off to MIAL off site.

**Energy:****For entire development**

Source: TATA Power Co Ltd.

Construction Phase: 500 KW

Operation Phase: 140 MW

**For six buildings**

Operation Phase: 22.50 MW

**Energy Conservation:**

- Using LED/CFL lights and energy efficient fixtures
- Using energy efficient motors & group control facility for lifts
- Using ISI rating motors with 60% efficiency water pumps
- Using ISI rating motors with 75% efficiency motors
- Energy metering system for internal and external lighting
- Use of automatic sprinkler system for garden area.

**Green Belt Development:** 337800 sq. m. (19.8%) – for entire area development

16,890 trees proposed for plantation

Existing trees on site approx. 5270 and 16,890 trees are proposed to plant out of which 3000 trees are planted.

**Traffic Management:** At city level, CSIA is located on Western Express Highway which further extends in north to NH-8, and in south to Sion-Panvel Express Highway (through Bandra-Sion Link road) providing connectivity to northern and eastern hinterland respectively. Andheri-Ghatkopar Link Road (AGLR) also provides connectivity to NH-3, NH-4 through Eastern Express Highway (EEH).

**Parking area**

Parking Required as per MCGM : 8302

Parking Provided : 10691

**Width of all internal roads:** 9.15m, 12.0m, 15.0m to 20.10m



**Parking Statement for 6 Buildings**

List of Proposed Buildings	Location	Parking Required as per MCGM (ECS)	Parking proposed (ECS)
Building -1 (Santacruz Forecourt Development)	Santacruz	604	604
Building -2 (Sahar Forecourt Development)	Sahar	4,234	4,234
Building -3 (Convention Centre Development)	Sahar	3,464	3,464
Building -4 (Multi-Level Car Park -1)	Santacruz	NA	817
Building -5 (Multi-Level Car Park -2)	Santacruz	NA	972
Building -6 (Multi-Level Car Park -3)	Sahar	NA	600
Total		8,302	10,691

**Environmental Management Plan:** Operation Phase: Total capital cost for EMP shall be ₹ 9,615 Lakhs and O & M for EMP shall be ₹ 397 lakhs

3. The proposal has been considered by SEIAA in its 37<sup>th</sup> 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 :-

- (i) This environmental clearance is issued subject to land use verification. Local authority / planning authority should ensure this with request to Rules, Regulations, Notifications, Government Resolutions, Circulars, etc. issued if any. This environmental clearance issued with respect to the environmental consideration and it does not mean that State Level Impact Assessment Authority (SEIAA) approved the proposed land use.
- (ii) Project proponent shall ensure completion of STP, MSW disposal facility, green belt development prior to occupation of the buildings. 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.
- (iii) 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. ULB should also ensure the zoning permissibility for the proposed project as per the approved development plan of the area.
- (iv) "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.



- (v) All required sanitary and hygienic measures should be in place before starting construction activities and to be maintained throughout the construction phase.
- (vi) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche and First Aid Room etc.
- (vii) 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.
- (viii) 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
- (ix) Biodegradable waste should be transferred to mechanical composting units on MIAL's offsite solid waste treatment plant, 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.
- (x) Arrangement shall be made that waste water and storm water do not get mixed.
- (xi) All the topsoil excavated during construction activities should be stored for use in horticulture / landscape development within the project site.
- (xii) 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.
- (xiii) Green Belt Development shall be carried out considering CPCB guidelines including selection of plant species and in consultation with the local DFO/ Agriculture Dept.
- (xiv) 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.
- (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.

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(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) The approval of competent authority shall be obtained for structural safety of the buildings due to any possible earthquake, adequacy of fire fighting equipments etc. as per National Building Code including measures from lighting.
- (xxv) Storm water control and its re-use as per CGWB and BIS standards for various applications.
- (xxvi) Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
- (xxvii) The ground water level and its quality should be monitored regularly in consultation with Ground Water Authority.
- (xxviii) 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 Ministry before the project is commissioned for operation. Treated effluent emanating from STP shall be recycled/refused to the maximum extent possible. Treatment of 100% gray water by decentralized treatment should be done. Discharge of unused treated affluent shall conform to the norms and standards of the Maharashtra Pollution Control Board. Necessary measures should be made to mitigate the odour problem from STP.
- (xxix) Local body should ensure that no occupation certification is issued prior to operation of STP/MSW site etc. with due permission of MPCB.
- (xxx) Permission to draw ground water shall be obtained from the competent Authority prior to construction/operation of the project.
- (xxxi) Separation of gray and black water should be done by the use of dual plumbing line for separation of gray and black water.
- (xxxii) 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.
- (xxxiii) 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.
- (xxxiv) Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill requirement
- (xxxv) 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.
- (xxxvi) Diesel power generating sets proposed as source of back up power for elevators and common area illumination during operation phase should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use low sulphur diesel. The location of the DG sets may be decided with in consultation with Maharashtra Pollution Control Board.
- (xxxvii) 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.



- (xxxviii) 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.
- (xxxix) 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 aspirational for non-air-conditioned spaces by use of appropriate thermal insulation material to fulfill requirement
- (xl) The building should have adequate distance between them to allow movement of fresh air and passage of natural light, air and ventilation
- (xli) 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.
- (xlii) 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.
- (xliii) Six monthly monitoring reports should be submitted to the Department and MPCB.
- (xliv) A complete set of all the documents submitted to Department should be forwarded to the MPCB
- (xlv) In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Department.
- (xlvi) No land development / construction work preliminary or otherwise relating to the project shall be taken up without obtaining due clearance from respective authorities.
- (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 break-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://envis.maharashtra.gov.in>.
- (i) 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 1<sup>st</sup> June & 1<sup>st</sup> December of each calendar year.
- (ii) 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.
- (iii) 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, SO<sub>2</sub>, NO<sub>x</sub> (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 31<sup>st</sup> March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.
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. This environmental clearance is issued as per EIA Notification, 2006. If any part of the plot is affected by CRZ then project proponent should obtain NOC from MCZMA as per FSI applicability. If there is change in building plan accordingly, project proponent should approach SEIAA with corrected plans.
  6. In case of submission of false document and non compliance of stipulated conditions, Authority/ Environment Department will revoke or suspend the Environmental Clearance without any intimation and initiate appropriate legal action under Environmental Protection Act, 1986.
  7. 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.
  8. **Validity of Environment Clearance:** The environmental clearance accorded shall be valid for a period of 5 years.
  9. 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.
  10. 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.



11. Any appeal against this environmental clearance shall lie with the National Green Tribunal, Van Vigyan Bhawan, Sec- 5, R.K. Puram, New Dehli – 110 022, if preferred, within 60 days as prescribed under Section 35 of the National Green Tribunal Act, 2010.



(Valsa R Nair Singh)  
Secretary, Environment  
department & MS, SEIAA

**Copy to:**

1. Shri. Ashok Basak, IAS (Retd.), Chairman, SEIAA, 502, Charleville, 'A' Road, Church gate, Mumbai- 400 020, Maharashtra.
2. Shri. P.M.A Hakeem, IAS (Retd.), Chairman, SEAC, 'Jugnu' Kottaram Road, Calicut- 673 006 Kerla.
3. Additional Secretary, MOEF, 'Paryavaran Bhawan' CGO Complex, Lodhi Road, New Delhi – 110510
4. Member Secretary, Maharashtra Pollution Control Board, with request to display a copy of the clearance.
5. The CCF, Regional Office, Ministry of Environment and Forest (Regional Office, Western Region, Kendriya Paryavaran Bhavan, Link Road No- 3, E-5, Ravi-Shankar Nagar, Bhopal- 462 016). (MP).
6. Regional Office, MPCB, Mumbai.
7. Collector, Mumbai suburban.
8. Commissioner, Brihan Mumbai Municipal Corporation.
9. IA- Division, Monitoring Cell, MoEF, Paryavaran Bhavan, CGO Complex, Lodhi Road, New Delhi-110003.
10. Director (TC-1), Dy. Secretary (TC-2), Scientist-1, Environment Department.
11. Select file (TC-3).