EXECUTIVE SUMMARY

DEVELOPMENT OF RESIDENTIAL PROJECT

AT

FP NO. 174, OF TPS (III) OF MAHIM DIVISION, SITUATED AT SHIVAJI PARK ROAD NO.5, MUMBAI

BY

MRS. BHANUBEN J. CHAUHAN & OTHERS

1. INTRODUCTION TO PROJECT

After recognizing the need of development of plot bearing FP No. 174, of TPS (III) of Mahim Division, situated at Shivaji Park Road No.5, Mumbai, having total 4 nos. of tenants is now being developed by Mrs. Bhanuben J. Chauhan & Others. The developer of the plot is going to develop a Ground Floor + 1- 16 upper floors for residential building.

There existed four CESSED category ground storey structures and One Non CESSED category ground storey structure on the plot. The existing CESSED category structure was of ground storey with 4 nos. of Residential tenants having 223.43 sq. mtrs of built up area. The Non CESSED Structures was consuming 1081.87 sq mtrs of built up area, which was inclusive of staircase areas. The land use of the Existing plot is residential as per certified tenant list by Deputy Engineer, FN/GN, M.B.R. & R.B. Board, Mumbai, dated 01/10/2004 and CESSED category certificate dated 4/8/2002 for the property having the use 'AR', situated in the Residential zone. MHADA has awarded revised NOC for redevelopment of the said property with 2.5 FSI or FSI required for the rehabilitation of existing occupiers plus 50% incentive, whichever is higher; dated 30/08/2011 for the CESSED Category structure. Both the CESSED and Non CESSED category structures are affected by CRZ II area.

The existing cessed structures and non cessed structure are now being redeveloped into a residential building of Ground Floor + 1- 16 upper Floors for residential use. The ground floor will be having Entrance lobby, parking area, society office and other amenities. The first to third floor will have parking area. The 4^{th} floor will have Gymnasium and swimming pool area. The 5^{th} floor will be used as service floor. The 6th floor will have five nos. of 1RK/Multipurpose rooms. The 7^{th} floor will have two nos. of 1BHK flats. The 8^{th} to 13^{th} floors will have one 1BHK flat and one 2BHK flats on each floor respectively. The 14^{th} floor will have two 2BHK flats. The 15^{th} floor will have one 1BHK flat and one 2BHK flat. The 16^{th} floor will have one 1BHK and one 1RK flats. Out of

these 25 flats/ tenements four flats/ tenements will be given for rehabilitation of existing tenant and four flats / tenements will be surrendered to MHADA. Total 17 flats will be sale components in this building.

The surrounding of the existing plot is of mixed use i.e. Residential and Commercial. The site is surrounded by many more authorized structures and roads.

The site under reference is affected by CRZ-II zone.. It is on the seaward side of the existing Swatantrya Veer Sawarkar Road existing prior to 19/02/1991. The plot is on the landward side of existing authorized buildings, in existence prior to 19/02/1991. Hence the work is permitted subject to the approval of MCZMA. Thus property attracts the CRZ legislation, which is reflected in CZMP plan.

The development site does not fall or contain the environmentally sensitive areas as specified in the coastal Regulation zone notification.

The total cost of the project is Rs. 10,72,07,406/- (Rupees Ten Three Crore Seventy Two Lakhs Lakh Seven Thousand Four Hundred and Six Only) as per the valuation report carried by certified registered valuer.

2. PURPOSE OF THE REPORT

Proposed redevelopment of plot bearing FP No. 174, of TPS (III) of Mahim Division, situated at Shivaji Park Road No. 5, Mumbai and thereby obtain Environmental Clearance as per clause 33(7) of DCR – 1991 in force as on 6th January 2011. The Plot was occupied by a cessed A category buildings along with one NON CESSED building, which are proposed to be redeveloped together. As per MoEF Notification dated 6/1/2011, redevelopment of dilapidated, cessed and unsafe buildings in CRZ areas are permitted with special advantages, in which the project is planned as per DCR's in force as on 6/1/2011 and staircase/ lobby/ lift area is claimed free of FSI, as per

clause 35(2)c of DCR 1991. For the FSI generated from redevelopment of NON-CESSED structure, FSI and other norms as on 19.2.1991 (i.e. DCR 1967) will be followed and for FSI generated from redevelopment of cessed structure, FSI and other norms as on 6th Jan 2011 have been applied as per provisions contained in clause 8(V) of CRZ-2011 notification. The proposal is submitted for prior CRZ clearance, as per the requirement of amended CRZ notification-2011 and the check list finalised by MCZMA vide Office Memorandum dated 02/07/2011.

Current development thus will help the existing tenant to get permanent, safe structure.

As the site under reference is affected by CRZ-II zone, it attracts the CRZ legislation as per 6th January 2011 notification for Coastal Regulation Zone (CRZ and the regulating activities in the CRZ.

3. DESCRIPTION OF THE PROJECT

3.1 NATURE OF THE PROJECT

This is a proposal for redevelopment of residential building situated at FP No. 174, of TPS (III) of Mahim Division, situated at Shivaji Park Road No. 5, Mumbai, in CRZ-II belt, as the same is situated within 500 mtr. from Arabian Sea. (Approx distance 96 mtrs.)

The proposal is for redevelopment of residential building **s**, which are situated on the seaward **s**ide of existing Swatantrya Veer Sawarkar Road, the road **in existance prior to 19/2/1991, as may be seen from CZMP of Mumbai** and on landward side of existing authoised structures **in existance prior to 19/2/1991.**

The Plot is situated in Residential zone and not under any reservation as per 1967 DP as well as Revised 1993 DP. The FSI proposed is 1.87, as per DCRs in force as on 6 th Jan 2011, which is

worked out on the governing criteria of 2.5 FSI on the remainder plot area after deducting the land component of non cessed category structure and claiming 1.33 FSI (Captive) on land component of Non Cess structure.

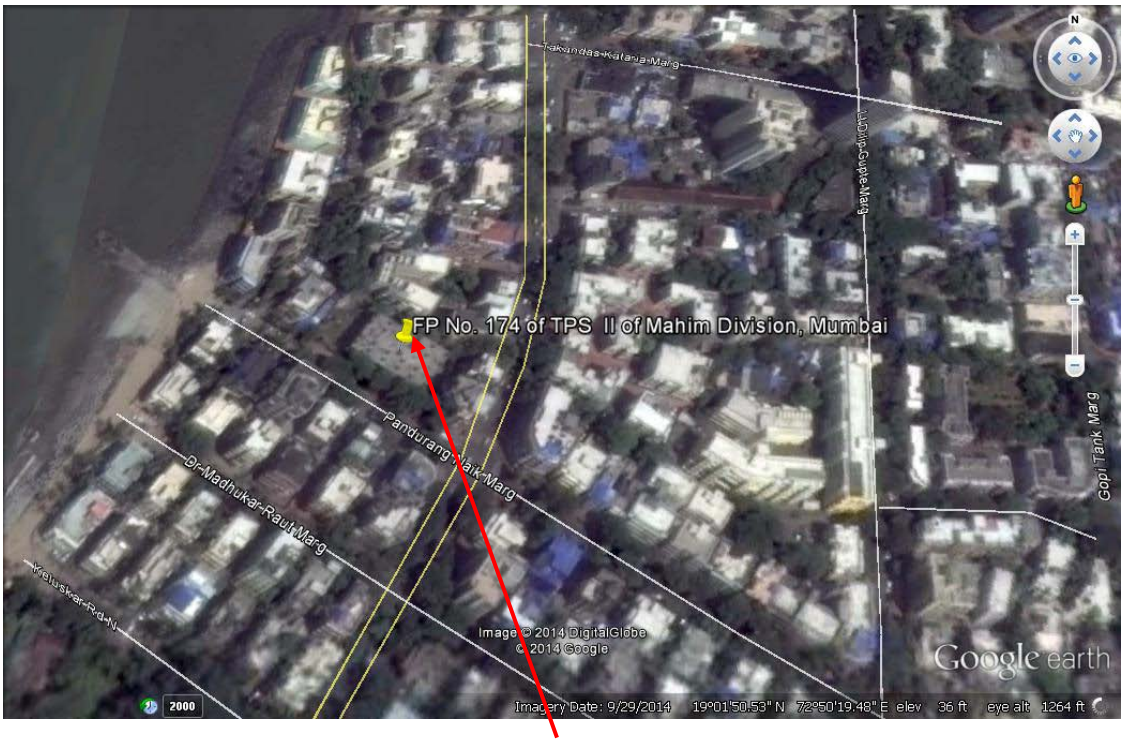
3.2 SIZE OF THE PROJECT

Total Area of the said plot is 1506.70 sq. mtr. Cost of the Project is Rs. 10,72,07,406/- (Rupees Ten Three Crore Seventy Two Lakhs Lakh Seven Thousand Four Hundred and Six Only).

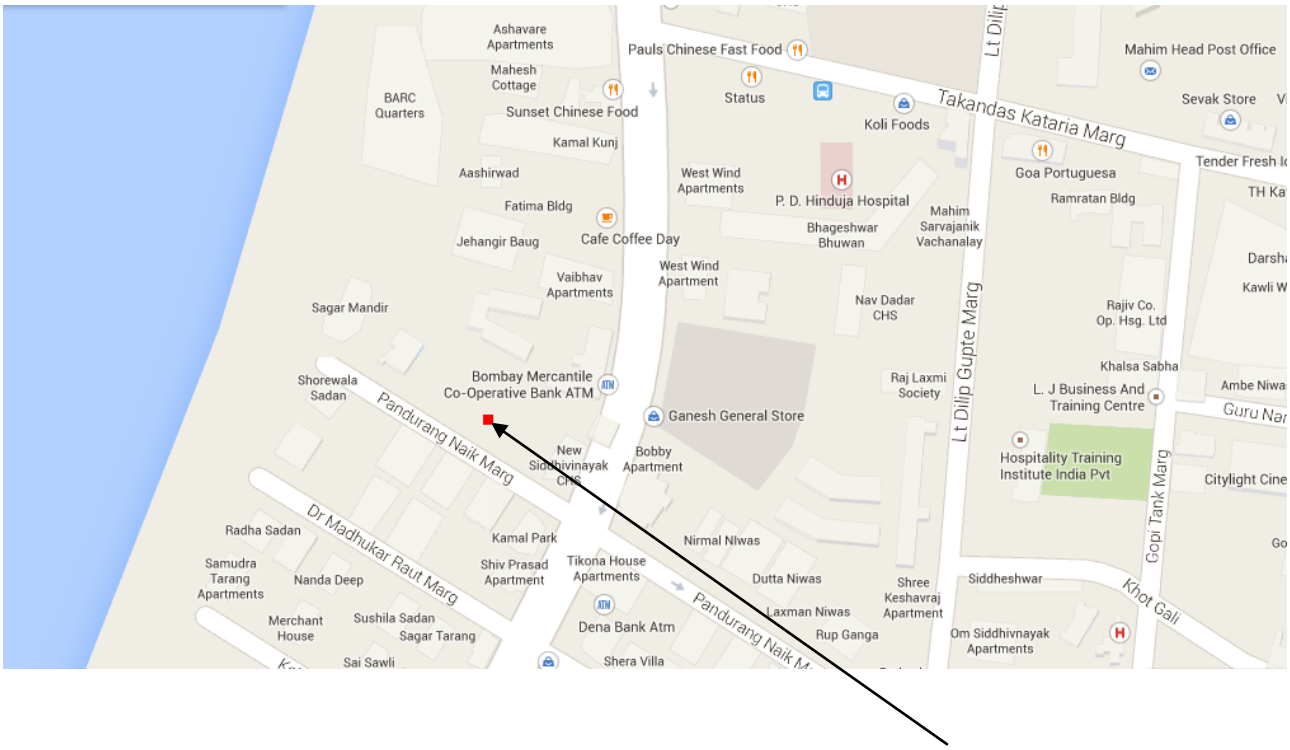
3.3 LOCATION

FP No.174, of TPS (III) of Mahim Division, situated at Shivaji Park Road No.5, Mumbai is in the heart of the city. The nearest railway station is Dadar Railway Station, ____ Km on the central line.

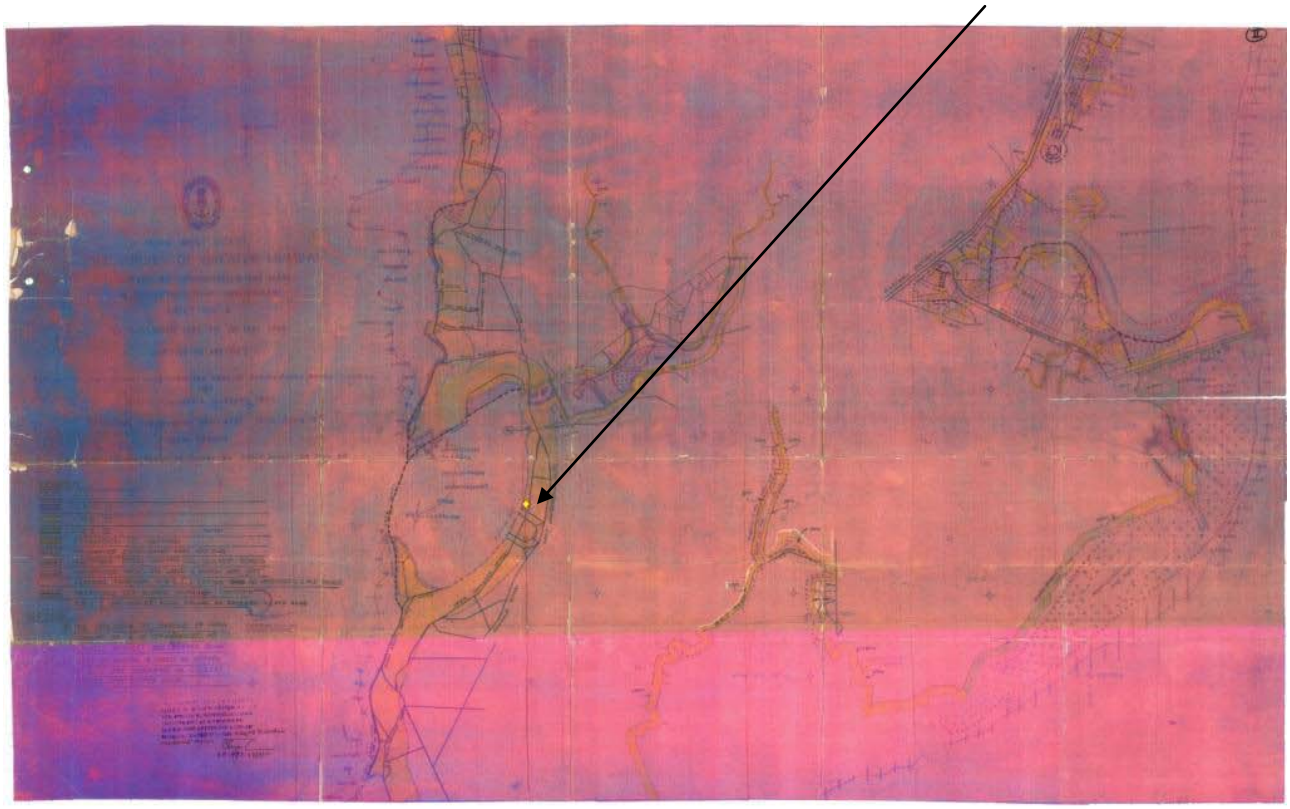
Google Earth Image of the site



SITE UNDERREFERENCE



SITE UNDER REFERENCE



CZMP Plan showing location of reference Plot

3.4 SITE DESCRIPTION

The site under reference is affected by CRZ-II zone and the property fall on seaward side of the existing Swatantrya Veer Sawarkar**,** which is reflected in CZMP plan and landward side of authorized structures. Thus property attracts the CRZ legislation as per CRZ 2011.

The development site does not fall or contain the environmentally sensitive areas as specified in the coastal Regulation zone notification. Total plot Area is 1506.70 sq. mtr.

Town / Tehsil	:	Mumbai
District	:	Greater Mumbai
State	:	Maharashtra
Latitude	:	19° 1'50.70"N
Longitude	:	72°50'17.12"E

3.5 PROPOSED DEVELOPMENT

3.5.1 AREA

Sr. No.	Description	Details
1	Area of plot	1506.70 sq.mtrs.
2	Deductions for	
	a) Road set back area	0.00 sq.mtrs.
	b) Proposed Road	0.00 sq.mtrs.
	c) Any reservation (sub plot)	0.00 sq.mtrs.
	d)% Amenity space as per DCR 56/57(Sub plot)	0.00 sq.mtrs.
3	Balance Area of plot (1 -2)	1506.70 sq.mtrs.
4	Total Deductions for 15% Recreational Ground/ 10% Amenity space(If deductible for IND)	0.00 sq.mtrs.
5	Net area of plot	1506.70 sq.mtrs.
6	Addittions for FSI	
	2(a) 100%	0.00 sq.mtrs.
	2(b) 100% for road set back area	sq.mtrs.
	Total area of plot (5 + 6)	1506.70 sq.mtrs.
7	FSI Permissible	1.33/2.50
8	9a) FSI Credit available by development right	0.00 sq.mtrs.
9	Additions for FSI	
	9b) 0.33FSI as per DCR 32	0.00 sq.mtrs.
	9c) % as per DCR 33( )	0.00 sq.mtrs.

	9d) Other	0.00 sq.mtrs.
	Permissible Floor Area (7 x 8) + 9	2815.04 sq.mtrs.
10	Existing Built up Area	0.0 sq.mtrs.
11	Proposed Built Up Area	2526.69 sq.mtrs.
12	Excess Balcony Area taken in FSI	0.00 sq.mtrs.
13	Staircase Area Counted in FSI	281.56 sq.mtrs.
14	Excess Gymnasium Area Counted in FSI	1.41 sq.mtrs.
15	Total Built up Area Proposed (11+12+13+14 +15)	2809.66 sq.mtrs.
16	Balance Built up Area	5.38 sq.mtrs.
14	Total Construction Area	10000.00 sq.mtrs. (Approx)
15	Parking required by MCGM Rule	33
16	Parking provided	33

PROJECT DEVELOPMENT DETAILS

Proposed development		
1	Structure of Building	Ground Floor + 1-16 upper floors
2	Tenements existing	CESSED structure: 4 residential tenements NON CESSED structure: 1 tenements
3	Tenements proposed	25 Residential tenements.
4	Height of Building from Ground level	60.60 mtrs
5	Emergency Power supply (D.G. Nos. x KVa	1 no. 35 KVa
6	Area required for D.G sets	5 sq. mt
7	Salient features of the project	
	• Earthquake Resistance Building structure • Rain water Harvesting System in the complex • Energy Conservation; Provision of Solar water heating system. • Eco-Friendly Measures • Optimum use of Timber	

3.5.2 UTILITIES

The Utilities required during the construction phase area water, power, fuel and Labour.

i) **WATER:** (Expected Consumption – total 35 cum/day)

For Construction activities: 30 cum/day & For Domestic use: 5 cum/day

Water Balance (Construction Phase)				
Sr. No.	**Consumption**	**Input m^3/Day**	**Loss m^3/Day**	**Effluent m^3/Day**
1.	Construction Activities	30	30 (Tanker consumption)	Nil
2.	Domestic (50 Site Workers)	5	1	4
Total		**35**	**31**	**4**

Water Balance (Operation Phase)					
Sr. No.	Component/ Head	Occupants	Water Requirement		Remarks
			Domestic	Flushing	
1	Total residential population	125	11.25	5.625	@ 90/45 lpcd
2	Total non residential population	22	0.44	0.55	@ 20/25 lpcd
3	Car washing	0.17 CMD			33 cars (@ 5L per car)
4	Total Quantity of Water Required	18.035 CMD			For a total population of 147
5	Sewage generated	14.02 CMD			14.02 CMD to Treatment plant (capacity 22 CMD)
6	Sludge generated	0.28 CMD			-
7	STP treated recycled water	14.00CMD			-

1] Source: - Water will be available from Mumbai (MCGM) for domestic use and from Tanker for construction purpose.

2] Storage: -Water for construction will be stored in open tank.

Drinking water will be stored in HDPE tank.

ii) **POWER**

DURING CONSTRUCTION

(Expected Consumption- about 0.3 MW)

1] An Electricity supply of 0.3 MW will be available from BEST. It is mainly required for some construction equipments, general lighting etc.

2] All Fire & Safety measures will be taken as appropriate and will be supervised by the Authority.

DURING OPERATION

Total Energy consumption: 0.35 MW

The electricity supply will be available from BEST.

iii) FUEL

DURING CONSTRUCTION PHASE

Diesel (5 L/day during excavation & 10 L/day post excavation).

All the equipment are electrically driven except JCB, porcelain, and concrete mixers.

DURING OPERATION PHASE

Diesel will be required to run the D. G. Set in case of power failure. Hence the quantity of diesel consumed will vary depending upon the usage of D. G set.

1. Storage: Diesel and oil will be stored in drums / tins with proper identification mark/labels in identified areas only.
2. Fire and safety measures will be taken as per the guidelines from concerned authority.

3. All Safety and fire precautions will be followed.

iv) MANPOWER

DURING CONSTRUCTION PHASE

(Expected Manpower – about 50)

Approximately 50 persons will be working during the peak time of construction phase. These persons will be on the project site during 0900 hrs. Except Security Personnel, who will be on the field round the clock for twenty – four hours.

DURING OPERATION PHASE

POPULATION

There will be about 125 persons residing in the building, 22 persons will be non residential staff including drivers, security, etc. population in the building.

4. CONSTRUCTION PHASE

The type of Construction Materials, Equipments used during the construction phase and persons involved in various activities on the field affect the status of environment to a great extent. The impact of construction Activities on various components of environment on the on the project site and surrounding area is predicated in this section.

4.1 LIST OF MATERIALS

The approximate construction material required for the proposed redevelopment is given below.

Sr. No.	Item	Unit	Quantity	Source	Process
1.	Sand	CUM	2945	River bed	Nil
2.	Aggregate	CUM	6552	Quarry	Crushing
3.	Standard Bricks		2371	Red Soil	Heating, Moulding
4.	Timber	M.T	108	Forest	Cutting & Trimming
5.	Construction Waste	Kg/ Day	202	-	-

- The basic engineering materials like aggregate, cement, sand and bricks/blocks will be purchased locally. However, finishing materials will be purchased keeping in mind the energy conservation aspect.
- Fly ash generated from Thermal Power Plants will be used in concrete to the extent of about 20 to 30 %. Depending up on the grade of concrete specified.

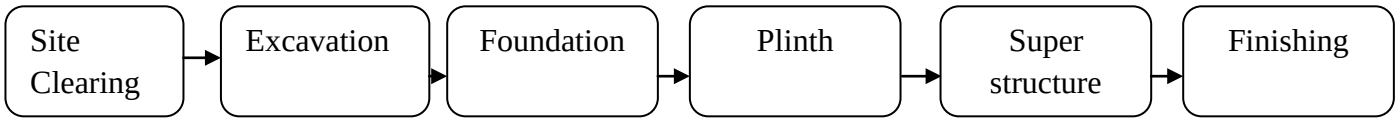
4.2 LIST OF EQUIPMENTS

The construction equipments required for the residential building is given below.

Sr. No.	Equipments	Numbers	Operation	Duration
1.	JSB, Poclain	1	Diesel	Short
2.	Dumpers	2	Diesel	Short
3.	Goods lifts / Personal lifts	1	Electric	Total
4.	Vibrators	4	Electric	Total
5.	Dewatering Pumps	1	Electric	Total
6.	Concrete Mixers	1	Electric	Total
7.	Wood Cutting Machine	1	Electric	Total
8.	Drill Machine	1	Electric	Total

4.3 CONSTRUCTION PROCEDURES

The outline of the construction procedure is described below schematically.



Note:

1] The project is expected to be completed within three years (Maximum) period Construction Parameters and Quality will be strictly adhered to as per the approved architectural design data/map. All the regulations of government authorities will be followed.

2] All the safely precaution will be observed as per the guidelines during the construction phase. Personal Protective Equipments (PPE) will be provided to all the personnel involved in the construction activities.

3] Site barricading by corrugated tin sheets up to height of 5.0 mtrs will be done to protect the surrounding area of the project site from nuisance /dusting.

4] All electrical connections & cables will be checked by authorized persons to ensure the safety of workers on field.

5] Water sprinkling will be done, wherever required to reduce the dusting in atmosphere. Jute barricading along building / plot boundary shall be provided to minimize noise level from construction activities.

6] The safety and security officers shall supervise the site.

7] Safety helmets will be mandatory to all the persons present on the site during the construction activities.

8] Hand gloves and dust masks will be provided to persons handing construction materials during the operation.

9] Safety belts will be provided to the persons working at height during the operation.

10] Safety nets will be arranged at a height at about 5.0mtr.when the structures get raised above the required height from the ground.

5. ENVIRONMENTAL CONCERNS

5.1 AIR POLLUTION

1] Source: - The source of Air Emissions is from the use of some equipment like concrete pumps, mixers, etc. These equipments consume Diesel as fuel during their operation. Carbon Monoxide, Hydrocarbons, Oxides of Nitrogen and Particulate Matter etc. will be the major pollutants.

Fugitive Emissions i.e. Emissions from construction activities will mainly consist of dust. Movement of Heavy & light vehicles, for loading and unloading of Construction Materials, transporting people, will also add on to source of emissions.

Parameter	Permissible Range	CPCB Limits	AVG Range Before Activity	During Activity
SPM ($\mu g/m^3$)	100 ~ 200	200	80-100	150-200
RSPM ($\mu g/m^3$)	50 ~ 100	100	20-30	50-100
SO2 ($\mu g/m^3$)	50 ~ 80	80	10-15	10-15
NOx ($\mu g/m^3$)	40 ~ 80	80	5-10	5-10

Ref: 24 Hourly values as per Central Pollution Control Board, National Ambient Air Quality Monitoring, Notification 11th April, 1994, Schedule 1.

5.2 AIR POLLUTION MITIGATION

Sr. No.	Source	Mitigation	
1.	Vehicle	i]	All the vehicles coming to the site will be ensured to be in good condition having PUC.
		ii]	Public awareness to use Green Fuel will be done.
2.	Solid Waste	i]	Proper segregation and collection of waste will be ensured.
		ii]	Location of loading and unloading will be fixed.
		Iii]	Good Housekeeping practices will be ensured at the premises.
3.	Construction Activities	i]	Noise / Dust nuisance preventions by barricading site up to 5.0 meter height by GI Sheets
		ii]	Water sprinkling on dry site, sand.
		Iii]	Maximum use of electrical driven construction equipments with regular maintenance.

5.3 WATER POLLUTION

1] **Use**: - The MCGM water will be used for domestic purpose i.e. drinking water for staff and laborers working on the field whereas bore well water/Tanker water will be used for various constructions activities like, Concreting, Plastering, Flooring & Finishing etc.

2] **Effluent**: - There will be no generation of effluent from construction activities as the water used for concreting; Plastering, Flooring and Finishing etc. will get evaporated during drying or curing

time. All the construction activities are physical in nature. The Domestic Effluent will be generated due to the persons working on the site who will require water for drinking, cleaning, bathing etc.

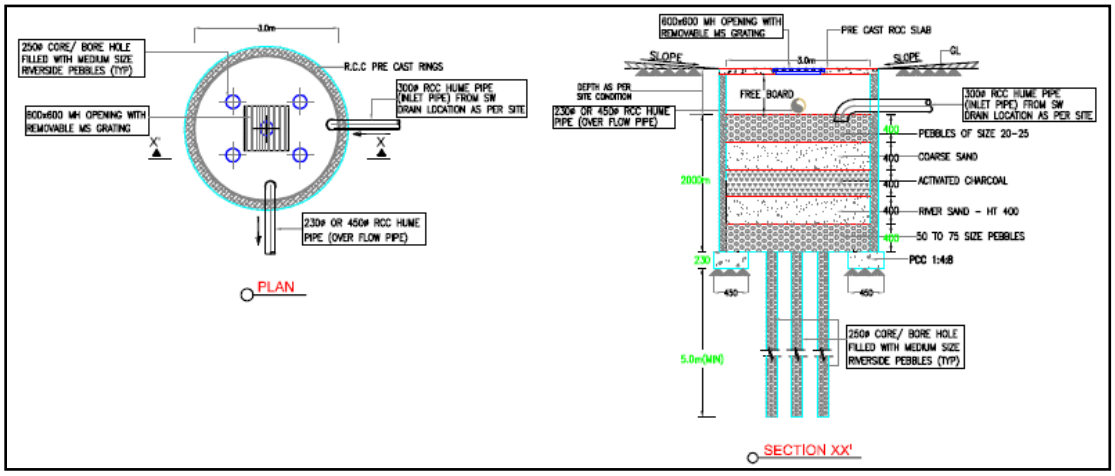
Sewage generated during operation phase will amount to 14.02 CMD which will be treated in the Sewage Treatment Plant. The treated water will be used for non domestic purposes such as gardening, flushing etc.

3] **Treatment & Disposal**:- The Domestic Effluent generated in construction phase will be disposed off in existing MCGM Sewer.

4] **Rain Water Harvesting**:- The Plot is occupied by a four CESSED category ground storey structures and One Non CESSED category ground storey structure on the plot. The said Cessed and Non CESSED category building is now proposed to be redeveloped in Ground + 1-16 Upper Floor building. The plot area considered for redevelopment of plot is 1506.70 sq mtrs, which is small. Hence roof rain water harvesting is proposed in the project. The permeable paver blocks are proposed along with 1 Recharge pits to increase the percolation of rain water into the soil rather than flowing to the drain.

*** (AS PER MOEF GUIDELINES)**

- **Percolation Pits: 1 nos. (0.5 * 0.5 * 2m)**



5] **Storm Water Discharge**:

Storm water drains will be constructed for proposed facility as per the norms. The recharge pits and Rain water recharge pits will help to reduce the runoff and reduce the load on external storm water drain.

5.4 NOISE POLLUTION

Location	Range dB (A)
	Day Time
National Ambient Air Quality Standards (For Residential Zone)	55

5.5 NOISE LEVEL MITIGATION

Sr. No.	Source	Mitigation
1.	Near Residential Areas	i] Site Barricading by corrugated tin sheets will be done to protect the surrounding area. ii) Construction Activity will be carried out during daytime only.
2.	Nearby Traffic	i] All the vehicles coming to the site will be ensured in good condition, having Pollution Under Check (PUC). ii] Smooth Roads will be maintained in a project site.
3.	Construction Equipments	i] All the equipments will be run during daytime only. ii] Lubricants will be applied to all the equipments at proper interval. Iii] Acoustic Enclosure will be provided for all the Equipments

2] It is evident from the nature of operation (i.e. Construction) that the Concentration of suspended particulate matter would be higher than the other two parameters.

3] Control of Emission: - Proper precaution will be taken to reduce the particulate matter by water sprinkling on the dry site area, barricading the periphery by corrugated tin Sheets of 5.0 mtrs height to protect the surrounding area from dusting. The pollution generated will be controlled by, allowing vehicles that will comply to mass Emission Standard (Bharat Stage –II) stipulated by

Central Pollution Control Board (CPCB)–Ministry of Environment & forest (MoEF), New Delhi. Also it will be ensured that the vehicles will carry PUC certificate. To minimize air pollution efforts shall be made by use of equipments, which area electric power driven.

5.6 SOLID WASTE

1] Normal debris, waste concrete, soil, broken bricks, waste plasters etc. will be collected properly and will be reused for land filling in the premises.

2] Total solid waste (Quantity about 74 kg per day) and organic waste (23 Kg/ day) will be segregated properly and stored in a separate bins and will be disposed off as per MCGM rules.

3] Metallic Waste and paper waste will be collected separately and will be salvaged or recycled or sold to authorized recyclers.

6. PROJECT SCHEDULE AND COST ESTIMATES

The Proposed Project is redevelopment project and will be started as soon as all government NOC's and CRZ Clearance is received to start the work. The projected Date of Start is June 2015while the date of completion will be June 2017 if everything went as per planning.

7. TRAFFIC MANAGEMENT

7.1 CONSTRUCTION PHASE

- Storage and Godown area will be properly identified.
- There will be about adequate wider space for movements of vehicles and parking.
- The area for loading and unloading will be located at proper demarcated location in the premises.
- Thus the traffic management on the project site will be easily and smoothly monitored without any hindrance to the regular flow of traffic on the main road.

7.2 OPERATIONAL PHASE

- About 33 cars per day are expected to be accommodated in the premises. The parking space will be provided under stilt / parking floors. There is ample car parking space in the building on all sides; there will be smooth movements of cars.
- There will be 6.0 mtrs wide approach road to the building from municipal road for movements of vehicles and parking.
- Traffic Management Plan system will be approved from concern MCGM Authority.
- Thus the traffic management will be easily and smoothly monitored without any hindrance to the regular flow of traffic on the main road.

8. ENVIRONMENTAL, HEALTH AND SAFETY

All the safety and security measures shall be observed at constructions site. Safety precautions will be observed as per the guidelines during the construction phase. Personal Protective Equipments (PPE) will be provided to all the personnel involved in the construction activities. The project authorities will ensure use of safety equipments for workers during execution process. The safety and security officers shall supervise the site. Proper training will be given to workers and authorities to handle the hazard situation.

8.1 SAFETY MEASURES ON SITE

1] Parameters and Quality will be strictly adhered to as per the approved architectural design data/map. All the regulations of government authorities will be followed.

2] All the safely precaution will be observed as per the guidelines during the construction phase. Personal Protective Equipments (PPE) will be provided to all the personnel involved in the construction activities.

3] Site barricading by corrugated tin sheets up to height of 5.0mtr will be done to protect the surrounding area of the project site from nuisance /dusting.

4] All electrical connections & cables will be checked by authorized persons to ensure the safety of workers on field.

5] Water sprinkling will be done, wherever required to reduce the dusting in atmosphere. Jute barricading along building / plot boundary shall be provided to minimize noise level from construction activities.

6] The safety and security officers shall supervise the site.

7] Safety helmets will be mandatory to all the persons present on the site during the construction activities

8] Hand gloves and dust masks will be provided to persons handling construction materials during the operation.

9] Safety belts will be provided to the persons working at height during the operation.

10] Safety nets will be arranged at a height at about 5.0 mtrs when the structures get raised above the required height from the ground.

9. BENEFITS OF THE PROJECT

- The proposed redevelopment will initiate redevelopment of surrounding old building.
- The surrounding area will also be developed from residential point of view.
- It will provide employment opportunities to the local people in terms of labour during construction and services personnel during operational phase.
- Modern sanitation and infrastructure facilities will have minimal impact on living condition of local people.
- The project will improve living standard and welfare of the area and local people.

SEISMIC ZONE MAP OF INDIA