EXECUTIVE SUMMARY

For

PUBLIC HEARING

OF

Proposed redevelopment of cessed property on plot bearing C.S. No. 186 & 187 of Malabar Hill Division, in D-Ward, Dongersey Road. Mumbai- 400026.



 \mathbf{BY}

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1.0 Preamble

Mumbai is the capital of Maharashtra is also the Financial Capital and the most populated city of India. Mumbai's saga of growth can be traced to the industrial revolution. Entrepreneurs with foresight set up the first textile mill in Mumbai. Favorable climate, supply of raw materials and availability of all weather port resulted in rapid growth of textile industry in Mumbai.

After independence imports dwindled and the industrial sector grew rapidly to meet local demand. Mumbai naturally attracted major number of manufacturing units and the volume for trade also grew tremendously. As a result of the rapid growth of commerce and industry, Mumbai continued to attract large number of persons seeking livelihood from all parts of the country. According to the 2011 census, the population of Mumbai was 12,479,608. Soon, the land within the city became scarce and the suburbs came into existence.

Rapid urbanization led to unplanned development and congested living conditions. A stage came when there was no more land available for housing and soon basic requirements such as parks, gardens, playgrounds necessary for healthy living disappeared. Due to scarcity of land of construction the cost of housing became so high that owning a house in Mumbai is dream for most wage earners.

In order to ease the situation Govt. of Maharashtra and the Municipal Corporation of Greater Mumbai (MCGM) brought changes in law to free the load looked up in closed industrial units for housing purposes. Such action has brought in well planned housing within reach of majority of Mumbai's residents.

2.0 Introduction to Project :

The project proponent has proposed to develop the land located at C.S. No. 186 & 187 of Malabar Hill Division, in D-Ward, Dongersey Road. Mumbai- 400026. The plot is situated in South Mumbai. As per the survey remark, the plot under reference is affected by C.R.Z. and it falls under C.R.Z. II zone. There is a single old tenanted building on the site which is in dilapidated condition and an existing multistoried residential building. The project proponent has proposed a residential development on the said plot by demolishing the structures after rehabilitating the tenants.

2.1 Project Location:

The plot under consideration is located in the 'D' Ward of MCGM. The plot is located in residential zone (R-Zone) as per sanctioned Development plan of Mumbai.

Western railway line is situated towards eastern side of the plot within 2 Kms., abuting the Dongersey Road on two sides. Ban-Ganga Kawale Math is within 1.50 km from the project site.

2.2 Site Description :

The project site is flat land. The entrance to the plot is provided from two sides of the plot from the Dongersey Road. The site is occupied by 'A' category cessed structure i.e.

constructed prior to 1940, which are in very much dilapidated condition and thus unsafe for inhabitants and non-cessed structure on the North side. NOC from MHADA is obtained.

The total available land area is 1127.93 sq. mt. of which 680.83 sq. mt. will go under road widening.

2.3 Proposal:

The project proponents have proposed to build a composite building having 4 Nos basements + Lower/upper Ground floors + 4 Podia and 5th to 21st upper floors. Basements and Podia floor levels will accommodate space for parking vehicles as per Development Control Regulations.

Project infrastructure	•	The project consists of one residential building. Configuration: 4 Nos basements + Lower/upper Ground floors + 4 Podia and 5 th to 21 st upper floors. Flats: 47 Nos.
Area Break up	:	Total plot area: 1127.93 sq. mt. Total BUA: 2595.52 sq. mt.
Vehicular Parking Details	:	4W: 70 Nos.
Total estimated cost of the project	:	` 30 C r

2.4 Landscaping and Tree Plantation:

There are existing 4 Nos. of trees which shall be retained. The project proponent has proposed a landscape development plan. Total 23 numbers of trees of various varieties will be planted.

2.5 Utility Requirements:

2.5.1 Water Requirement:

The total water requirement during construction is about 5 cu. m. per day. During construction phase the water would be made available from Tankers.

During Operational Phase -

Total water requirement: 33m³/day

(Domestic water requirement would be supplied by MCGM after completion of the project. When sewage Treatment Plant will run in full-load condition, treated sewage will be reused for Flushing ($11 \text{ m}^3/\text{ day}$). So that extra load on the MCGM water supply system will be reduced up to 52 %).

2.5.2 Sewerage :

The sewage will be collected and treated in Sewage Treatment Plant (STP). After treatment treated sewage will be reused for gardening and flushing. Excess treated sewage shall be disposed to existing MCGM sewer line.

2.5.3 Power Requirement:

Source: BEST

The total power requirement during construction is 100 kVA. Standby DG set would be provided for lifts and common services.

During Operational Phase –

Component	Capacity
Connected load	1353KW
Maximum Demand	811KW
D.G. Set	1 D.G. of capacity 100 KVA

2.6 Solid Waste:

NOC for Debris Handling and Management is obtained from MCGM. The solid waste generation due to workers dwelling on the site will be as follows:

During Construction Phase -

Garbage: 1.Biodegradable: 9 kg /day **2.Non biodegradable:** 4 kg /day

During Operational Phase -

Garbage: 1.Biodegradable: 70 kg /day **2.Non biodegradable:** 50 kg /day

Solid waste will be collected and segregated properly. Segregated biodegradable and non-biodegradable waste shall be handed over to MCGM.

2.7 Occupancy Load for the project:

The proposed occupancy load for this project is calculated as per the National Building Code (NBC) -2005 – Part 4, Page 27, Occupant Load. The detail breakup is given as follows:

Table No. 1- OCCUPANCY LOAD

Sr. No.	Building	No. of Flats	Criteria for Occupancy	Occupancy (Nos.)
	Sale			
1.	Residential	47 Nos.	5 person /flat	235

2.8 **Energy Conservation and Non Conventional Energy Options:**

- CFL lamps shall be used in the Lift and entrance lobbies.
- Energy efficient water pumps shall be used.
- Manuals will be provided to customers for use of energy efficient light fixtures & HVAC equipment.
- BMS will be provided

3.0 **Baseline Environmental Status**

3.1 **Site Topography:**

The project site is located at C.S. No. 186 & 187 of Malabar Hill Division, in D-Ward, Dongersey Road. Mumbai- 400026.

Status of the : It is located in a good locality with basic infrastructure in Area

place, having various facilities viz. educational, medical,

entertainment, economical, etc.

Terrain : Flat terrain.

Climate : The annual temperatures range from a high of 38°C (100°F)

to a low of 11°C (52°F). The record high is 43°C (108°F)

and record low is 7.4°C (45°F) on 1962-01-22.

The nearest Railway Station is Charni Road station on Western Railway and the Air Port is Chhatrapati Shivaji Terminus at Mumbai.

3.2 **Land use Pattern:**

The plot is located within predominantly residential development zone. Site is surrounded by residential and commercial establishments.

3.3 **Air Environment**

The proposed project site is located Dongersey Road which has mixed land use pattern comprising residential and commercial premises. Traffic is moderate on the adjoining road.

The following locations were selected for the ambient air quality monitoring:

Base Station	:	Project Site
Location - I	:	Near Breach Candy Hospital
Location- II	:	Near Peddar Road
Location -III	:	Near Cumballa Hill
Location -IV	:	Near Activity High School

The Ambient Air quality at the site is presented in Table below:-

Table No. 2- AVERAGE AMBIENT AIR QUALITY AT FOUR LOCATIONS AROUND THE PROJECT SITE

Period: 1st March -2015 to 31st May- 2015

Monitoring Station	RSPM µg/m ³	SO ₂ μg/m ³	NOx μg/m ³
Base Station	56	12	7
Station - I	64	14	5
Station II	72	18	10
Station III	55	10	5
Station IV	58	11	8

Values in $\mu g/m^3$ and averaged for 24 hours.

From the above results we can conclude that all the parameters are within NAAQ standards,

Table No. 3- NATIONAL AMBIENT AIR QUALITY STANDARDS

Sr. No.	Pollutants	Time Weighted Average	National Ambient Air Quality Standards G.S.R.826 (E), MoEF Notification dated 18 th November, 2009		
			Industrial and Mixed Area	Residential and Rural Area	Sensitive Area
1.	SO ₂	24 hours	80	80	80
2.	NOx	24 hours	80	80	80
3.	RSPM 10	24 hours	100	100	100

Table No. 4 - AVERAGE/ MAXIMUM AND MINIMUM METEROLOGICAL DATA

Period: March -2015 to May- 2015

Study period	Temp (°C)		Predominant Wind direction	_	Wind (km/hr)		ative lity (%)
	Max.	Min		Max	Min	Max	Min.
March 2015	32.7	20.8	NW	6.6	0.0	86.0	56.0
April 2015	33.0	23.8	NNW	6.9	0.0	88.0	59.0
May 2015	33.3	26.4	NW	7.2	0.0	80.0	62.0

The meteorological data for pre monsoon season (March to May) of Mumbai have been collected from IMD (Indian Meteorological Data) for year 2015

3.4 Noise Environment:

Noise levels were measured at different location of the study area. The observations are presented as below;

Table No. 5 - AVERAGE NOISE LEVEL AROUND THE PROJECT SITE Period: 1st March -2015 to 31st May- 2015

Sr. No.	Location	Day Time (dBA)	Night Time (dBA)
1	Base Station	71	51
2	Location - I	71	52
3	Location- II	74	54
4	Location- III	73	57
5	Location- IV	70	51

3.5 Soil Quality:

During the construction phase, ready mix construction method will be used for the construction, which will reduce stress on soil environment of the site.

During the operation phase landscaped areas and plantation will be maintained. No significant impact is expected on the soils on and around the site, by taking following precautions:

Sludge from the S.T.P. will be used as manure for landscaping. Sewage will be treated and recycled for flushing & gardening and excess treated sewage will be disposed into existing sewer line.

Existing environmental setting of soil quality will not be affected.

3.6 Water Environment:

There is no subsurface or surface water source on site. Only one tube well is present on the site which shall be retained. Permission for retaining of the same is obtained from MCGM.

3.7 Biological Environment:

There is no forest/ grazing land in the vicinity of site. Major Trees in surrounding area are Harsingar, Kadam, Ran Bhindi, Amaltas, Palms, Jack Fruit, Mulberry, Chilgoja, Indian Rubber, Custard apple, Jamun, Samal, Ashoka, Gulmohar, Satni, Shesham, Blue gum, Banyan Tree, Mango, Kanju, Papadi, Amrood, Wolly Morning Glorry, Vilayati Kikkar, Peepal, and others. The tree plantation has been developed, mainly, by individuals or the MCGM.

The birds in the vicinity include common city birds like Black Bulbul, Common Myana, Crow, Rock pigeon, Common Sparrow, Barn Owl, House Crow, Domestic Fowl and parakeets etc.

The project proponent has proposed a landscape development plan which includes about 23 trees of local varieties.

Agriculture / Livestock:

There is no agricultural activity in the vicinity of the proposed area.

4.0 Environmental Impacts Assessment & Mitigation Measures

4.1 Land Environment:

The project will help in improving the overall aesthetic value of the area as it is a planned residential development and the project proponent have proposed organized open spaces within the site. The structures are also proposed in a way which would improve the architectural value of the area.

4.1.1 Solid Waste

Construction Phase:-

There was existing residential building and structure housing old tenants which are proposed to be demolished. NOC for Debris Handling and Management will be obtained from the MCGM. The solid waste generation due to workers dwelling on the site will be 13 Kg per day which will be segregated and will be disposed suitably.

Operation Phase:-

During operation phase total 120 kg of solid waste will be generated per day. The project proponent has proposed provision for segregation & collection of bio-degradable waste and Non biodegradable waste. The segregated solid waste will be handed over to MCGM.

4.2 Air Environment:

Construction Phase:-

The project will contribute in higher dust levels during construction phase. Precautions which would be taken to reduce dust generation are mentioned as follows:

- Ready mix concrete will also reduce the trucks trips as compared to on site concrete batching point.
- Dust covers will be provided on trucks that would be used for transportation of materials prone to fugitive dust emissions.
- Water sprinkling on ground and new construction will be done at regular intervals to reduce spreading of dust particles.

After Completion:-

The proposed project will not have any direct impact on air environment after completion. To ease the traffic congestion project proponent will provide adequate car parking arrangement.

4.3 Noise Environment:

Construction Phase:

During construction phase, sources of noise pollution will be operation of machinery like compressors, compactors, concrete plant, cranes etc. as well as transportation vehicles. This will cause nuisance to the occupants of the nearby area. The project proponent has agreed to take precautions to control noise pollution as mentioned below.

- High noise generating construction activities would be carried out only during day time.
- Installation, use and maintenance of mufflers on equipment.
- Workers working near high noise construction machinery would be supplied with ear muffs/ear plugs.
- Plantation of tress will start in middle of construction phase.

Operation Phase:

The proposed project is residential development hence the only source of noise is due to plying of vehicles noise. The project proponents have proposed proper traffic arrangement which would help in reducing noise levels.

The project proponent has proposed proper landscape plan which would act as noise buffer and would reduce the noise level within site.

4.4 Water Environment:

The total water requirement during construction is about 6 cu. m. per day and after project completion the water requirement would be 33 cu. m. per day. MCGM would be supplying water after construction is completed. Considering the sewage generation of about 80% of domestic water supply and 100% of flushing water, the sewage generation would be around 25 cu. m. per day. The treated sewage will be used for gardening and flushing. Excess treated sewage will be disposed off into existing sewer line.

Also the project proponent has proposed the rainwater harvesting system with the help of recharge pits with two-fold objective viz.

- 1. To utilize rain water available on the plot in direct way or indirect way to reduce the load on water supply.
- 2. To minimize the storm water drain load avoid water logging locally as well as at city scale.

4.5 Biological Environment:

There are existing 4 Nos. of trees which shall be retained. Total 23 trees will be planted on the site. Thus after project is completed there would be more organized open space and more green cover for peoples recreation which will improve aesthetic environment.

4.6 Socio – economic Environment

The proposed project involves demolition of existing buildings and in place of it; a new residential building will be constructed. This project is a redevelopment project. There will be influx of around 35 Nos. of persons. It is a well developed area of city having all modern amenities. Civil structures, School, Colleges, Hospitals, Recreation facilities, Markets, etc. are available in the area to a reasonable degree.

Thus after project is completed there would be more organized open space and more green cover for peoples recreation which will improve aesthetic environment.

It could be seen that the overall impact on Socio-Economic Environment is positive and permanent in nature. Due to the proposed redevelopment project, existing dilapidated residential building with unhygienic environment and lack of amenities will be replaced by new housing structure meet appropriate amenities, adequate sanitation facilities as well as fire fighting and safety measures and existing single resident will get accommodated in new housing structure at the same location without any cost.

The proposed project will create employment generation for skilled and semiskilled local people during construction Phase and post project will also generate additional employment for the poor strata of society by way of maid/servants, sweepers, security guards, etc.

This project will have overall positive impact as this area will be now converted into well organized complex with green features such as rain water harvesting, additional tree plantation, etc which will have better living conditions.

5.0 Disaster management Plan & General Safety Measures

The project proponents shall be following all the safety rules and regulations as prescribed by MCGM.

5.1 Fire Fighting & Safety Measures:

Appropriate fire detection and fire fighting system will be provided at the proposed project and will confirm to the norms laid down by the concerned regulatory authority.

Fire fighting system comprising:

- Sprinkler / Standpipe System
- Fire Alarm
- Standby Power, Emergency Power & Lighting
- Control Station
- Means of Egress
- Adequate underground and overhead fire fighting tank

5.2 Seismic Environment & Precautions

As per the Seismic Zoning Map of India, Mumbai region falls under Zone - III.

The project proponent shall appoint qualified structural design consultants, duly registered with the MCGM, to ensure that the design confirms to the best practices and the prevailing IS codes.

6.0 Environment Management Plan

The Environment Management Plan would consist of all mitigation measures for each activity to be undertaken during the construction, operation and the entire life cycle to minimize adverse environmental impacts as a result of the activities of the project. It would also delineate the environmental monitoring plan for compliance of various environmental regulations. It will state the steps to be taken in case of emergency such as accidents at the site including fire.

ENVIRONMENTAL IMPACT AND MANAGEMENT PLAN FOR THE PROJECT

EMP for Construction Phase

Sr.	Environmental Component	Activity	Impacts	Precautionary measures
1	Ambient Air Quality & Noise level	 Site Clearance Excavation Construction of Structures Heavy vehicle traffic Use of DG Set Open burning of waste 	 Increased level of dust & other air pollutants Increased Noise level 	For controlling air pollution: Water Sprinkling Cover on trucks Use of RMC instead of preparing concrete at site Vehicles with valid PUC DG sets: CPCB approved low sulphur fuel For controlling noise pollution: Barricades along the periphery of the site Ear Plugs for Laborers D.G. sets CPCB approved No noisy work in night shifts Using electrically operated construction equipment
2	Water	 Use of fresh water for Construction 	• Stress on the water supply in the vicinity	• Use of tanker water for construction

		 activity / labours Wastewater generation Disposal of site Run off into SWD Water logging 	 Sedimentation, Pollution of nearby water courses Unhygienic condition for surrounding residents 	 No burden on municipal supply Provision of temporary toilets for labour Precaution to avoid water logging during construction
3	Soil	 Preconstruction and excavation debris Storage of construction material / chemicals Transportation of hazardous material Residual paints Solvents/bitumino us material etc. operation / maintenance Generation of garbage by labour 	 Loss of good fertile soil Soil erosion, Soil contamination due to mixing of construction material/accidental spillage of chemicals /oils 	 Proper and Separate storage of construction material Storage of all petroleum products on impervious layers viz. concrete Transportation, storage and handling, disposal of HW as per their guidelines and handing it over to authorized agencies. Use of electrically operated machinery Segregation of waste at Source
	Even after taking j		d to be contaminated	, it shall be removed and
4	Ecology	Site clearance, Construction of structures	 Disturbing natural flora and fauna Loss of vegetation from chemical spills from vehicles 	 Retention of existing trees Plantation of local tree species on the Periphery of site. Plantation of trees will start in mid of construction phase Regulation of vehicular trips and speed and proper maintenance of machinery
5	Safety & Hygienic Measures	Construction work Labor	 Positive impact Employment generation Safety and hygiene at site may be affected during construction 	 Adequate drinking water, toilet and bathing facilities Regular analysis of drinking water Personal protective and safety equipment will be provided First aid facility Regular health check up Regular pest control at site

	Educational and
	awareness program for
	safety measures

EMP for Operation Phase

Sr.	Environmental Component	Activity	Impacts	Precautionary Measures
1	Ambient Air Quality & Noise level	Increased vehicular trips, Use of DG sets	 Traffic congestion Air pollution Increase in noise level 	 Adequate Parking provision; well organized traffic management plan for Smooth flow of vehicles Regular PUC check-up for vehicles DG sets: As per CPCB norms, Proper Maintenance, Use of Low sulphur fuel Acoustic Enclosures for DG sets Plantation of trees will reduce air pollution and also act as noise buffer
2	Water	 Increased Demand of natural water, Generation of waste water Increased paved structure 	 Stress on existing water supply, Pollution of water bodies Increased run off from site 	 Use of water saving practices Adoption of dual flush system Rain water harvesting Plantation of less water consuming trees STP is planned and treated sewage will be used for secondary requirements like flushing and gardening
3	Land	 Solid waste generation Transportation of hazardous material Increased paved structure 	 Improper disposal of waste, accidental spillage of hazardous chemicals leads to soil contamination Increased run off from site 	 Waste minimization recovery and reuse Segregation at source for all solid waste streams Proper disposal of degradable and non biodegradable waste. Use of dried STP sludge as manure Transportation, storage and handling, disposal of HW as per their guidelines and handling it over to

Sr. no.	Environmental Component	Activity	Impacts	Precautionary Measures
				authorized agencies.Storm water drainage of adequate capacity.
	Even after taking p disposed off to authorized		ound to be contami	nated, it shall be removed and
4	Ecology	Introduction of new tree species	 Disturbing natural flora and fauna Increased exposure to anthropogeni c activities. 	Plantation of local tree species.
5	Safety & Hygienic Measures	Influx of people	 Stress on all utilities, risk and danger due to natural and manmade disaster Positive impact: Employment generation 	Emergency preparedness plan and Disaster management plan will be Prepared and explained with the help of local NGO's and surrounding people and authority

Note: Environmental Monitoring Plan will be prepared based on Environmental management Plan. All environmental parameters will be studied as and when required and based on analysis result mitigation measures will be implemented.

Hazardous Waste Management Plan:

Construction Phase:-

Environmental Management Plan for Hazardous Waste Generation

Sr. No.	Source of Hazardous Waste Generation	Mitigation Measures
1	Leakages and spillage oil or fuel	* Contaminated soil if any shall be disposed
		off to authorized disposal Site.
		* Bituminous materials /any other chemicals
		shall not be allowed to leach into the soil.
2	Residual Paints/Solvents	do

Operational Phase

Sr No		Mitigation Measures	Disposal
1.	Waste Oil from D.G Sets	-	Waste oil will be handed over to authorized recyclers.

Other hazardous wastes, if any, shall also be handled in the similar way through authorized dealers only.

CONCLUSION

The project proponents & developers M/S. HELICTITE RESIDENCY PVT LTD. have proposed development which is safety conscious, with good housekeeping and with use of environment friendly material.

We may conclude as under:-

- Ø The proposed residential building will be coming up at Dongersey road, Mumbai.
- Ø The proponents are following all Firefighting safety rules and regulations as prescribed by M.C.G.M. and CFO.
- Ø The proposed building will be designed to meet requirements of seismic zone III.
- Ø Domestic sewage will be treated in full-fledged Sewage Treatment Plant.
- Ø Rain water storage arrangement will be provided.
- Ø Ambient Air Quality of the project site will be within the permissible limit as prescribed by National Ambient Air Quality Standards.
- Ø Solid waste will be collected and kept separately for biodegradable and non-biodegradable garbage. Segregated garbage will be handed over to M.C.G.M.
- Ø Sludge that will be generated from the Sewage Treatment Plant will be used as manure.
- Ø Noise is expected to be marginally on higher side during construction phase. In the operational phase it will be mainly due to the vehicular movement but will be maintained within the prescribed limits.
- Ø No significant impact is seen on flora and fauna.
- Ø Fly-ash will be used in concrete work.
- The project will generate employment opportunities during construction stage and also during operational phase. The standard of living of local people due to employment is likely to improve, so we may say that it is positive socio-economic impact.

To summarize the project will have no negative impact on environment.
