

EXECUTIVE SUMMARY

For

PUBLIC HEARING

OF

**Plot Bearing C.S No. 887 of Worli Division, Mumbai –
400018 for**

**REDEVELOPMENT OF
SEA FACE HOUSE CHS LTD.**

2017

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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 redevelop the existing dilapidated and dangerous building on land located at Plot bearing C.S No. 887 of Worli Division, Mumbai. 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 building having 27 Society members on the site which is in dangerous and dilapidated condition, declared C-1 Category by MCGM vide Notice dt09.11.2015. The project proponent has proposed a residential development on the said plot by demolishing the existing structure after rehabilitating the existing Society members.

2.1 Project Location:

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

2.2 Site Description :

The project site is flat land. The entrance to the plot is provided from Khan Abdul Gaffar Khan Road and B.G. Kher Marg. The site is occupied by 'C-1' category declared

Dilapidated building vide MCGM Notice dated 09.11.2015. The said building is in highly corrosive and dilapidated condition and thus unsafe for inhabitants.

The total available land area is 2120.36 sq. mt. of which approx. 187 sq. mt. will go under road widening.

2.3 Proposal :

There is an existing dilapidated and dangerous building declared under C-1 Category by MCGM on the plot.

On 09.11.2015 MCGM gave Notice U/s 354 for building being dilapidated and on 06.09.2017 MCGM sent notice to vacate the existing building and also proceeded to cut water supply on 08.09.2017. Sea Face House CHS challenged the action in City Civil Court and vide Court Order dt. 13th October 2017 in Long Cause Suit No. 2119 of 2017, the Hon'ble City Civil Court was pleased to order MCGM to restore Water connection for a period of 6 months for the Developers to obtain necessary statutory permissions including CRZ NOC, etc.

The project proponents have proposed to build a composite building having Ground floors + 4 Parking floors and 5th to 28th upper floors. Ground Floor and Podium floor levels will accommodate space for one existing Society member premises and parking vehicles as per Development Control Regulations.

Project infrastructure	:	The project consists of one residential building. Configuration:- Ground floors + 4 parking floors and 5 th to 28 th upper floors. Flats: 60 Nos.
Area Break up	:	Total plot area: 2120.36 sq. mt. Total BUA : 5400 sq. mt.
Vehicular Parking Details	:	4Wheelers:105 Nos.
Total estimated cost of the project	:	Around 50 Cr

2.4 Landscaping and Tree Plantation:

There are total 6 nos. of existing trees on site which shall be retained. The project proponent has proposed a landscape development plan. Total 40 numbers of new 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 -
Considering 135litre/day per person water consumption

Total water requirement: $47\text{m}^3/\text{day}$ ($69 \times 5 \times 135$)

(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 ($37\text{ m}^3/\text{day}$). So that extra load on the MCGM water supply system will be reduced up to 75-80%).

2.5.2 Sewerage:

The sewage will be collected and treated in packaged 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 150 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: 4kg /day

<p>During Operational Phase – Considering 0.5/kg per day solid waste generation: Total solid waste generation will be $345 \times 0.5 = 172.5$ kg /day</p>	
<p>Garbage: 1. Biodegradable: 2. Non biodegradable:</p>	<p>104 kg/day 68.5 kg/day</p>

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	Max. 69 Nos.	5 person /flat	345

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.887, Worli division within limit of Greater Mumbai Municipal Corporation which has sanctioned development plan for the said area.

- Status of the Area** : It is located in a well developed locality with basic infrastructure in 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 Mahalaxmi 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 at Worli, Mumbai and accessible from the Khan Abdul Gafar Khan Road and B.G. Kher Marg.

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

Base Station	:	Project Site
Location - I	:	Worli police station
Location- II	:	Intersection of Anne Besant road, BG Khermarg, DrBhosale Marg
Location-III	:	Sambhavnath Jain Mandir
Location-IV	:	Worli Dispensary

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 July, 2017 to 30th September, 2017**

Monitoring Station	RSPM $\mu\text{g}/\text{m}^3$	SO ₂ $\mu\text{g}/\text{m}^3$	NO _x $\mu\text{g}/\text{m}^3$
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 $\mu\text{g}/\text{m}^3$ 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.	NO _x	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	Avg. Wind speed (km/hr)		Relative Humidity (%)	
	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: 1stMarch -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:

Geo-technical investigation has been carried out, report of which is attached as **Annexure I.**

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. There are total 6 nos. of trees present on the site. The said trees are of different species Horticulture report is attached as **Annexure II.** Major Trees in surrounding area are Ashoka, Vilayati Chinch, Nilgiri, Badam, Shewga, Pipal 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 48 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 is 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.

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 trees 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 47 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 37 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 total nos.6 of trees which would be retained. And new 40 nos. of local variety of trees will be planted. Thus after project is completed there would be tree cover and more organized open space 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. 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 people's 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 firefighting 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 firefighting system will be provided at the proposed project and will conform to the norms laid down by the concerned regulatory authority.

Firefighting system comprising:

- Sprinkler / Standpipe System
- Fire Alarm
- Standby Power, Emergency Power & Lighting
- Control Station
- Means of Egress
- Adequate underground and overhead firefighting 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. no.	Environmental Component	Activity	Impacts	Precautionary measures
1	Ambient Air Quality & Noise level	<ul style="list-style-type: none"> • Site Clearance • Excavation • Construction of Structures • Heavy vehicle traffic • Use of DG Set • Open burning of waste 	<ul style="list-style-type: none"> • Increased level of dust & other air pollutants • Increased Noise level 	<p>For controlling air pollution :</p> <ul style="list-style-type: none"> • 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 <p>For controlling noise pollution :</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Use of fresh water for Construction 	<ul style="list-style-type: none"> • Stress on the water supply in the vicinity 	<ul style="list-style-type: none"> • Use of tanker water for construction

		<p>activity / labours</p> <ul style="list-style-type: none"> • Wastewater generation • Disposal of site Run off into SWD • Water logging 	<ul style="list-style-type: none"> • Sedimentation, • Pollution of nearby water courses • Unhygienic condition for surrounding residents 	<ul style="list-style-type: none"> • No burden on municipal supply • Provision of temporary toilets for labour • Precaution to avoid water logging during construction
3	Soil	<ul style="list-style-type: none"> • Preconstruction and excavation debris • Storage of construction material / chemicals • Transportation of hazardous material • Residual paints Solvents/bituminous material etc. operation / maintenance • Generation of garbage by labour 	<ul style="list-style-type: none"> • Loss of good fertile soil • Soil erosion, Soil contamination due to mixing of construction material/ accidental spillage of chemicals /oils 	<ul style="list-style-type: none"> • 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 precautions if soil is found to be contaminated, it shall be removed and disposed off to authorized site.				
4	Ecology	<ul style="list-style-type: none"> • Site clearance, Construction of structures 	<ul style="list-style-type: none"> • Disturbing natural flora and fauna • Loss of vegetation from chemical spills from vehicles 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Positive impact : Employment generation • Safety and hygiene at site may be affected during construction 	<ul style="list-style-type: none"> • 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
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EMP for Operation Phase

Sr. no.	Environmental Component	Activity	Impacts	Precautionary Measures
1	Ambient Air Quality & Noise level	Increased vehicular trips, Use of DG sets	<ul style="list-style-type: none"> • Traffic congestion • Air pollution • Increase in noise level 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Increased Demand of natural water, • Generation of waste water • Increased paved structure 	<ul style="list-style-type: none"> • Stress on existing water supply, • Pollution of water bodies • Increased run off from site 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Solid waste generation • Transportation of hazardous material • Increased paved structure 	<ul style="list-style-type: none"> • Improper disposal of waste, • Increased run off from site 	<ul style="list-style-type: none"> • 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 • Storm water drainage of adequate capacity.
Even after taking precautions if soil is found to be contaminated, it shall be removed and disposed off to authorized site				

Sr. no.	Environmental Component	Activity	Impacts	Precautionary Measures
4	Ecology	Introduction of new tree species	<ul style="list-style-type: none"> Disturbing natural flora and fauna Increased exposure to anthropogenic activities. 	<ul style="list-style-type: none"> Plantation of local tree species.
5	Safety & Hygienic Measures	Influx of people	<ul style="list-style-type: none"> Stress on all utilities, risk and danger due to natural and manmade disaster Positive impact: Employment generation 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> * 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.	Source of Hazardous Waste Generation	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. SHAH ASSOCIATES & HUBTOWN LTD. CONSORTIUM** have proposed development which is safety conscious with good housekeeping and with use of environment friendly materials.

We may conclude as under:-

- The proposed residential building will be coming up at Worli Sea Face, Mumbai.
- The proponents are following all Firefighting safety rules and regulations as prescribed by M.C.G.M. and CFO.
- The proposed building will be designed to meet requirements of seismic zone III.
- Domestic sewage will be treated in full-fledged Sewage Treatment Plant.
- Rain water storage arrangement will be provided.
- Ambient Air Quality of the project site will be within the permissible limit as prescribed by National Ambient Air Quality Standards.
- 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.
- Sludge that will be generated from the Sewage Treatment Plant will be used as manure.
- 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.
- No significant impact is seen on flora and fauna.
- 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.
