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1. INTRODUCTION

1.1 PROJECT AND PROJECT PROPONENT

1.1.1 Project Site

The proposed project admeasuring about 112.90 sq.mt. plot area located on plot bearing CTS No. C-239 of Village Bandra, Taluka – Bandra, Dist. Mumbai, by Mr. Kiran Narendra Chimbaikar.

1.2 PROJECT PROPONENT

Mr. Kiran Narendra Chimbaikar is the Owner of the plot and has acquired the same through inheritance and as the structure has collapsed partly and is declared unsafe for inhabitation, he has to re-develop the property by pulling down the existing structure which was existing prior to 1961-62, by constructing the area equivalent to its existing area. The same is constructed as his residence.

Mr. Kiran Narendra Chimbaikar, entrusted **M/s. Saachi Associates,** to prepare conceptual plan for the proposed Residential Building.

2. PROJECT DESCRIPTION

2.1 LOCATION

The proposed project admeasuring about 112.90 sq.m. located on Chimbai Road, which connects Krishna Chandra Marg (Hill Road) to Turner Road. It is situated in Residential Zone.

TABLE 2.1

ENVIRONMENTAL SETTING OF THE PROPOSED PROJECT

Sr. No.	Particulars	Details
1	Present land use at the proposed site	Residential
2	Nearest Highway	Western Express Highway 4.50 km
3	Nearest Railway Station	Bandra 3.25 km
4	Hills/Valleys	Nil within 10 km radius
5	Ecologically sensitive zones within 15 km distance	Nil within 10 km radius
6	Historical/Archaeological places	Nil within 10 km radius
7	Industries/Industrial area	Nil within 10 km radius
8	Seismic Zone	Zone – IV

2.2 PROJECT DESCRIPTION

The proposed project is the development of residential building on plot bearing CTS No. C-239 of Village- Bandra, Taluka – Bandra, Dist. Mumbai, by Mr. Kiran Narendra Chimbaikar.

Fig 2.1 Google Image of the Project Site

2.2.1 Building Details

The total plot area of the proposed project is 112.90 sq.mt. The proposed development comprises of 1 building. Building details is shown in table-2.4.

TABLE - 2.2 PROPOSED BUILDING DETAILS

Sr. No.	Project Requirement	Details
1	Name of the project	Residential Building
2	Type of the project	Residential
3	Location	CTS No. C-239 of Village- Bandra, Taluka – Bandra, Dist. Mumbai.
4	Developers	Mr. Kiran Narendra Chimbaikar
5	Plot area	112.90 sq.mt.
6	Landscaped Green Area	NIL
7	No. of Buildings	1 building
8	Expected Population	35 Nos.
9	total water requirement	5 KLD
10	Waste water generated	1 KLD
11	Solid waste generated	1.33 K/Day
12	Total Power requirement	25.00 KW
13	D.G. set Requirement	NIL
14	Total Project Cost	80 Lacs.

2.3 INFRASTRUCTURE AND UTILITIES

2.3.1 Locational Advantages

Table 2.3: Locational Advantages

Site	Name
Nearest Highway /Express Highway	Western Express Highway
Nearest Railway station	Bandra
Nearest Hospital	Leelavati & Holy Family Hospitals at Bandra.
Nearest School	Carmel Convent, St. Stanislaus, St. Josephs, AVM, St. Andrews Schools at Bandra
Nearest College	Rizvi & Andrews Colleges at Bandra
Nearest Market	Bandra

2.3.2 Water Supply and Sewerage System

2.3.2.1 Construction phase:

Water requirement: 1 m^3/day

2.3.2.2 Operation phase:

Table 2.5: Water Requirement

Sr. No.	PARTICULARS	TOTAL
5	Domestic Water Requirement (cum/ day)	2.00
6	Flushing Water Requirement (cum/ day)	1.00
7	Total Water Requirement (cum/ day)	3.00
8	Landscape Water Requirement (cum/ day)	NIL

3. ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

3.1 AIR EMISSIONS

Air emissions have no boundaries and can migrate from area to area depending upon the wind direction and speed. The sources of air emission can be grouped into three categories of point, area and line sources.

- A point source is a single source of emission with an identified location, such as an industry.
- An area source is when the sources of emission are widely distributed point sources having relatively comparable significance.
- A line source is when the sources of emissions from a number of fixed or moving facilities have relatively comparable significance, such as roads.

3.1.1.1 Construction Phase:

During the construction phase, SPM is expected to be the main pollutant associated with on-site roads (paved and unpaved), stockpiles and material handling. In this case, pollution emission sources are distributed throughout the project site and shall fall under the category of area source. The land acquired is fairly flat, so extensive formation work is not expected during this phase. Surplus excavated material shall be disposed to the approved municipal dumping site.

Due to the confined nature of construction activity during this limited period, tailpipe emissions from construction equipment are assumed to be essentially negligible.

At the time of construction, by adopting control measures, dust generation can be brought down by 85-95%. Thus, the dust emission factor given above has been reduced by 90% to arrive at the expected emissions from the site due to construction activity.

3.1.1.2 Operation Phase

During the operation phase, major air pollution source will be due to D. G. set emissions within the project site. Stacks of sufficient height will be provided for DG sets as per CPCB norms.

Sr. No.	No. of D. G. set	Capacity	Stack height (m)
1	1	400 KVA each	8m.

3.2 NOISE EMISSION

3.2.1 Construction Phase

Sources of noise emissions are expected from various construction equipments. General noise levels generated from the operation of equipment and machinery.

3.2.2 Operation Phase:

During the operation phase of the project, major sources of noise pollution are expected to be from use of construction machinery and equipments only. Vehicular traffic is minimal as the road width is less. Hence the vehicular traffic pollution will be minimal.

- The D.G. Sets will be only when the construction machinery will be used for lifting or transporting material or in case of emergency. Proper acoustic enclosures will be provided for avoiding any noise problem.
- The expected noise level from proposed project would be much less than the statutory requirement i.e., less than 65 dB (A) during day time and 55 dB (A) during night time.

Vehicular parking is not provided in the plot, however there is throughfare on the said road where the noise levels are expected to increase substantially during the morning and evening hours. Honking of vehicles would be a major form of pollution.

3.3 WASTEWATER GENERATION

3.3.1 Construction Phase:

Wastewater generated during construction is negligible. Also, there will be no labor camps, as the plot size itself is very small and cannot accommodate these labor camps. However, toilet for labourers will be provided and the waste shall be discharged into the existing municipal Sewer. Also, use of common public toilets available in the vicinity shall also be encouraged. The site manager shall ensure that in no circumstances, open defecation in and around the site by labor or their children is carried out.

3.3.2 Operational Phase:

The supply of required water will be achieved from MCGM & recycled water. Waste Water generation estimated to be 1m^3/day.

Sr. No.	Source of waste water generation	Qty.	Mitigations
1.	Domestic	0.65 m^3/day	1 m^3/day STP will be provided.
2.	Flushing	0.35 m^3/day	

3.4 SOLID AND HAZARDOUS WASTE GENERATION

Waste quantification [from manual on Municipal Solid Waste Management by Central Public Health and Environmental Engineering Organization (CPHEEO)] and characterization exercise is being carried out to estimate the quantum and type of waste that would be generated by different activities due to proposed project during construction and operation phase.

3.4.1 Construction Phase:

During the construction phase, a considerable quantum of waste generated at the project site would be inert waste, which largely comprises of clay, sand, gravel, untreated wood, concrete, asphalt, pipes, conduits, light steel material, stone, bricks, plastic, paper, metal and glass. Technology Information, Forecasting, and Assessment Council (TIFAC) estimated waste generation during construction and demolition operations is 40 - 60 kg/m^2 and 300 - 500 kg/m^2 respectively. The expected solid waste generation from the construction is about 0.50 M.T in the form of excavated earth murum. Waste generated from construction activity includes construction debris, biomass from land clearing activities, waste from the labour camp, and hazardous waste. Following section discusses management of each type of waste. Besides, management of topsoil is an important area for which management measures are required.

Top Soil Management

In this case, there is no availability of top soil as the entire plot is covered with an existing dilapidated building which is to be pulled down and a new building is to be re-constructed. Hence, there is no top soil which can be conserved.

3.4.2 Operation Phase:

Waste quantification has been carried out based on the activities proposed in the project master plan. About 90% of waste from the site during operation phase would be from domestic sources.

Waste from open spaces and garden is NIL as there will be barely minimal open space of 1.50mts. all around as the plot is very small. Hence there will be no waste generation.

Table 3.7: Solid Waste Generation during Operation Phase

SOLID WASTE	AMOUNT	Mitigation
Biodegradable	0.1 TPD	Handover to BMC for proper disposal.
Garden Waste(15kg/Acre)	NIL	
Non biodegradable	NIL	Handover to BMC for proper disposal.
Sewage Sludge (TPD)	0.1 TPD	Handover to BMC for proper disposal.
Total solid waste	**0.2 TPD**	

4. ENVIRONMENTAL MANAGEMENT PLAN

Preparation of Environmental Management Plan is a must to fulfill bifocal aspect of the statutory compliance as well as that of social concern.

4.1 Air Environment

- Monitor the consented parameters for ambient air, regularly.
- Monitor the stacks.
- Green Belt development

4.2 Water Environment

- Keep record of input water every day for quantity and periodically of quality.

4.3 Solid Waste

- Monitor soil environment. (Water, groundwater, leakages, air, soil, up-gradient-down-gradient, upwind-downwind)
- Storage on raised platform

4.4 Noise Environment

The Project will generate noise from various locations like -

- Diesel Generator
- Regular maintenance of equipments to minimize noise pollution.

4.5 Green Belt Development

As the plot is only 112.90 sq.mts., it is not possible to provide any Green Belt and also as per regulations plot less than 1000 sq.mts., no green belt is required to be provided and hence not provided.

5. PROJECT BENEFITS

5.1 IMPROVEMENT IN THE PHYSICAL INFRASTRUCTURE:

The project is re-construction of existing dilapidated building which is required to be pulled down as per the notice received by the Owner. Hence, as the new building will be constructed in lieu of the existing dilapidated building, certainly there will be improvement in the physical environment. The project will be provided with adequate/ sufficient infrastructure. A well designed drainage system will ensure that there is no leakage and all the sludge and effluents are discharged into the Municipal Sewer existing nearby. Also, provision will be made to drain of the rain water and not cause any flooding during the rainy season. Moreover, total construction will be completed in the scene of earthquake resistance.

5.2 IMPROVEMENT IN THE SOCIAL INFRASTRUCTURE:

The project is for re-construction of existing residential building having an area as is existing at present only. No further additional area is possible to be consumed on the said plot. However, there will be better quality of air and hygienic conditions will be provided as atleast 1.50mts. of open spaces will be provided all around in lieu of existing zero open spaces. Hence, due to better quality of living, it will attract the people for living. So there will be some changes in the social infrastructure. These facilities will improve the social infrastructure of related area.

6. RISK ASSESSMENT & DISASTER MANAGEMENT REPORT

6.1 RISK ASSESSMENT

Risk Assessment study covers the following:

- Hazard Identification
- Hazard Unit Identification
- Causes of Risks/Hazards
- Recommendations on the minimization of the worst accident possibilities

6.2 RISK MANAGEMENT

In case of Explosion

The following measures and actions are to be taken:

- Evacuate the area in vicinity;
- Take all necessary actions to avoid escalation of the accident;
- If problem appears to be out of control, call fire brigade and police. Report to district collector, etc.; and
- Provide first aid to the victims as suggested in the Material Safety Data Sheets.
- Spillage due to storage tank rupture or tanker failure

6.3 DISASTER MANAGEMENT PLAN

The Disaster Management Plan (DMP) states here the line of authority.

Security Staff: The security staff will be trained in Do's and Don'ts, during disaster situation.

6.4 SAFETY MANAGEMENT

The Project (directly or through contractors) will provide personnel with all necessary and approved safety equipment, and provide training in its use, as required by regulations and workplace conditions. Health and safety personnel will have an appropriate level of education, training and experience.

The Project will develop key safety programs for all phases of construction and operation. This will include a comprehensive incident and accident reporting system. Safety meetings, inspections and audits will be tracked and managed, as well as corrective actions and time lines by those responsible.

7. CONCLUSION

Mr. Kiran Narendra Chimbaikar is constructing the new building for himself and his family members and hence he will taken into account all precautions and construct the new building keeping in mind the safety conscious and alert about construction project and environment friendly.

We may conclude as under:

- The proponents would be followed all the safety rules and regulations as prescribed by Ministry of Environment and Forest, Government of India and M.P.C.B.
- Wastewater will be treated in S.T.P. Treated water from S.T.P. will be used for flushing at maximum extent and remaining will be discharge to municipal sewer line.
- Ambient Air Quality of the project site will be within the permissible limit as prescribed by National Ambient Air Quality Standards.
- Noise is expected to be on higher side during construction phase. In the operational phase it will be only due to the machines.
- No significant impact is seen on flora and fauna.
- The project will generate employment opportunities during construction stage and also at operational phase. The standard of living of local people due to employment is likely to be better, so we may say that it is positive socioeconomic impact.
- In short we can say that this project has no negative impact on environment.