

EXECUTIVE SUMMARY
REDEVELOPMENT OF RESIDENTIAL
PROJECT

AT

C.T.S. NO. C/1615, OF VILLAGE BANDRA,
OFF BANDRA ROAD, BANDRA (WEST),
MUMBAI

BY

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Mumbai the capital of Maharashtra is also the financial capital and the most populated city of India. Mumbai has grown in recent decades for many residential and commercial developments. Diminishing of Industrial zones and development of corporate offices, mall culture in very short period is one of the features of today's Mumbai.

The Mumbai has many old, dilapidated structures. They are very unsafe to retain. Many of them are in CRZ zones. Development of those by rehabilitating those tenants along with development of new flats to compensate the development charges will not be possible if extra FSI is not used. Because of CRZ conditions the FSI restriction makes those structures unattended. But because of New CRZ notification 2011, it is possible to compensate the rehabilitation cost by developing these structures. The one of such project of unsafe, dilapidated building of residential use as declared dilapidated structure is discussed here.

1. INTRODUCTION TO THE REPORT

The proposal is for redevelopment of plot bearing C.T.S. No. C/1615, of Village Bandra, Off Bandra Road, Bandra (West), Mumbai and thereby obtain CRZ-Environmental Clearance as per clause 33(6) of DCR – 1991 in force as on today.

The plot bearing C.T.S No. C/1615, of Village- Bandra, Carter Road, Mumbai has dilapidated building of Ground + 2 upper floors as declared dilapidated and dangerous by MCGM vide notice u/s 354 of MMC Act vide no. HW/BF/F.O. 95/D.O. II / 354 / 04 of 2015 dt.20.11.2015, served to the owner Smt. Nina Bagai Hajela. Therefore, this plot on which dilapidated structure exists, will be allowed benefits of DCRs as in force as on today, in view of clause 8 V (c) of CRZ-2011 and order passed by the Honl High Court. Accordingly, 100% TDR is proposed on this plot admeasuring 754.20 sq mtrs. Therefore, FSI consumed in this proposal is of FSI 2 (Including full

TDR) on plot plus Fungible FSI, thereby giving total BU area of 1508.40 sq mtrs on plot without fungible FSI and 2036.01 sq mtrs with Fungible FSI on plot.

The Plot is situated in Residential zone and is not affected by any reservations for the public purpose as per both of these development plans, but is abutting to Designated Play Ground & Parsi Orphanage.

The existing user of the old building is residential and the plot is occupied by existing Ground + 2 upper floors structure and is owner occupied. The developer has proposed new residential building under DCR 33(6) of DCR 's as in force as on today in view of the dilapidated structure redevelopment as per clause 8(V)(C) of CRZ-2011, for better and comprehensive planning.

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 the date of granting approval and staircase/ lobby/ lift area is claimed free of FSI, as per clause 35(2)c of DCR 1991. 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.

The plans of 1.00 FSI are approved under IOD no. CHE/WS/1570/H/337(NEW) dated 25.01.2016 for residential building. The Proposal has also received the NOC from MCZMA for CRZ point of view in the 113th MCZMA meeting dated 8th to 11th August 2016 for 1.00 FSI. The proposal was cleared by MCZMA as per clause 8(V)(1)(a) of CRZ 2011 notification, by granting only 1.00 fsi. **The same proposal is resubmitted for the other** allowed benefits of DCRs as in force as on today, in view of clause **8 V (c)** of CRZ-2011 and order passed by the Honl High Court.

The subject plot is situated on the landward side of existing Carter Road and as well as on the landward side of existing authorised buildings. The existing road are in existence prior to 19/2/1991,

as may be seen from CZMP of the area. The proposal attracts provision of MoEF notification amended up to date.

Current development thus will help the existing tenants/ occupants to get permanent, safe accomodation in place of unsafe building. The old dilapidated structure is now proposed to be developed into one building, comprising of Basement + Ground floor/ stilt + 1st parking floor +2nd service floor + 3rd to 12th upper floors for residential use including refuge area

2. DESCRIPTION OF THE PROJECT

2.1 NATURE OF THE PROJECT

This is a proposal for development of residential building situated at

C.T.S No. C/1615, of Village- Bandra, Carter Road, Mumbai in CRZ-II belt, as the same is situated within 500 mtr. from Arabian Sea. The proposal is for redevelopment of dilapidated residential building, which is situated on the landward side of **existing Carter Road in existance prior to 19/2/1991, as may be seen from CZMP of Mumbai as well as old 1967 DP of Mumbai.**

2.2 SIZE OF THE PROJECT

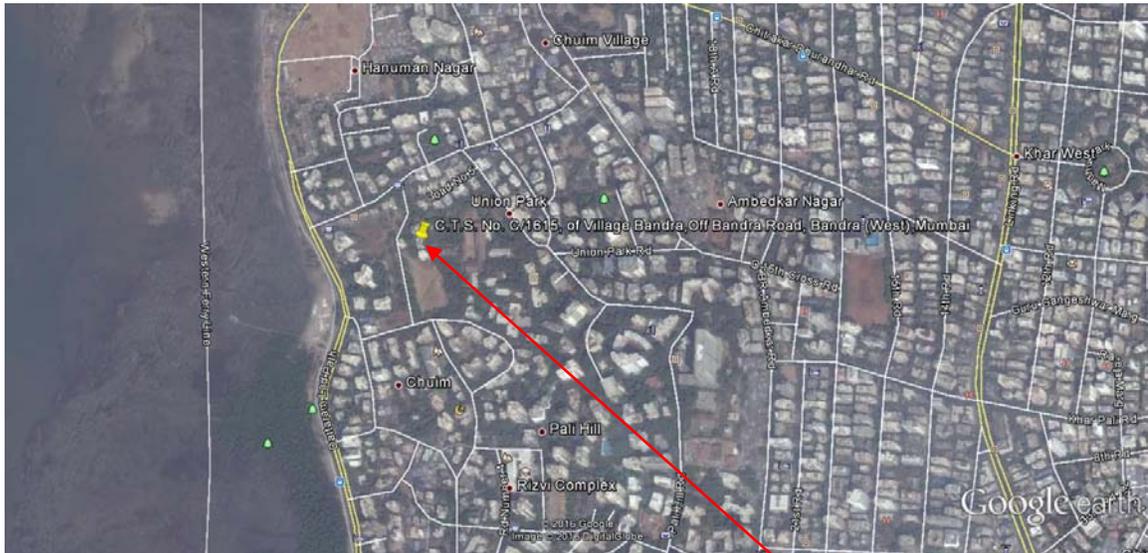
Area of the plot is 770.90 sq mtr. Cost of the Project is Rs.117,22,65,000/-- (One Hundred and Seventeen Crore Twenty Two Lakhs Sixty Five Thousand Only), including the land cost.

2.3 LOCATION

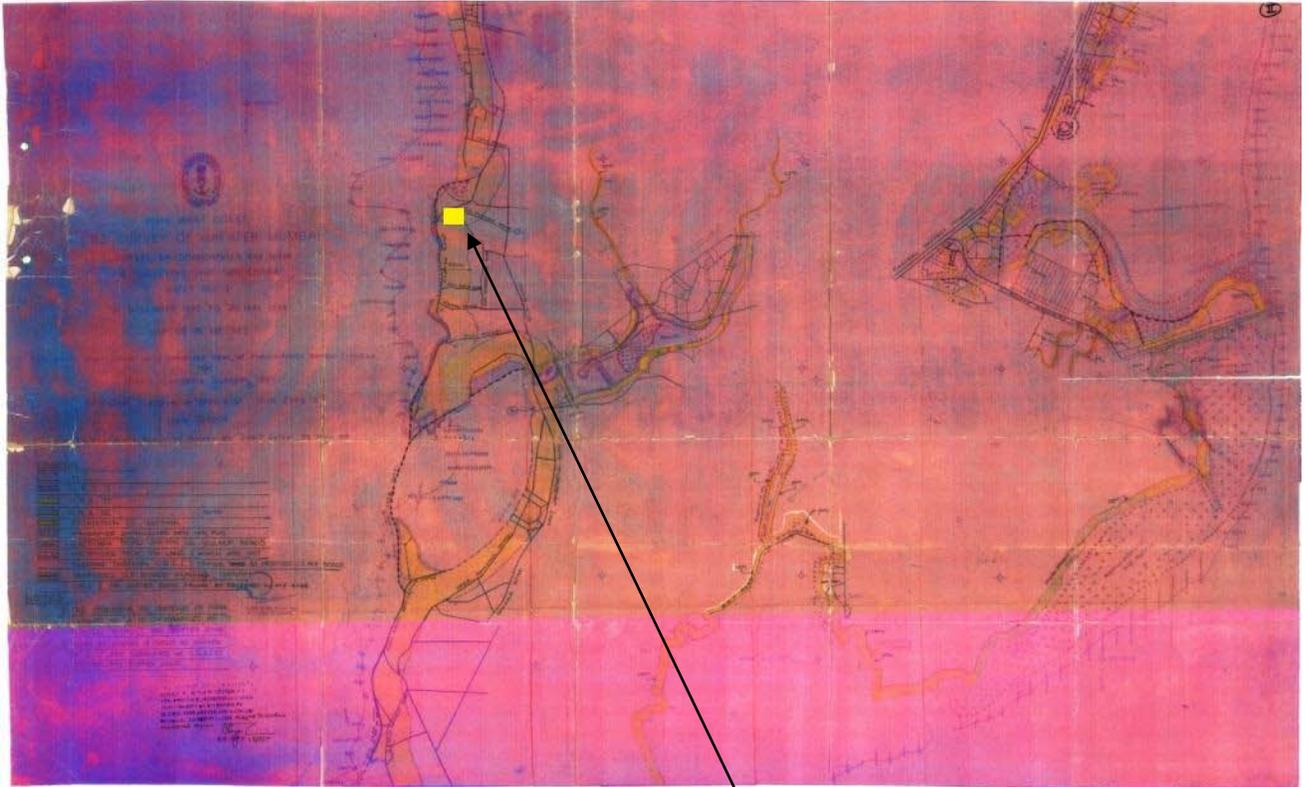
The C.T.S No. C/1615, of Village- Bandra, Carter Road, Mumbai, is in the suburban part of the Mumbai city.

The nearest station is Khar Road railway station located on western line at about 2.50 km from the site. The nearest bus stop Shirley Gaothan Bus Stop, which is 500 meters away from the site.

Google Earth Image of the site



SITE UNDER REFERENCE



SITE UNDER REFERENCE

CZMP Plan showing location of reference Plot

2.4 SITE DESCRIPTION

The site under reference is affected by CRZ-II zone and the property fall landward side of the existing Carter Road which is reflected in CZMP plan. 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 in CRZ is 770.90 sq. mtrs. and the same area will be used for construction activity.

Town / Tehsil	: Mumbai
District	: Mumbai Suburbs
State	: Maharashtra
Latitude	: 19° 04'13.15"N
Longitude	: 72°49'27.08"E

2.5 PROPOSED DEVELOPMENT

2.5.1 AREA

A	Area Statement	Total (in sq.mt)
1	Area of plot as per survey	770.9 m ²
	Area of plot as per PRC	754.20 m ²
2	Deductions for	
	a) Road set back area	0.00 m ²
	b) Any reservation	0.00 m ²

	c) Other	0.00 m ²
	d)Total Area	0.00 m ²
3	Balance Area of plot (1 -2)	754.20 m ²
4	Total Deductions for 15% Recreational Ground	0.00 m ²
5	Net area of plot	754.20 m ²
6	Additions for FSI	
	2(a) 100%	0.00 m ²
	2(b) 100%	0.00 m ²
7	Total area of plot (5 + 6)	754.20 m ²
8	FSI Permissible	1.00
9	FSI Credit available by development right (Restricted to 40% of balance area of plot)	0.00 m ²
	9a) 0.50 FSI as per DCR 32	377.10 m ²
	9B) 0.50% As per DCR 33()	377.10 m ²
	9C) Other Set back area + TDR	0.00 m ²
	Total (a+b+c)	754.20 m ²
10	Permissible Floor Area	1508.40 m ²
11	Proposed Floor Area	1508.31 m ²
12	Existing Built up Area	0.00 m ²
14	Excess Balcony Area taken in FSI	8.62 m ²
17	Total Built up Area Proposed	1508.31 m ²

18	Consumed FSI	1.79
19	Details of FSI Availed as per DCR 35 (4)	
1.	Fungible BUA component permissible vide DCR 35(4) for purely Residential =OR < (B1 x 0.35) As per High Authority Approved	527.79 m ²
2.	Fungible BUA component permissible vide DCR 35(4) for Non Residential (- x 0.20) =OR < (B2 x 0.20)	0.00 m ²
3.	Fungible BUA component proposed vide DCR 35(4) for purely Residential (- x 0.20) =OR < (B2 x 0.20)	527.79 m ²
4.	Fungible BUA component proposed vide DCR 35(4) for Non Residential (- x 0.20) =OR < (B2 x 0.20)	0.00 m ²
5.	Total Fungible BUA vide DCR 35(4) =(C3 +C4)	527.79 m ²
6.	Total Gross BUA Proposed (14 + C5)	2036.10 m ²
Parking Statement		
	Required Parking	13 Nos

	Provided Parking	13 Nos
	Building Structure	Basement + Ground Floor + 1 st to 12 th upper floors
	Height of Building	52.80 meters

PROJECT DEVELOPMENT DETAILS

Proposed development		
1	Existing Structure	Ground Floor + Two upper floors
2	Structure of Building	Basement + Ground floor/ stilt + 1 st parking floor +2 nd service floor + 3 rd to 12 th upper residential floors.
3	Tenements existing	01 nos.
4	Tenements proposed	04 nos. (Rehab + Sale Component)
5	Height of Building from Ground level	52.80 Meters
6	Parking required as per MCGM	13 nos.
7	Parking provided	13 nos.
8	Emergency Power supply (D.G. Nos. x KVa	1 no. 35 KVa
9	Area required for D.G sets	5 sq. mt
10	Salient features of the project	

	<ul style="list-style-type: none"> • 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
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2.5.2 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 m³/Day	Loss m³/Day	Effluent m³/Day
1.	Construction Activities	30	30 (Tanker consumption)	Nil
2.	Domestic (50 Site Workers)	5	1	4
Total		35	31	4

Anticipated Impacts-

- Increased water demand during construction phase for site preparation, water spraying for dust suppression, for construction activities, curing, domestic and other water requirements for labour and staff onsite
- Waste water disposal by construction labor and staff can lead to pollution.
- Water logging creates unsanitary conditions and mosquito breeding at site

Mitigation Measures –

- Wastage of water used for construction curing shall be avoided
- Proper management of channelization of water to avoid water logging at site.

Water Balance (Operation Phase)

Sr. No	Component/Head	Occupant load	Water Requirement		Remarks
			m ³ /day		
			Domestic	Flushing	
11	Total residential population	28	2.52	1.26	@ 90/45 lpcd
2	Total non residential population	28	0.56	0.7	@ 20/25 lpcd
3	Total Quantity of Water Required	5.04 CMD			For a total population of 56 Nos.
4	Car washing	0.09 CMD			(13 cars (@ 7L per car)

5	Total Grey Water Generation	2.43 CMD	The sullage generated on site will be treated in compact grey water treatment plant of capacity 3.00 CMD
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* - Floating population consists of drivers, servants, security personnel, etc.

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: 0.23 MW

The electricity supply will be available from BEST/ TATA Undertaking.

iii) FUEL**DURING CONSTRUCTION PHASE**

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

All the equipment are electrically driven except JCB, poclain, 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 28 persons residing in the building, and 28 will be non residential staff including drivers, security, building maintenance staff, etc.

3. 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.

3.1 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	1208	River bed	Nil
2.	Aggregate	CUM	2686	Quarry	Crushing
3.	Standard Bricks	Nos.	972	Red Soil	Heating, Moulding
4.	Timber	M.T	44	Forest	Cutting & Trimming
5.	Construction Waste	Kg/ Day	83	-	-

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.

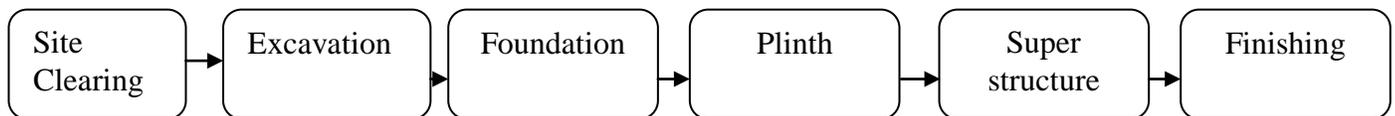
3.2 LIST OF EQUIPMENTS

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

Sr. No.	Equipments	Numbers	Operation	Duration
1.	JCB, 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

3.3 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 mtr 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.

4. ENVIRONMENTAL CONCERNS

4.1 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 ($\mu\text{g}/\text{m}^3$)	100 ~ 200	200	80-100	150-200
RSPM ($\mu\text{g}/\text{m}^3$)	50 ~ 100	100	20-30	50-100
SO ₂ ($\mu\text{g}/\text{m}^3$)	50 ~ 80	80	10-15	10-15
NO _x ($\mu\text{g}/\text{m}^3$)	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.

4.2 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.

4.3 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

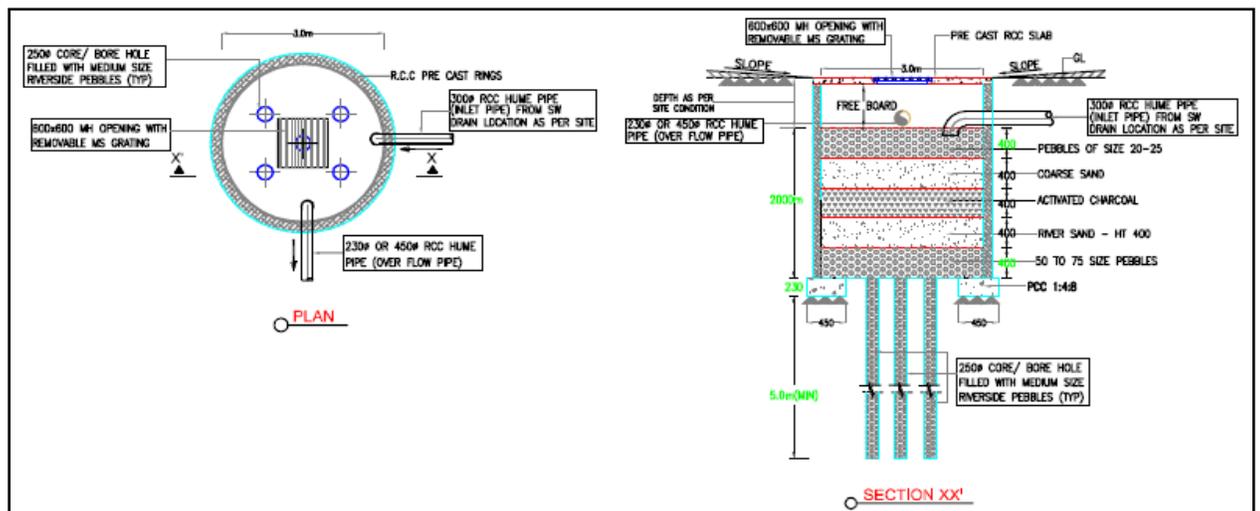
time. All the construction activities are physical in nature. The Domestic Effluent will be generated due to the persons working on the site who will require water for drinking, cleaning, bathing etc.

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 already covered with dilapidated Ground floor + Two upper floor structure and same will be developed in Basement + Ground floor/ stilt + 1st parking floor +2nd service floor + 3rd to 12th upper residential floors. The plot area is 770.90 sq mtrs, which is very small. Hence roof rain water harvesting is proposed in the project. The permeable paver blocks are proposed along with 1 Recharge pit to increase the percolation of rain water into the soil rather than flowing to the drain.

* (AS PER MOEF GUIDELINES)

- **Percolation Pits: 1 no. (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 run off and reduce the load on external storm water drain.

4.4 NOISE POLLUTION

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

4.5 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 –IV) 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 are electric power driven.

4.6 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 28.00 kg per day) and organic waste (8.62 Kg/ day) will be segregated properly and stored in 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.

5. 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 December 2017 while the Date of completion will be December 2020 if everything went as per planning.

6. TRAFFIC MANAGEMENT

6.1 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.

6.2 OPERATIONAL PHASE

- About 13 cars per day are expected to be accommodated in the premises. The parking space will be provided in basement and 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.

7. 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.

7.1 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 5.0 mtr 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.

8. 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

