TEXTILE MUSEUM AT INDIAN UNITED MILL 2 & 3

By

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A REPORT

Submitted in partial fulfillment of the requirements for the degree of Bachelor of Architecture.

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AIKTC
SCHOOL OF ARCHITECTURE

CERTIFICATE

This is to certify that the Design Dissertation titled **TEXTILE MUSEUM AT INDIAN UNITED MILL 2 & 3** is the bonafide work of the student **ROOHI POKAR** from Final Year B. Arch of AIKTC School of Architecture and was carried out in college under my guidance.

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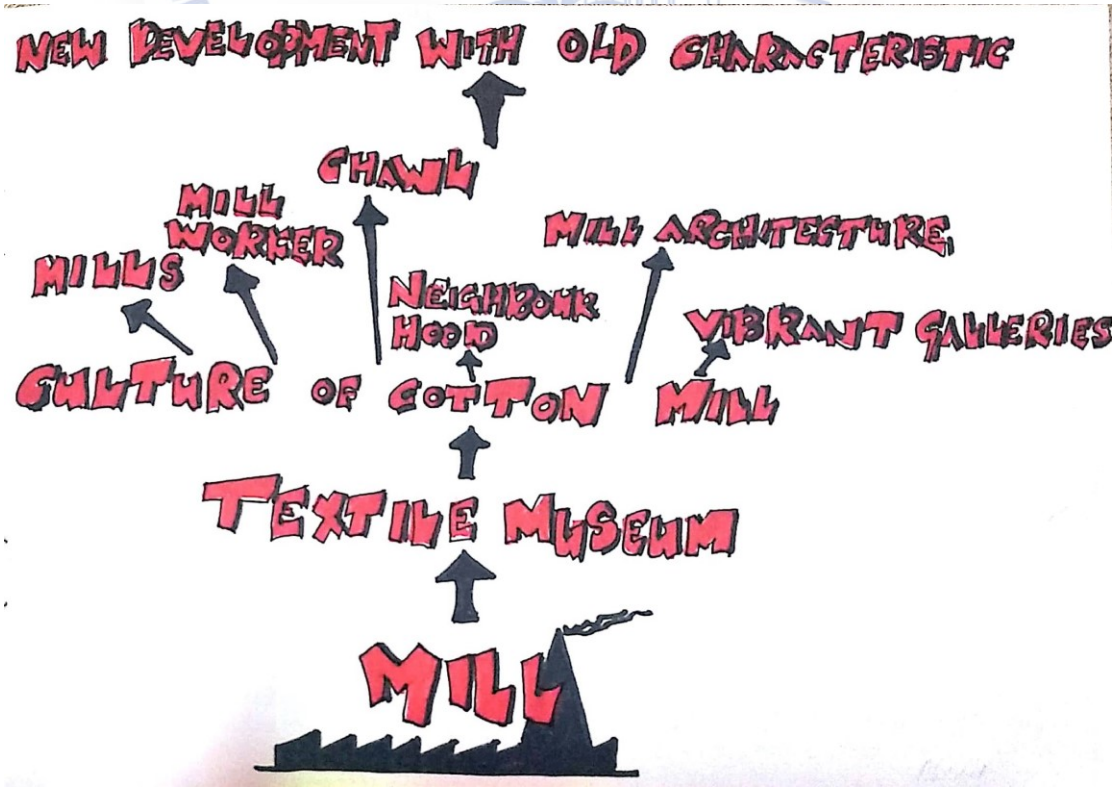
ABSTRACT

Around 19th century A port city '*Mumbai*' transformed to *'City of textile mills'* century which boased city economy. *'Land of mill's', 'Mill village', 'Girgaon'* was characterised by Industrial architecture. 600 acres of south bombay belongs to the textile era of the city with more than 58 mills. And today, the textile mill land of the bombay is being transformed into elite bussiness and leisure ,a new oasis. In the old industrial land of south bombay, gleaming highrise now compete with chimney stacks in the urban skyline. The city skyline is commanded by towering skyscapper not by smoking chimney's. The social fabric of girgaon has collapsed and the physical artifacts and land of the industrial city are been dismantled.

In the historic heart of Parel any new building built must reflect its very special context of Girgaon and connected life of people. Old existing mill structures are not only memorable and valuable enough to merit inclusion on the heritage list , but also stout enough to be recycled as work places for fashion designers studios for artists ,computer software engineers ,young graduates etc thus this thesis tries to come into being a new centre for Mumbai in the heart of the city with its own distinctive character, vitality and ambience – a centre which adds another dimension to this vital metropolis. An idea to preserve old mill architecture in form of new development of textile museum which will keep the culture of cotton mill alive.

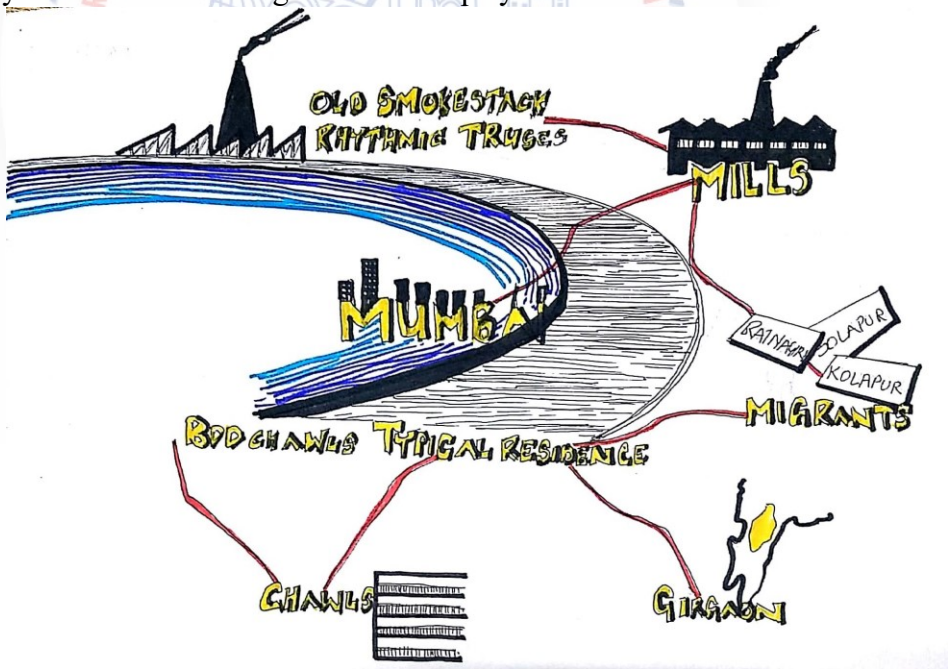
To bring the mill culture alive in this textile museum to showcast the history of city's textile industry .To convert the defunct mill into a sprawling textile museum and recreational spaces .To document the naration of life of the mill,the life of the mill workers ,their chawls , and the longer influence of mills on the city's growth. A representation of textile Bombay in this Mumbai's textile museum.



2.1 INTRODUCTION

Mumbai is a concept, not just a city, a dream cherished by millions of citizens. Mumbai is considered as an organic city. It was built, transformed and developed by a number of reclamation projects and temporary policies. A fishing village –A trading post –A manufacturing centre – and now is the financial hub for the entire nation. Dynamic – always able to adjust to the times , to grab new opportunities to survive. Entirely a mixed use settlement where place of residence, commercial , retail shops , industries ,public places, public utilities ,place of work, transportation, educational districts ,open spaces etc. exist together. This is the reason for its vibrant character.

The genesis of the textile and other industries can be traced back to the mid – 18th century. In mid - 1860s with the american Civil War in 1861 ,Cotton boom began , and by 1865 spinning and weaving mills started to set up. The textile industry ,offered many incentives in terms of long leases extending to 999 years ,not only shaped the economic history of the city but even more importantly boasted economic growth and employment .



Girgaon ,village of the mills .'*Girangaon*' is a Marathi word for '*Mill village'* or the mill precinct was characterised by *Industrial architecture*. People continued to pour into the city in search of job opportunity ,migrants often came without their families and settled close to the mills .

Over a century and a half ,Girgaons unique ethos was created by generation of labourers. The pathos of their life styles inspired a plethora of moving literature and poetry. Their shared joys manifestated themselves in song and dance during family celebrations and the annual ganpati festival for which girgaon is still famous .The mill workers entertainment covered various creative forms comprising lavni , drama , tamasha , bhajans , and pawadas . The food too had a flavour of its own ,with a variety of restaurants and khanavals catering to the diverse tastes of its many communities – bhandaries ,marathas konkanies ,malvanies ,goans ,and others.

A vision that was expected to endure for several centuries was shattered within a matter of just fifteen decades – from 1856 when the first cotton mill was set up in tardeo by a parsi ,Nanabhai Davar , to the mill workers strike of 1982-83 , when the dream began to sour for all its many players – the mill owners , the authorities , the workers of girgaon and above all the Mumbai's citizen – and many manoeuvres later , to the final blow in 2006 ,with a supreme court judgement in favour of the mill owners.

Redevelopment of mill lands in Girangaon is one of the few options left for a sustainable revival of the city. With new developments such as residential and commercial complexes ,shopping malls and multiplexes all basic infrastructure .

600 acres of girgaon (the village of mills) is divided into 1/3 for mill owners, 1/3 for bombay munciple corporation to be used in public interest (park, open spaces and civic amenities) and 1/3 for public housing. DCR 58 prescribed , among other things , that every mill applying for permission to develop its land would have to surrender 33 percent of its land to BMC for public open space and 27 to 37 percent – depending upon the area – to the maharashtra housing and development authority (MHADA) for housing.

The city is in danger of completely loosing a crucial historic and cultural layer that once formed its backbone . Valuable heritage in terms of culture and architecture may also vanish. The social fabric of girgaon has collapsed and the physical artifacts and land of the industrial city are been dismantled. .Long heritage of productive culture and their tradition tied to these historic neighbourhoods, nestles in the heart of the bombay have been extinguished.

2.1.1BACKGROUND STUDY

ABOUT MUMBAI

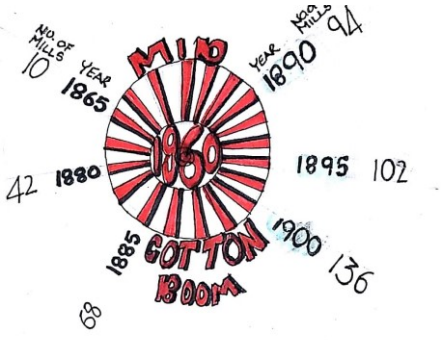
As compared to any city in India ,Mumbai has the maximum proportion of people. Mumbai city is vibrant, dynamic ,it never sleeps.It celebrates festivals almost monthly of all the religions, with same enthusiasm and energy. All year around ,corner side plazas, public places and beaches are always occupied by all kinds of citizens. People are never rare in this city, hawkers, vendors, street side food stalls. It works well and inspires its citizens to work productively because of the way it is built. The city of the migrants and a true metropolis , one of the most livable cities in the country. The growing population of this metropolis proves the same.

Mumbai's built environment does not lack variety either. From the southern tip of the city to its northern border, it encompasses array of spaces, buildings and destinations representing its growth from colonial era to present day metropolis. In the city, most of the significant buildings were built during the British regime. These structures still serve as important infrastructure ,public amenities, and administrative buildings of the city. The built environment throughout Mumbai is composed of various architectural styles – from Indo-Saracenic to Hindu, from Greek revival to modern.

The characteristic of urban Mumbai could be studied by looking at the different elements that are woven into its urban fabric. Locations ranging from historic districts to important public places or a popular market place to a lively street, fuel the city for its everyday hustle-bustle and its very existence.

EARLY MILLS SET-UP

In the 1880s ,when the mills were starting to proliferate ,the city ended at byculla and mahalaxmi, beyond this lays open fields . The british took these fields from the local farmers and handed them to private companies – with the stipulation that they run textile mills . Thus two birds were felled with one stone – work was assured for the migrants pouring in from Solapur , Kolhapur and Ratnagiri etc at the same time with the cheap lobour plentifully available , the new textile industries flourished.



Cotton boom of the mid - 1860s which began with the american Civil War in 1861 ,stimulated further enterprise and by 1865 ,10 textile mills employing over 6500 mill worker's had been established by industrial magnates who had switched their activity from trading to industry .By 1880 42 spinning and weaving mills were set up , increasing to 68 in 1885, 94 in 1890, 102 in 1895 , and an astonishing 136 by 1900. The textile industry , which was offered many incentives of long leases to 99 years , not only shaped the

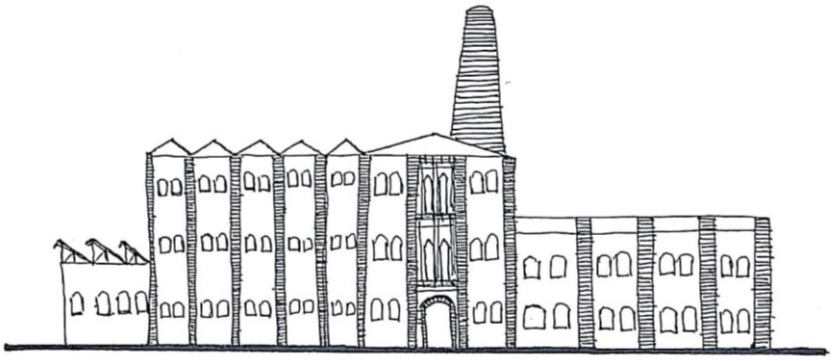
economic history of the city , but even more importantly ,boasted economic growth and employment ,as also the volume of the trade through the port.

INDUSTRIAL ARCHITECTURE

The textile mill precinct displays a wealth of industrial architecture in the heart of the city .till recently 60 – old smokestacks and the rythmic truses created an intrusting skyline.a journey from the southern tip of mumbai , past the gothic monuments , neo classical avenues and art deco residential precincts of the prosperous , to the central part of the city of mumbai where textile mills are located , transports us into a different city altogether .

Within the high walls that surrounds the mills – each mill on an average occupies 10 – 12 acres (4 – 5 hectares) – there are excellent examples of industrial typologies .the masonry chimneys (smokestacks) loom above the imposing structures of different department of the mills .the weaving , spinning and cardial units , built before electricity was introduced ,are roofed with a series of glazed north light truses to admit glarefree sunlight for the workers who had to work from sunrise to sunset , till the factories act came into force.

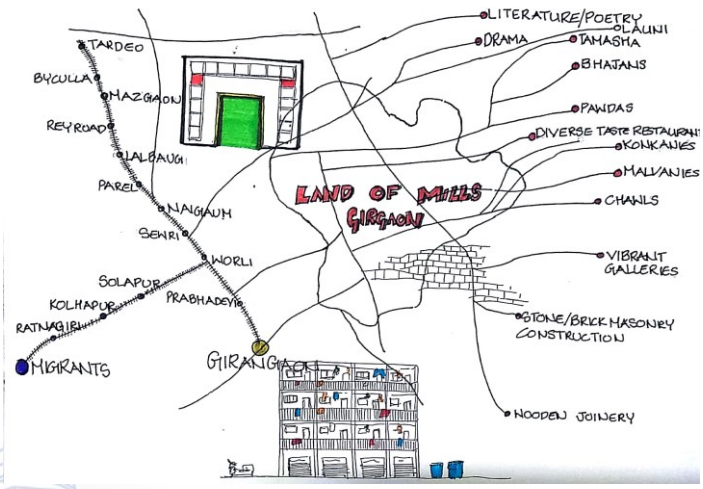
These rugged buildings constructed in stone or brick masonry are invariably ornamented with pediments , cornices , pilasters to convey their importance . the mill premices often include the residences of the management which are designed in colonial or vernacular styles , surrounded by gardens , whereas large waterbodies used for multiple functions and tucked within thick foliage pose a dramatic contrast to the grand industrial structure.



CHAWLS

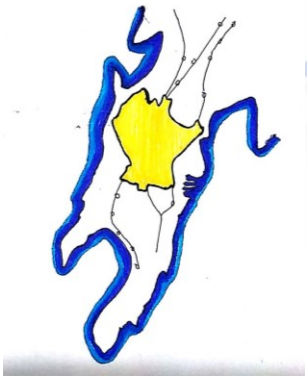
The industrial landscape of mumbai city also includes the organically evolved neighbouhood charactrized by the typical residences of the then migrant labours in the form of chawls . The chawls are four to five storeyed box like buildings housing a number of one room tenements accessed from a common corridoor ,at the end of which are located toilet blocks . It is intrusting to note that when such modest chawls faced the main arterial roads ,the façade are highlighted with neo – classical architectural elements as an appropriate urban response.

As people continued to pour into the city ,the demand for housing increase phenomenally .in 1881 for instance , 1.26 lakh people came from ratnagiri district alone and by 1921 the number almost doubled to 2.36 lakhs . the migrant often came without their families and initially rented cheap rooms partitioned to accomadate new family members . the ares in which they settled , close to the mills comprising tardeo , byculla , mazgaon , reay road , lalbaug , parel , naigaum , sewri , worli , and prabhadevi came to be known as girangaon.



Initialy mill owners constructed chawls to entice workers to the harrowing and exploitative jobs in the mills . private enterpreneur too met the growing demand for the workers housing by building sprawling residential blocks ,with narrow entrances and facades often containing 300 to 400 singlee rooms .in some instances group of three or four buildings , known as wadis were built around a central courtyard and could accommodate upto 900 famiies .the common courtyard served as the venue for sports , weddings and festivals and inspired a wonderful bonhomie among the residents inspite of conjested living conditions.

GIRANGAON-VILLAGE OF MILLS



Girgaons unique ethos was created over a century and a half by generation of labourers who often faced miserable working and living conditions ,constantly in depts to the mukadams or the money lending pathans .The pathos of their life styles inspired a plethora of moving literature and poetry.Their shared joys manifestated themselves in song and dance during family celebrations and the annual ganpati festival for which girgaon is still famous . The mill workers entertainment covered various creative forms comprising drama ,lavni , tamasha , bhajans , and pawadas . The food at girgaon too,had a flavour of its own ,with a variety of restaurants and khanavals catering to the diverse tastes of its many communities – bhandaries ,marathas konkanies ,malvanies ,goans ,and others.

In girgaon the population continued to grow ,so the bombay development directorate (BDD) stepped into provide industrial housing for 50,000 families including mill workers . But the project was a complete disaster. The directorate neither consulted architects nor prospected tenants during its formulation . Through the decades of the 1920s the directorate built 207 chawls in reinforce cement concrete , each containing 80 single roomed tenements .Of these BDD chawls , 32 were built at Delisle road , 42 at Naigaum , 121 at Worli , and 12 at Sewri .In 1929 the buildings were handed over to the collector. However the chawls were so badly

constructed , without adequate light or ventilation that workers refused to tenant them until the shortage of housings became critical.

Claud batley in 1930s described the 3 storeyed chawls as “single roomed tenements with concrete louvered faced verandahs, from which neither heaven nor earth could be seen” .Tt worli chawls were used partly as a satyagrahis prisoners camp during the civil disobedience movement in 1929 – 30.Girgaon turned into a polluted and over congested slums.

The mixed zonning of girgaon , which evolved over a century , led to integrated and sustainable developments .The balance between livelihood , housing , environment , civic and social infrastructure , cultural institutions and political participation imparted a quality of life to this working class locality The built forms are significantly symbols of economic , political , and cultural movements of national importance .The social and cultural life of the community which evolved through various unique intutions , was a mixture of the local culture and that of the cosmopolitian progressive culture of the working class . This compounded culture later extended to create the identity of the city.

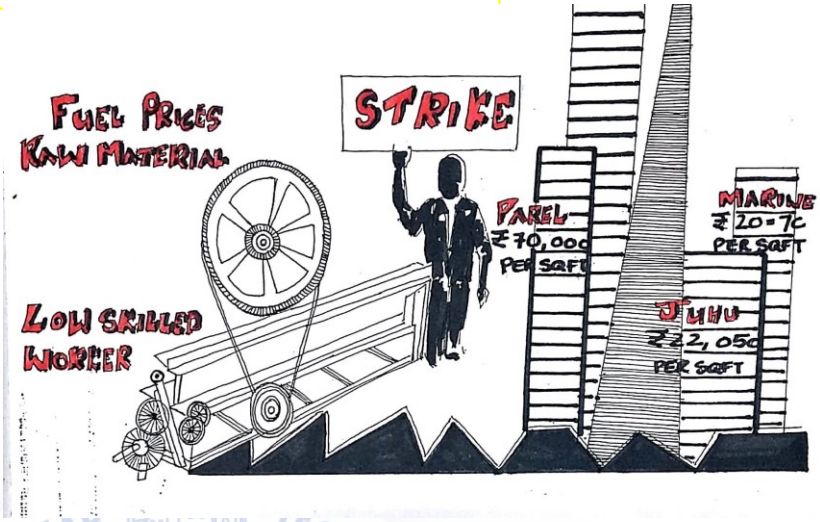
City has forgotten how much textile workers contributed not only to country’s labour movement but to the growth of Mumbai. Many generations of workers spent their entire lives there. Migrants were from east and coastal Maharashtra, and also populated by crowds from Uttar Pradesh and Gujarat (some of the other states of India) all employed in textile industry. Mill workers included people from all castes and religion. Initially in the migrant population, the men arrived alone in order to find employment. Later as they settled they brought their families along. Most of the single men lived in groups.

Number of housewives started buffet services and canteens for lunch and dinner. In 1970’s, the mill precinct had over 500 canteens predominantly serviced by the female group. Workers incorporated side businesses such as grocery , retail, flower ,newspaper, sweets shops, snack centers, ice-cream parlors, pharmacy, service shops like domestic flour mills ,laundry shop , etc. on street level.

Soon they established their distinctive places of worship such as temples and mosques and started side businesses in meat and vegetable markets. In a single Chawl manny of the social groups shared a common hometown. Sometimes belonged to the same extended family,and so they had common interests and cultural outlooks.

Girangaon was dense, poor & illiterate. Yet it was filled with talent in theatre, music and arts. The mill precinct gave many talented and versatile artists to city. People here celebrated different Indian festivals throughout the year enthusiastically with the same energy .During the festive season the streets and Chawls of Girangaon looked no less majestic than a wealthy south Mumbai neighborhood. The mill workers also staged brilliant theater and sustained folk arts like Lawani, Tamasha, Bhajan, Namaan, and Shahiri Powadas. All these art forms narrated the stories of their life style, their social and political upheavals, the freedom struggle of the country and Samyukt Maharashtra Andola.

DECLINE OF MILLS



A vision that was expected to endure for several centuries was shattered within a matter of just fifteen decades – from 1856 when the first cotton mill was set up in tardeo by a parsi ,Nanabhai Davar , to the mill workers strike of 1982-83 , when the dream began to sour for all its many players – the mill owners , the authorities , the workers of girgaon and above all the Mumbai's citizen – and many manoeuvres later , to the final blow in 2006 ,with a supreme court judgement in favour of the mill owners.

All over the world textile industry experienced several technological changes ,in the mid-nineteenth century .The advanced power loom techniques replaced conventional handloom technology. In the Mumbai Mills the mill owners did not update the machinery to keep up with the changing trends and the lowskilled workers were also comfortable with this policy. During the same period the fuel prices and costs of raw material increased. Reservation policies and adverse taxation discouraged the mill owners from investing more in the industry. On account of high power and tax costs, to maintain large scale industrial units became uneconomical within the city limits ,by 1980's.

The 18 month long strike by mill workers union is another reason for the ultimate shut down of mills, in 1982. Nearly 250,000 workers & more than 50 textile mills went on strike. The strike did no good for the workers instead running of the Cotton Textile Mills became unviable which led to huge losses and it opened a new strategy for mill owners .Few mill shut down their operations and several mills were declared sick. Only a few managed to survive.

Immediately after 1991 ,there was a boom in the real estate market .Millowners are today less interested in developing their industry than in profiteering from real estate, and the phenomenon of sick industries is not the *cause*, but a *symptom* of the fact that real estate has become more valuable than textile production. The mills have not declined on their own, but by their owners. Publicly millowners and other industrialists have put forward the case that if they are permitted to lease or sell their lands then their mills can be revived and made profitable.The fatal combination of greed and myopic thinking in dealing with the recycling of th mill lands has resulted in mumbai loosing an important opportunity to reinvent itself.

REDEVELOPMENT STARTS

In the early part of 2000s some of the private mills come up with real estate development that would be made economically feasible. In the early part of the decade the development of Phoenix Mills, Kamala Mills and Morarjee Mills. These developments mainly focused to the office sector, because for residential development the location was not considered appropriate - the only exception to this was Phoenix Towers.

When National Textile Mills Corporation (NTC) decided to sell some of their well located mills and Indian developers decided to put in money to buy these, that was the major period of development of mills. Simultaneously, to maximise the dead assets ,many private mill owners tied up with developers .

When the real estate market was experiencing a boom in the period of 2004 - 05, developers were keen in participating in these large-scale redevelopment projects, and for buying development rights they were willing to pay previously unheard of amounts. The entry of developers such as Godrej, Peninsula, IndianBulls, Oberoi, Lodha, K Raheja Corp, DLF, DB Realty, Raheja Universal, Sheth, Dosti and more into the redevelopment game in Central Mumbai.

Phoenix Mill: The first to redevelop the textile mill is today's Central Mumbai's entertainment and shopping hub. A multiplex and hotel are currently being added here though the Bombay Municipal Corporation lease deed in 2005 gives the mill over 20,000 square yards of land at the annual rent of a rupee for 'residences of labor staff, and welfare services like a school'.

Morarjee Mill 1: Construction of 'Ashok Towers' ,a residential complex, with three 30-storeyed and a 50-storeyed tower. Part of the mill's land is on a 956-year lease for annual rent of Re 1.

Morarjee Mill 2: Peninsula Corporate Park houses new economy offices, as well as a posh health centre like TATA- AIG and Orange; part of the land is on a 999-year lease.

Simplex Mill: In 1913 this mill was co-founded by Mohammed Ali Jinnah, is now owned by Planet Godrej, five residential towers of 46 storeys each. Part of the land was given for an annual rent of Rs 43 on a 99-year lease. In 1983 the lease expired.

Shrinivas Mill: South Mumbai's Millionaire Member of Legislative Assembly Mangal Prabhat Lodha won the redevelopment rights, plans a residential complex.

Standard Mill: A giant apartment complex of Beau Monde, with apartments priced at over Rs. 1 crore each. Residential towers have also been cleared by the Bombay Municipal Corporation.

2.1.2 PROBLEM STATEMENT

Once it is decided to close down a mill , the question then arises , *how best can the land be redeveloped?* Spending money on citys infrastructure, is only priority in Mumbai today. In Mumbai ,we are increasingly celebrating projects involving 'cleaning up' – whether they involve the restorations of our historic buildings , precincts or districts or waterfront or sidewalks ,or the relocation of slums to make way for infrastructure. A phase in which commercial gains are not only taking precidence over every thing else , but in fact , are also challenging and actually erasing all traditional planing processes.

Unsystematic bit-by-bit development and individual development of mill lands has disturbed the character of Girangaon ,which has became the major problem in retaining the identity of Girangaon. Girangaon needs a comprehensive urban renewal plan that will take care of mill sites as well as the surrounding communities. Since these lands are in close vicinity to each other, each could be developed differently in accordance with its location, size and neighboring uses and yet is a part of an integrated master plan for the entire mill district. A complete system of urban network could be established by introducing new destinations for entertainment, public, retail & commercial activities, transit and recreational purposes. Consequently the Government of Maharashtra set up a study group to prepare an integrated development plan for textile mills in Girangaon.

The study group chaired by architect & urban planner Mr. Charles Correa created a design solution for a comprehensive redevelopment of textile mills in Girangaon. It appointed teams of architects, engineers & conservationists to visit the 58 mills and appraise & document the various structures and other prominent features in each of them. The report deals with only 25 mills that are with NTC and which were accessible because the group was denied access to 32 mills in private sector, 3 mills of private sector were already keen to sell some of their land and get profit out of it. Hence NTC too retained some of its mill units which they felt were viable and declared to dispose of the rest. This report principally addresses the mill land that is to be disposed of by NTC.

The report identifies a triangular area between Mumbai mills ,Matulya and Paragon and develops an integrated master plan for the same. The strategy for land-use division adopted by the study group supports the DC rule of 1992. The report recommends that ,the division of acres of land should be fixed at one third each, regardless of the size of the site ,between the City, MHADA and the owner. The report proposes one third (7 mill sites) for public housing to be developed by MHADA, one third (4 mill sites & portions of other 4 sites) for open spaces and public amenities and the last third (3 mill sties & portions of other 3 sites) for development by NTC. With this methodology study group believes that, large and viable parcels of land can be made available for each of the 3 land uses specified, in a pattern which makes overall urban sense for the city ,instead of a meaningless hodge-podge of development,

Redevelopment plans proposed by the study group are based on the following factors –

Transport

- Establish important connector roads.
- Widen capacity of the existing road and rail network.
- Improved pedestrian movement.
- Exclusive roads for buses to support heavy traffic of passengers travelling between buses and trains.

Urban Form

- Indentify heritage structures on mill sites.
- Preserve and recycle them as studios for artists, workplaces for fashion designers, computer software engineers etc.
- Creation of a new center in the heart of the city, with its own distinctive character, vitality and ambience.
- Establish key design guidelines regarding the urban Form.
- Development of larger footprints for economical & energy-efficient construction.
- Use of building facades to help define streetscapes.

Open Spaces

- Different sizes open spaces to allow variety of uses.
- Principal roads widened and lined with trees to create green promenade.
- Pedestrian plazas in front of railway stations.
- Covered shopping arcades alongside major roads.
- Land for public open spaces could be used for other social facilities like schools, clinics or community centers depending upon the needs of the neighborhood.

Employment generation

- Generation of semi-skilled employment similar to that provided by existing mills.
- Development of new high-tech, non-polluting industries like computers and garment industry.
- Large number of household jobs would be created with the development of high-end residential zones in place of former mills in private sector.

Housing

- Land taken over by MHADA could be used to develop low income housing, reconstruction of dilapidated buildings or redevelopment of slums.
- MHADA could hand over some of the construction to other contractors.

Private Mill development

- Prepare an Outline Development Proposal (ODP) for mill sites.
- Include surrounding area with road network.
- Identify and document heritage structures that need to be preserved.
- Provide land allocation for three types of uses & an outline of the built form.

Pooling of land

- Pooling the land for increased FSI of 2.0 (compared to FSI of1.33 in island city)
- Beneficial in creating large new public spaces.
- By the additional FSI ,the cluster of taller buildings generated ,would create a visible landmark, recognizable across the city's skyline as a symbol of the generation of Parel and with it, the city of Mumbai.
- In conclusion, the study group recommends further research and analysis of the existing conditions in Girangaon. Report is studied and designed just to the mill plots themselves, yet some attention has been paid to the surrounding areas.
- The report also says "to bring about more comprehensive & decisive urban renewal, detailed planning would have to be undertaken to address many problems of the area such as reconstruction of chawl, proper housing for the pavement dwellers, parking for intercity buses etc and also includes repairs and reconstructions of old buildings considering legal resolution

List of mills

The table below lists the names and district locations of Mumbai's former mills, and the structures (if any) that stand on their land today.

Name of former mill	Location	New development
Ambika Mills	Worli	Namaste Tower
Apollo Mills (South)	Mahalaxmi	Lodha Bellissimo/Primero
Bharat Mills	Lower Parel	India Bulls Blu
Bombay Dyeing & Manufacturing Company	Worli	Hard Rock Café[3] / ICC Bombay Realty
Bombay Dyeing (Spring Mills)	Dadar	Spring Mills tower
Bradbury Mills	Jacob Circle	No development
Century Spinning & Weaving Mills	Worli	Century Bazaar
China Mill compound	Sewri	Dosti Flamingos[4]
Dawn Mills	Lower Parel	Peninsula/Piramal Project
Digvijay Mills	Kalachowkie	No development
Elphinstone Mills (South)	Elphinstone	Indiabulls Finance Centre and Indiabulls Sky Suites
Gokuldas Morarjee Mills no.1	Parel	Ashok Towers[5]
Gokuldas Morarjee Mills no.2	Lower Parel	Peninsula Corporate park
Gold Mohur Mills	Dadar	No development
Hindoostan Spinning & Weaving Mills No.1	Jacob Circle	Raheja Vivarea
Hindoostan Spinning & Weaving Mills no.2	Jacob Circle	Kalpataru Heights
Hindoostan Spinning & Weaving Mills no.3 (Crown Mills)	Prabhadevi	Orchid Crown
India United Dye Works no.6 (North)	Prabhadevi	India International Trade Center
India United Mills no.1 (North)	Parel/Currey Road	No development
India United Mills no.2	Kalachowkie	MCGM
India United Mills no.3	Kalachowkie	MCGM
India United Mills no.4	Kalachowkie	MHADA
India United Mills no.5	Byculla	No development

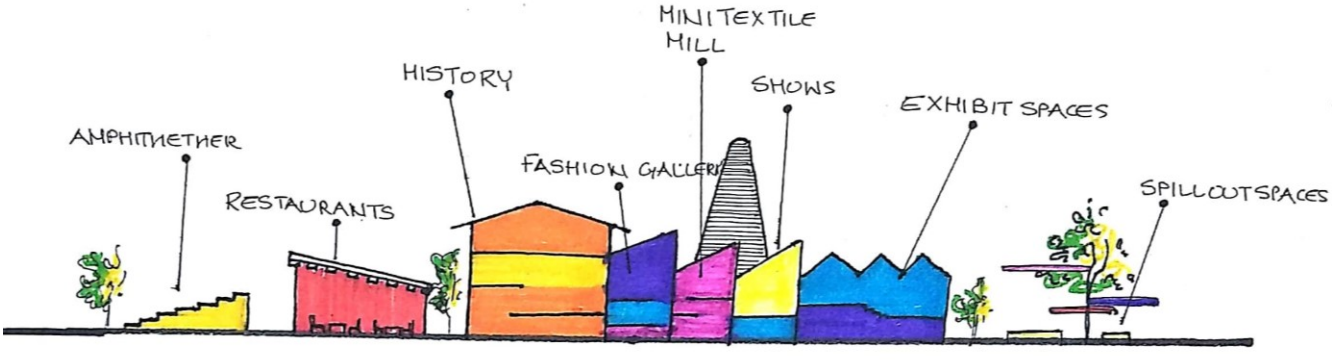
India United Mills no.6	Mahim	No development
Jam Mills	Lalbaug	MHADA
Jupiter Mills (South)	Lower Parel	Indiabulls Sky[6]
Kamala Mills	Lower Parel	Kamala City
Khatau Makanji Spinning & Weaving Mills	Jacob Circle	Marathon-Adani(under construction)
Kohinoor Mills No.1 (North)	Dadar (E)	No development
Kohinoor Mills No.2 (North)	Dadar (E)	No development
Kohinoor Mills No.3 (North)	Dadar(W)	Kohinoor Mill Mall[7]
Mafatlal Mills no.1	Byculla	Piramal Aranya
Mafatlal Mills no.2	Byculla	
Mafatlal Mills no.3	Lower Parel	Marathon Futurex
Matulya Mills	Lower Parel	Sun Palazzo
Mukesh Textile Mills	Colaba	Venue for Bollywood filming
Modern Mills	Jacob Circle	Mahindra Belvedere Court
Morarjee Textile Mills	Parel	Ashok Towers
Mumbai Textile Mills (Sakseria Mills)	Lower Parel	DLF Place
New City of Bombay Mfg Mills	Kalachowkie	No development
New Great Eastern Spinning & Weaving Mills	Byculla	Peninsula Land (under construction)
New Hind Textile Mills	Byculla	MHADA
New Islam Mills	Lower Parel	One Avighna Park
Phoenix Mills	Lower Parel	High Street Phoenix
Piramal Spinning & Weaving Mills	Lower Parel	Marathon Nextgen by Marathon Group
Poddar Mills	Mahalaxmi	No development
Poddar Processors (Edward Mills)	Lower Parel	Indiabulls Bleu
Prakash Cotton Mills	Worli	No development
Raghuvanshi Mills	Lower Parel	K-lifestyle
Ruby Mills	Dadar	Ruby Corporate Park
Shakti Mills	Mahalaxmi	No development
Shree Madhusudan Mills (South)		
Shree Ram Mills	Worli	Palais Royale, Mumbai
Shriniwas Mills	Lower Parel	World One
Simplex Mills	Jacob Circle	Planet Godrej
Sitaram Mills	Mahalaxmi	MCGM
Standard Mills	Prabhadevi	Sheth Beaumonde and Chaitanya Towers
Sun Mills Compound	Lower Parel	Zenzi Mills Club / Lokhandwala Victoria
Swadeshi Mills	Kurla	Swadeshi Garden
Swan Mills	Sewri	Ashok Gardens[8]
Tata Mills (North)	Dadar (E)	No development
Victoria Mills	Lower Parel	Victoria House (Commercial) & Car park
Western India Spinning & Weaving Mill	Kalachowkie	No development

2.1.3 OBJECTIVES

The present economic forces make it difficult for the mills to continue running within the city. The fact that the textile mills that are located on, now is a very highly priced inner city property makes it subject to a number of economic and political forces. Also the changing technology, including the use of machines with high speeds is incompatible with the existing buildings making them functionally obsolete, as they cannot withstand the vibrations. Also the large volumes and larger windows do not allow the humidity to be controlled to meet the requirements of the new weaving technology. However, these buildings are strong edifices, capable of serving many more years of life if maintained well. They leave a legacy of space and structures which still stand.

The ongoing development is high rise residences, elite class clubs and hotels without paying attention to the city's issues. The building and infrastructure of old cities have value, in that they reveal the history through their physical forms. The existence of the old with the new, where both hold importance in the service they provide is what generates the genius loci of these cities. It is only the physical presence of these structures that conveys the history of the growth of the city, and imparts the spirit of the city. The fabric, which functionally obsolete, so to keep the architecture alive but with a new function inside to bring new business to the city that drives the economy of the country.

- To preserve the city's old fabric , which at one time was a city in itself.
- To explore the transition of this development by layering the mill fabric with the new urban development in the city.
- Creating a new centre in the heart of the city , with its own distinctive character , vitality and ambience.
- To convert the existing mill structure into a new place which retains the enrich mill history in the form of textile museum.
- Preserve and recycle them as studios for artist ,workplaces for fashion designers, exhibit area , mini live looms , some dedicated space for students to show cast their art.



2.1.4 METHODOLOGY FOR CASE STUDY

LIST OF CASE STUDY

- Calico museum of textile and sarabhai foundation collection , ahmdebad .
- Kasturbhai lalbhai , museum , ahmdebad.
- High street pheonix , parel.

NET CASE STUDIES

- National handicraft and handloom museum , new delhi.
- Woods of nets , hakone open air museum , japan.
- Jewesh museum berlin.

BOOK CASE STUDY

- Landessustellung , karten , hutternberg , austria.
- Arles archiological museum , arles france.

SELECTION OF CASE STUDIES ,WHY ?

THESIS TOPIC

Mumbai , a port city transformed to city of textile mills . girgaon was characterised by industrial architecture and today the textile mill land is being transformed into new oesis of elite business and leisure.

CONCERN

Let the mumbai grow but not at the cot of 100% destruction of heritage and historic structures . An opportunity to preserve old mill architecture in form of textile museum which will keep the culture of cotton mill alive.

SITE

Indian united mills 2 and 3 , kalachowkie

CASE STUDIES

As the topic is textile museum on Mumbai's cotton mill land as in to preserve the heritage of the city where the facades and the building blocks has to be retained but with a new function in it , so tried to achieve those points either in the museum built in ancestral houses or in the emotions playing in the form or in the management of spaces.

Essential academic steps conducted during the casestudy are simply pointed out as shown below.

1. Preliminary stage:

A. Collection of data and information relevant to the project.

a. From various government and non-government authorities.
b. References from library and Internet.

B. Case study

a. live case study
b. Library case study
c. Internet case study

After collecting all the data from the preliminary stage, the proposed requirement of the design was formulated based on all above studies. From the above preliminary stage the size, shape and function of the particular element of the whole project was determined.

C. Visit proposed site

a. Site analysis
i. Site parameters/ field visits and study
ii. Data required for site planning shall be recorded diligently.
iii. Soil investigation
iv. Assessment of locally available construction materials.
v. Funtional parameters relevant to the design according to the user requirement i.e, external and internal communication.
vi. Planning and design parameter deals with planning code and design code.
vii. Climatic analysis
viii. Traffic flow analysis
ix. Weather, fire and damp resistances
x. Thermal and sound insulation

2. Secondary stage:

A. Planning

a. Development of master planning
i. Conceptual planning of site.
ii. Traffic management and parking
b. Conceptual design of building
i. General layout of building as per requirements

B. Building

a. General layout/arrangement
b. Architectural plans/elevations/sections
c. Perspective views/model.

2.1.5 SCOPE

- Creating new public space from city's industrial heritage means creating a public imagination for the city reflecting the past.
- A platform for public to get to know the histories and the movement that produced the Mumbai we know today.
- The heritage structure will be restored to its past glory.

2.1.6 LIMITATION

To bring a new function in the old well known structure . How people in the vicinity react with the change ,as it is not just limited with the owner , or the worker but it is concerned with the issue of urban development.

2.2.1 ARTICLES BY AUTHERS

MILLS FOR SALE – THE WAY AHEAD

-DARRYL D'MONTE

The matter of sale of land belonging to cotton mills in Mumbai refuses to fade away ,like many other controversial urban development issues. The book is a compilation of essays by those most intimately connected with the issue – architects, planners, environmentalists, public interest litigants, activists, lawyers, and historians. It is adorned by drawings and extracts of reports on the mills as well as by photographs, both contemporary and archival. The book details how a once-in-a-lifetime opportunity to plan these 600 acres holistically has been lost, due to the greed of mill owners and builders, often indistinguishable these days ,which effected open space of Mumbai . Mumbai is reeling under the lowest proportion of open space of any city in the world.

It is a tale of the workers in the textile mills and the docks, railways and the port. They were the vintage proletariat. When the textile mills were virtually wiped out ,the curtains were drawn on the classical industrial city and the mill workers were driven to the wall. This process of decline, fall and extinction of the textile industry in Mumbai is the theme of Darryl D'Monte's gripping and poignant tale.

Four decades ago in Mumbai ,life almost completely depended on the textile industry. At its peak, the industry employed nearly three lakh workers, most of them migrants from rural Maharashtra and majority of them Marathi speaking. The city's economy dictated by the industry. According to the fortunes or misfortunes of the mills ,the city's wholesale and retail trade fluctuated.

The "Girangaon" was the soul of the city and the mill workers were its life. But the textile industry was caught in a crisis.There were many villains-the mill owners were the accused number one. The second villain was the government with its insensitive bureaucracy. The third accused were the urban planners and the elite who neglected the city and its people completely.Then there were the irresponsible trade unions and the indifferent media.

D'Monte rips the fabric of the great metropolis and shows its underbelly with awful slums, deepening impoverisation, vast lumpenisation, bizarre crime, dehumanisation of life and ecological destruction. Most of all, it addresses the concern of all city dwellers who are apprehensive of the manner in which their city is going in for highrise urban growth without any thought of the consequences. It makes a strong case for reasserting the role of planners ,who alone can take a comprehensive view of the direction in which cities are developing.

ONE HUNDRED YEARS ONE HUNDRED VOICES : THE MILL WORKERS OF GIRGAON

-MEENA R MENON AND NEERA ADARKAR

Girangaon and its mill workers, both men and women, shaped the metropolis of Bombay till the shutdown of the 1980s. That history ought not to be forgotten by Meena R Menon and Neera Adarkar

Girangaon or the village of mills was at the centre of Bombay's evolution into a modern metropolis. The textile industry was one of the first modern industries in India and mill workers among the pioneers of trade unions in the country. An important part of the history of Indian independence. The Bombay mafia was born here. So the history of Girangaon is, in a sense, intertwined with the history of modern India.The book *One Hundred Years One Hundred Voices*, published by Seagull in 2004, dwells on this point

There is a history here which is in danger of being rewritten and forgotten in the rapid progress of what goes by the name of development . . . this means the loss of jobs and the future of their children. It also means a world that is growing around them, in which they no longer have a part to play. The history of central Bombay`s textile area is one of the most important, least known, stories of modern India. Covering a dense network of textile mills, public housing estates, markets and cultural centres, this area covers about a thousand acres in the heart of India`s commercial and financial capital. With the advent of globalization, the survival of these 1.3 million people, their culture and history, has been up for grabs. The new economic policies of the Indian Government have sought to style this moribund industrial metropolis into a centre for global business and finance. The middle classes and business elite are anxious to turn it into offices and entertainment centres. The working-class residents face displacement after over a century of constant habitation, and the social rhythms and cultural economy of this area are now threatened with destruction.

This book comprises about a hundred testimonies by the inhabitants of these districts, which are a window into the history, culture and political economy of a former colonial port city now recasting itself as a global metropolis. While following the major threads of national and international events, it tries to render the history of central Bombay through the narratives and perceptions of the people, in the process throwing new light on the processes of history as they were experienced by the working classes-the contesting ideas of what a free India would be; the growth of industry and labour movements; the World Wars and their impact; the complex politics of regional and linguistic identities in Bombay and Maharashtra; the eclipse of the organized left and the rise of extremist sectarian politics.

THE CHAWLS OF MUMBAI – GALLERIES OF LIFE

-NEERA ADARKAR

Mumbai would not be the city it is today without its *chawls*. These three- and four-storey blocks of one- and two-room tenements dotting all of south and central Mumbai, built on a massive scale over the 19th and early 20th centuries by both the colonial government and private landlords, stand at the centre of the city's social history. Although each of the great *chawl* neighbourhoods—Girgaon, Girangaon, Kalbadevi, Worli, Byculla—has its own distinct history and religious and class composition, together they form an architectural and city-specific continuum through which many of Mumbai's traits can be understood. The quiddity of *chawls* and their influence "as a historical actor" on Mumbai's landscape are illuminated through a variety of academic and narrative perspectives in Neera Adarkar's excellent new anthology *The Chawls of Mumbai*.

The word "*chawl*" is a slightly anglicized version of the Marathi "*chaal*", which means "anklet" and by extension "corridor" or, to use the Mumbai word, "gallery". The very etymology of this architectural form, then, reveals what kind of residential space it was—one in which the boundary between private and public space was blurred, and communal areas were as significant as private ones.

From the beginning, then, the *chawls* were marked by human plenitude, by an enormously resourceful attitude towards space, and the assumption of openness to continuous negotiation and "adjustment". Although (some would say "because") *chawls* threw great numbers of people together, they tended to be socially homogeneous, each *chawl* marked by the stamp of a particular religious or caste group and brought alive by the same festivals and mores. Though often remembered now with the rose-coloured glasses of nostalgia, they were fractious places, from quotidian squabbles over space, water and access to the communal toilets to murderous communal disharmony during times of crisis.

"It is difficult to view a *chawl* as an empty built form in isolation, like a bungalow or an apartment building," writes Adarkar in her excellent introductory essay, "because a *chawl* cannot be stripped bare of its occupants. Its existence in the cityscape can be seen as a theatre, imagined only with performers on a stage." It was this human crush, fending for itself as best it could and devising a variety of creative solutions to problems of food, domesticity, and childcare, that turned Bombay, over the decades, into "the city of gold". Elsewhere, Adarkar observes acutely that the *chawl* corridor, the centre of its social life and the space that turned a building into a kind of neighbourhood, "brought a spirit of buoyancy to the interface of the *chawl* and the city, and diffused the boundaries between them." This "*chawl* spirit" has been extensively investigated and celebrated in the city's literature, from the short stories of Saadat Hasan Manto to P.L. Deshpande's famous Marathi work *Batatyachi Chal* (*The Potato Chawl*) to Manu Joseph's recent novel *Serious Men*.

MILLS OF MUMBAI

MUMBAI PAUSED

They stood tall through good times and bad. The boom fueled by the American Civil War followed by the crash at the end of that war. The Indian independence struggle, world wars, Independence, partition, the communist labour movements and more. They are the symbols of the commercial spirit of the Bombay and it had a big role to play in making Mumbai the most important city on the subcontinent in those days.

But the world that they were built in and built for is no more. And everyone in a space-starved city have their own vision to replace the skeletal remains of the Mumbai mills. In this vertically growing city, the chimneys of the mills stand as dwarfs from an extinct world.

The End Of An Era

In 1982, over 200,000 mill workers of Mumbai ignored the sirens of the Mills they worked for. They stayed away from work demanding more wages and better working conditions. The call for strike by their charismatic leader, Dr. Datta Samant, the Great Mill Strike of 1982 probably hastened the end of the textile mill era in Mumbai. They set out to change the way they worked, hoping that built-to-last mills will provide employment for generations to come. But by the end of the strike and over the next two decades, the mills died one by one.

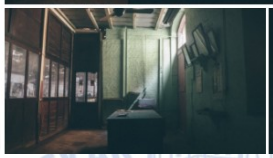
What followed the strike was turbulence. Long legal and street battles between unions and the mill owners, between the unions, Government intervention and political games. The mills closed down one by one.

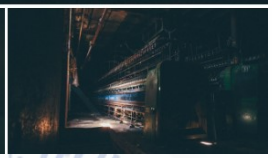
When the textile mills closed down, what remained was the land on which they stood. The textile business too had gone through a big transformation with the products the mills offered being spun in smaller towns and at a different scale across India. Mumbai's textile industry had also evolved and was creating finished clothing and other products in tens of pockets across the city. Now, very few of the original mill structures remain.

The former mill land is now occupied by high rise buildings. Offices for a city that now thrives of services and not manufacturing, homes for the rich, and shopping malls. The ones that are yet to be torn down for building new structures are used for shooting films, music videos and advertising campaigns.

Most of the old machinery is sold as scrap. The walls, tables and rooms retain a few signs the people who worked there have left behind.

Glimpses from a work place that used to exist in the past



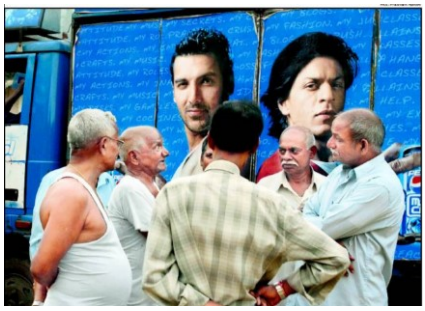


The New Workplace

Mumbai continues to evolve. The city now thrives on financial services, entertainment, trading and even textiles. Old work spaces make way for the new.

Mill Workers From Mumbai's Nine Remaining Functioning Units Recall The Past Of Girangaon With Pride And Grief

Rukmini Shrinivasan | TNN



Mumbai: When Dattabhau Patil talks, He came to Mumbai from Kolhapur in 1960 and despite not having completed his schooling, began working at Tata Mills for a salary of Rs 175 per month. "The trains stopped longer at Elphinstone Road station back then. The morning and evening shift sirens could be heard throughout the city. On bonus day, it was a festival on the streets and the shops stayed open all night,'' says Dattabhau, smiling at the scene only he sees.

With his salary, Dattabahu could "pay the canteen, keep Rs 10 for extra expenses and buy one tola of gold every month''. A mill worker, he says, was a man well respected by society. That's when Chandrakant, who earns the same as his father did when the older man retired in 2002, interrupts. "That's no longer the case. Now a mill worker is at the bottom of society,'' he spits out.

"Earlier, it was a tradition for one boy in the family to take his father's job. For us, it was the son who couldn't get a better job who took the mill job,'' says Chandrakant. Since 1990, there have been no recruitments, with mills, like most other sectors, opting for cheaper contract labourers who get fewer benefits and cannot unionise. "Mills trained people onsite after recruiting them. Who does this any more? We will need lakhs to pay for a good professional education for our children,'' says Subhash Shende who works in the spinning section.

For the older generation, the only time of uncertainty was the historic strike of 1982. "We supported the strike but didn't know what would happen. We took up small odd jobs during the strike but thankfully got our jobs back after three years,'' says Dudhwadkar.

"These were the people who built the city and now the city has forgotten them,'' says Datta Iswalkar, a former mill worker himself and now a union leader.

MILLS AS PUBLIC SPACES: MUMBAI'S INDUSTRIAL HERITAGE

20 MARCH 2005 SHEKHAR

Over the past ten years, different groups of architects, historians, activists and media practitioners have been documenting the city's post-industrial landscapes in the Mill Lands of Central Mumbai. Public debates on the Mill Lands have for many years been polarised between the trade unions and workers' groups raising issues of livelihood and workers' rights to employment and housing on the one hand — and architects, urban designers and civic activists raising issues of public space and city planning policy on the other hand. Recently these groups have aligned themselves to pursue a public interest litigation on land use in the Mill Lands, in which the primary objective is to create more public spaces in the more than 600 acres of derelict and idle land in the inner-city textile mill compounds.

But the mills and other industrial spaces have never been "public spaces" in the sense that any citizen could enter them — they were entirely closed to anyone but workers or staff, both while they were operational and even after the strikes and closures. It is difficult to imagine the post-industrial landscapes of Mumbai except as crumbling factories and idle chimneys, because most people have never been inside of the mills, and the working-class communities that sustained them have lost their jobs and housing. When Girangaon (the village of the mills □, as it was locally known) was still the throbbing heart of the city's economy, each textile mill was a miniature city of several thousand people working in three to four shifts, day and night.

A complex network of chawls, markets, maidans, and social institutions spread out from the mill gates, integrating the neighbourhood outside with the factory inside. Mid-century Marathi literature, poetry, and oral traditions contains rich reflections on the life of the mills and chawls, but there is today little public imagery and imagination of these spaces. The social fabric of Girangaon has collapsed, and the physical artefacts and lands of the industrial city are being dismantled as we speak.

It is almost impossible to visualise what is at stake for the city in the conversion of the mills from factories producing yarns and cloth to campuses producing information and services — one form of private accumulation giving way to another. Making these mills into public spaces and giving them back to the city is more than just a abstract dilemma of land-use or planning policy. Creating new public spaces from the city's industrial heritage means also creating a public imagination for the city which recovers the active presence of work and technology in our everyday lives, and challenges the commonly-accepted vision of manufacturing inevitably giving way to services. We need to seek out new cultural forms by which to narrate these histories, and invite the urban public to tell its own stories of work, aspiration and movement that produced the Mumbai we know today.

Publication: The Times Of India Mumbai; Date: Dec 12, 2009; Section: Spl Report; Page: 21

Every civilised city has learnt the art of conversation with its past, and is the richer for it. Conservation builds on historic assets to reap today's tourism dividends. It restores the soul of the city, tells stories, reinforces roots and retains a character that has taken decades to build.

There comes a moment in time when each great city in the world has to make a choice between the new and the old, between preservation and development. Paris, New York, London and Singapore, have each engaged in this debate to decide the future of their past. And yet, in spite of the towering highrises and cutting-edge innovations in architecture, these iconic cities still remain their historic landmarks with the prime tourist areas located in the historic districts, reinforcing the fact that a city needs to preserve its heritage to keep its soul alive.

It takes immense leadership and political vision to successfully embark on a city's revival. In order to maintain this critical balance between modernity and heritage, ensuring that one realm does not completely obviate the other, a sound policy framework and action plan is necessary, but more important is a political vision to back that plan. It is now nearly 15 years since Mumbai pioneered the urban heritage movement in India. The heritage regulation was successful in not only protecting colonial and non-monumental urban heritage as worthy of preservation, but it recognised the need to restore its heritage of living, breathing buildings, that were functioning public structures such as municipal offices, railway stations, courts and libraries. Heritage listing protects listed buildings from demolition. New heritage lists have been drawn up by MMRDA.

We have mutely witnessed the loss of the entire mill heritage of the city, the mass scale demolition of historic mills in the landscape of Girangaum that has erased an entire chapter of Mumbai's economic and social history. Where historic mills once stood, are deep gashes in the landscape to build multi level basements for malls, leaving chimney towers as markers to the graveyard of the mill landsWe either continue with this destruction and dilution of its amazing heritage, or reinvent our policies, packaging its architectural heritage that is among the largest collection of Victorian Neo Gothic and Art Deco in the world and thus re-branding Mumbai as a financial and tourist destination.

The idea is to understand that our historic stock is an asset, not a liability and merely requires innovative financial mechanisms to make it economically sustainable. Tax breaks for restoration of private buildings and financial tools for restoring heritage would ensure a greater public involvement in restoration and a trend towards innovative adaptive reuse of heritage properties rather than demolition and reconstruction.

In a city like Mumbai where each square inch of open space is a luxury, we failed to exploit the potential of areas such as the Parel mill lands. The hundreds of acres of the Eastern waterfront could be Mumbai's solution for a planned waterfront renewal. Instead of short term gains from parceling off pockets of land to private builders and fragmenting this prime area, the implementation of a holistic vision along with rehabilitation and adaptive reuse of the surviving heritage structures could do for Mumbai .

2.2.3 CASE STUDIES

THE CALICO MUSEUM OF TEXTILES AND SARABHAI FOUNDATION COLLECTION, AHMEDABAD

HISTORY AND PURPOSE

The Calico Museum of Textiles was inspired by Dr. Ananda Coomaraswamy ,the pioneering art historian and philosopher. He suggeste Gautam Sarabhai, chairman of the Calico Mills of Ahmedabad, that Ahmedabad had been one of India's leading textile production and trade centers since the 15th century and so to preserve the historic era a textile museum and an institute be founded in the city. In 1949, by Gautam Sarabhai with the assistance of his sister Gira Sarabhai ,the textile museum was founded, and was inaugurated by India's first prime minister, Jawaharlal Nehru.

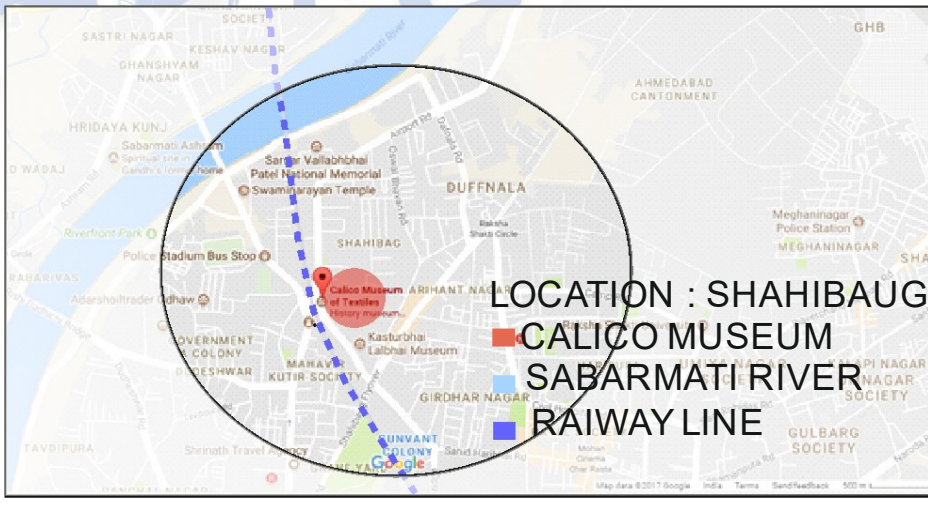
Initially the museum was housed in the heart of textile industry ,Calico Mills complex in Ahmedabad, but when the collection grew the Calico Museum of Textiles was shifted in 1982 to the Shahibaug premises of the Sarabhai Foundation. These premises,belong to the Sarabhai family, designed by Surendranath Kar of Shantiniketan in the 1930s for Ambalal and Sarladevi Sarabhai, the parents of Gautam and Gira Sarabhai. The reminiscence, included the palatial Sarabhai-ni-Haveli with its formal garden and water features,

HOW TO GET THERE

-Gujrat State transport buses and private operators.

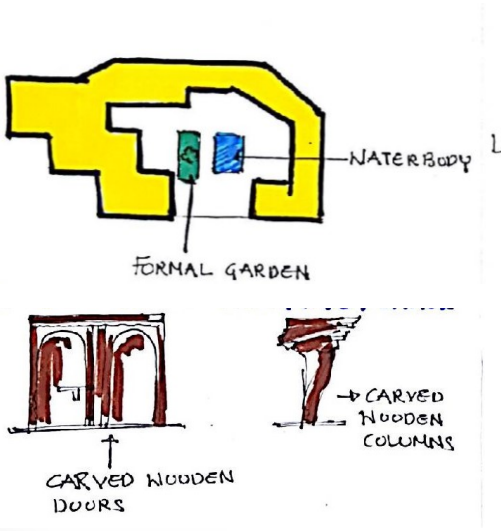
-The main railway station is located in Kalupur area.

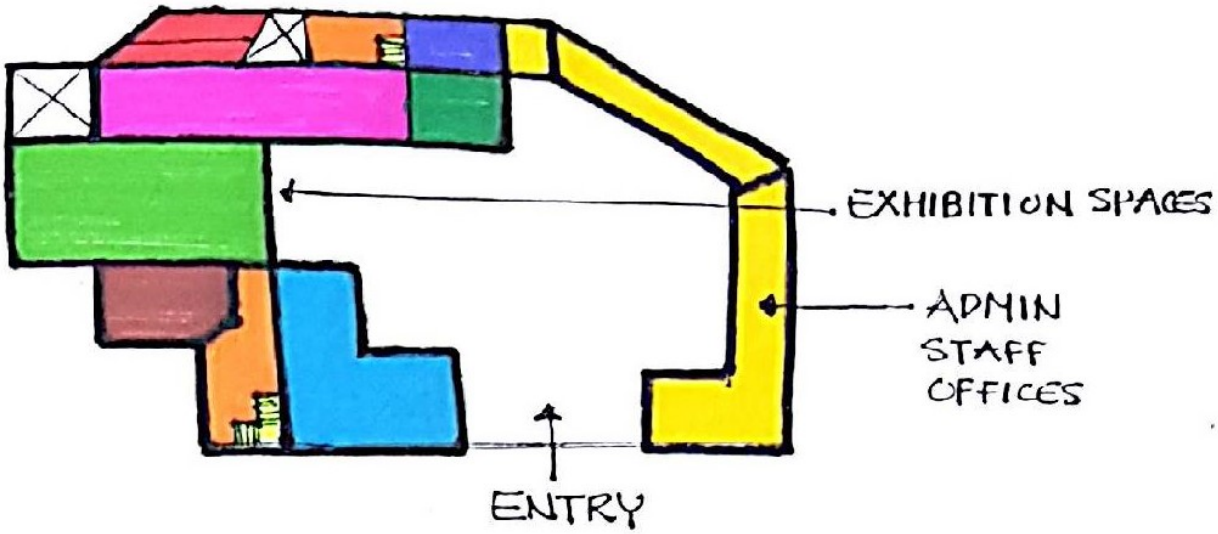
-Sardar Vallabbhai Patel airport at Ahmedabad.



BASIC ZONNING AND PLANNING

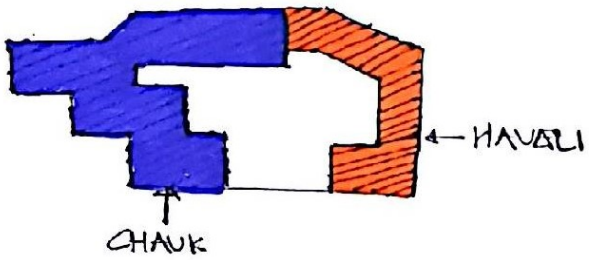
The reminiscence, included the impressive Sarabhai-ni-Haveli with its formal garden and water features, designed in the 1930s by Surendranath Kar of Shantiniketan for Ambalal and Sarladevi Sarabhai, the parents of Gautam and Gira Sarabhai. The renovation also included a complex of buildings around an old swimming pool, which were enlarged and enhanced with carved wooden facades sourced from traditional Gujarati mansions of the region, all set around a courtyard or 'chauk'.



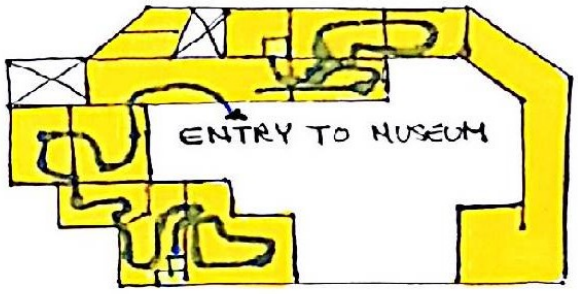


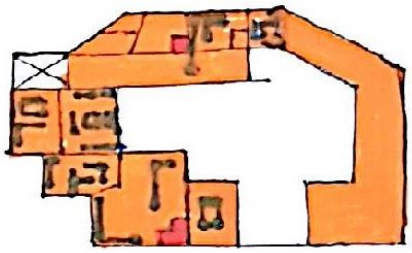
FORM

The Calico Museum of Textiles and the Sarabhai Foundation collections came to comprise of two wings: the '*Haveli*' in which were housed south Indian bronzes as well as religious textiles, Jain art and Mughal and other miniature paintings; and the '*Chauk*', which housed carpets , royal tents, furnishings and costumes of the Mughal and regional courts ,a wide range of regional ethnographic textiles as well as textiles for India's export trade .

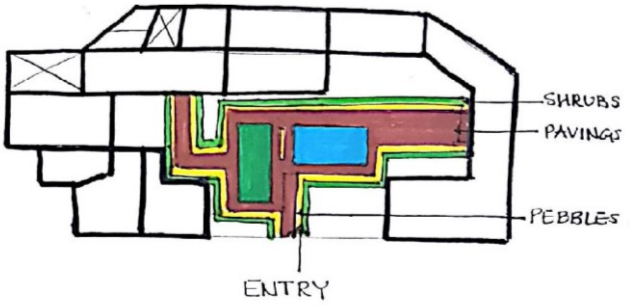


CIRCULATION



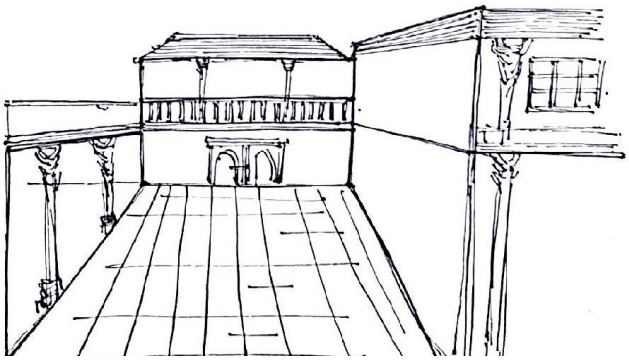


LANDSCAPE



MATERIAL

Material used is wood on concrete wall. The wooden façade is complementing with the wooden ornamentation on columns,doors,railings,balcony representing old Haveli.



DISPLAY INCLUDES

The textiles on display include regional embroideries of the 19th century, tie-dyed textiles and religious textiles as well as court textiles used by the Mughal and provincial rulers of 15th to 19th centuries. The exhibition galleries exhibits on ritual art and sculpture, temple hangings, South Indian bronzes, miniature paintings, furniture and crafts , and Jain art and sculpture. There are also textile techniques galleries and a library.

The displayed items are well protected by the authorities of museum. The textile are protected from air pollution ,dust and fluctuations in temperatures by the trees around the periphery of museum complex. The relative humidity level inside the museum is also controlled and between visiting hours lights are dimmed to extend the life of the textiles.

Textile Trade of India with the outside world – 15th-19th Century

Indian Textiles influenced by the Mughal and Provincial Courts 17th-19th Century

Indian Costumes in the Calico Collectio 18th to mid-20th Century

REGIONAL EMBROIDARIES

Indian Tie-Dyed Fabrics

Techniques of Weaving and Dyeing

2.2.3 CASE STUDIES

KASTURBHAI LALBHAI MUSEUM , AHMEDABAD

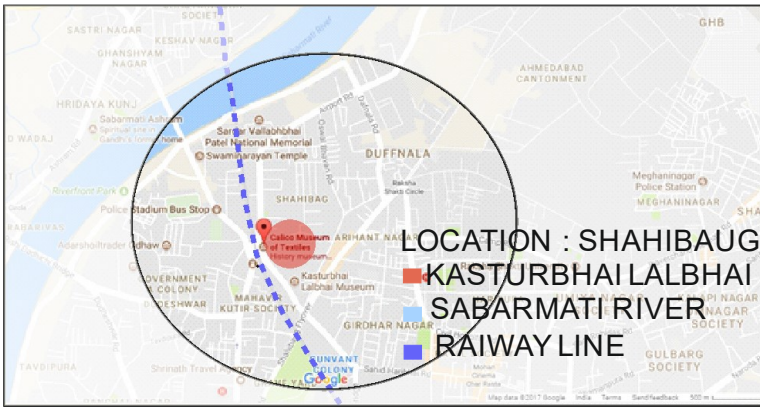
HISTORY AND PURPOSE

The home was built by Laljibhai Sheth (Sanjay's great-grandfather) in 1905 . Subsequently, his three sons—Chimanbhai, Kasturbhai and Narottambhai—lived here with their families, and then moved out. In 1997-98, they moved out too. They didn't want this house to deteriorate. So Lalbhai's family thought of restoring it first and then putting it to some use.

The family also had a huge collection of artwork, most of it just kept in storage.But when the Tagore family of Bengal put up their collection on sale in 1935, he decided to bring it home. "He didn't want the collection to get scattered and so he brought it over to Gujarat.So the home museum solved both problems.

Lalbhai's grandson, Sanjay, and his wife, Jayshree's idea was to convert the family home into a museum. This ancestral property had been built in 1905 and Sanjay's family lived here till 1998, They moved to the outskirts as the city was too crowded, but at the same time, they wanted to keep this property in proper shape. So the Lalbhais approached Rahul Mehrotra of RMA Architects to renovate the property. Once the family decided that they wanted to add a public dimension to the property and share this heritage broadly, the question became how do you situate these public spaces without diluting the heritage values of the house, It took architect Rahul Mehrotra about two-and-a-half years to restore the house. Simultaneously ,they were cataloguing and archiving their collection. So the entire process took about three-and-a-half years.

HOW TO GET THERE



-Gujrat State transport buses and private operators.

-The main railway station is located in Kalupur area.

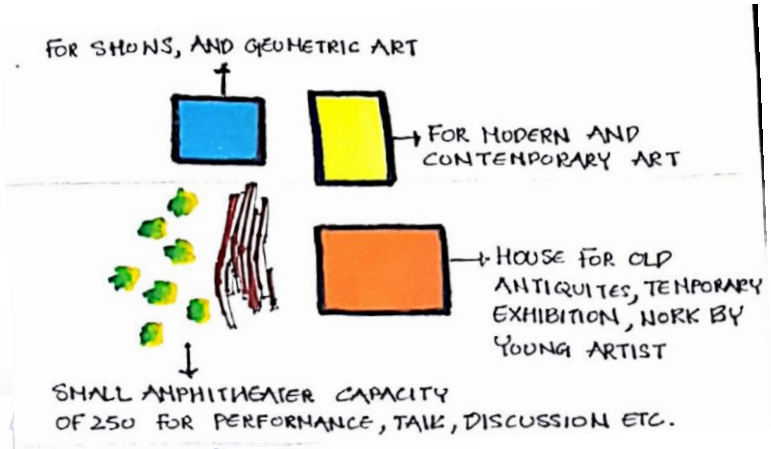
-Sardar Vallabbhai Patel airport at Ahmedabad.

BASIC ZONING AND PLANING

The museum is spread across two buildings. The ancestral home built in the 1930s designed by Claude Batley and the building adjacent, will house temporary exhibitions, retrospectives of artists and work by young artists.

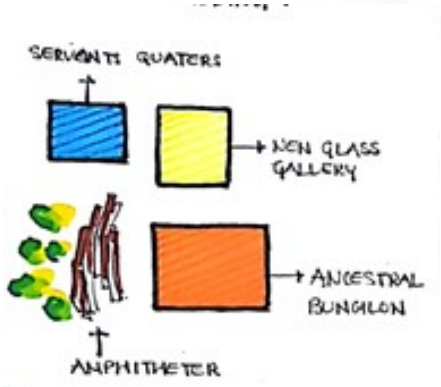
The main building is house for old antiquities from the family collection, the building at the back is earmarked for shows.

The second building is for modern and contemporary art.



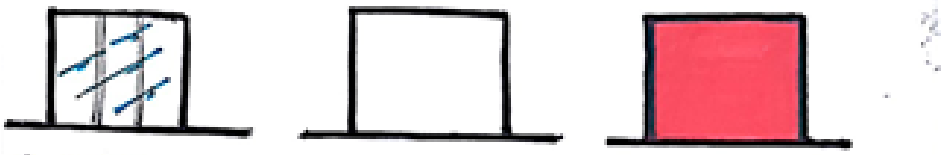
FORM

By keeping the original character of the two buildings as it is , which the museum is spread across, Mehrotra interpreted the spaces through design interventions such as a glass gallery and a submerged museum, which will showcase the history of the Lalbhai family across 17 generations on its completion. There is an amphitheatre for talks and performances. An amphitheater at the premises host cultural activities, with a seating capacity of 250 for small cultural activities.



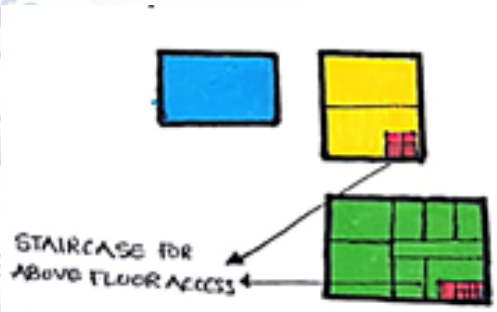
MATERIAL

A composition of concrete and white paint with the smooth surface.
New building was added facing inside the inner courtyard and its façade is of glass with white paint inside which makes the volume look big.
And somewhere vibrant red colour attracted on specific walls.



GEOMETRY

Construction is of simple and expressive geometric forms that perfectly connects with the character of traditionalism and modernism.



PUTUP PLACEMENT

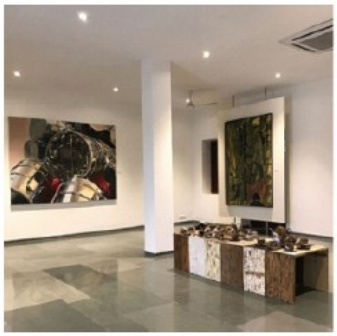
Interior finishes of structure, furniture and fittings fit into a strict assymetric order.
Minimilist putup on 5X5X4M wall with perfect combination of quality and quantity light.

DISPLAY INCLUDES

The art exibited is an eclectic collection of 2,000 years of Indian art handpicked by Kasturbhai including miniatures and bronze collection of Rabindranath Tagore family, paintings of different schools including Persian, Mughal, Deccan, Pahari, Rajasthani, Bengali and Company , Tibetan thangkas, painted postcards from pre-independence India along with art in stone, metal and wood.

Articles displayed in the first building are 150-200, not a large number, but they have a *history spanning more than a thousand years*. These include a collection of miniatures and other art .

The modern soon gives way to the contemporary with works by Amrita Sher-Gil, Bharti Kher, and Anjolie Ela Menon.



2.2.3 CASE STUDIES

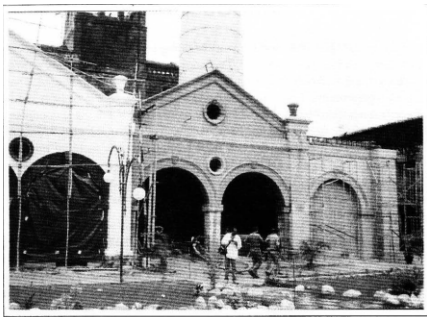
HIGH STREET PHEONIX , PAREL

HISTORY AND PURPOSE

High Street Phoenix (Phoenix Mall), situated in Lower Parel , Mumbai, is one of the largest shopping malls in India. Phoenix Mill was originally started in 1905 to manufacture cotton in Bombay. One of the first mill companies to go in for redevelopment. The compound has been redeveloped whereas the chimney is reminiscent of its past as a mill. Due to government rules, existing structures have been retained ,they have been refurbished and in phases additional structures have been built around them. The compound hosts a mall ,five-star hotel, a multiplex, commercial space and a residential tower.

High Street Pheonix(HSP) is the first led consumption centre developed in india over a sprawling 3.3 million square feet. A house for over 500 brands including a variety of entertainment, F&B, commercial and residential complexes. Pioneered by The Pheonix mills Co. Ltd., High Street Pheonix is lead by its young ,dynamic managing director,Atul Ruia and his team of professionals. A pioneer & one one of the renowed leading developers of leading mixed use projects. Across the country ,The pheonix Mills Co. Ltd has a presence in 13 cities. One of the premiere malls in mumbai ,High Street Pheonix ,in which each zone has been specifically conceptualized and designed to offer an international experience. It houses 3 distinct shopping zones viz. skyzone, grand galleria and palladium. High Street Phoenix is today the hub for global fashion, entertainment and dinning. One of the best mall in Lower Parel ,the heart and lifeline of the Mumbai city.

ABOUT PHEONIX



Today millowners are less interested in developing their industry than in profiteering from real estate, and the phenomenon of sick industries is not the *cause*, but a *symptom* of the fact that real estate has become more valuable than textile production. The mills have not declined on their own, but through being rendered sick by their owners. Publicly the case have put forward that if millowners and other industrialists are permitted to lease or sell their lands then only their mills can be revived and made profitable

The murder of Phoenix Mills.

The management of Phoenix Mills addressed a letter to Shri A N Dubey, BMC Deputy Municipal Commissioner for Ward F South in April 1998 , proposing an addition to the mill of recreation facilities such as a club, indoor sports facilities such as carrom, billiards, table tennis and "a number of bowling alleys" as well as a health club, spa and sauna for more then 1000 workers and approx 200 staff and additionally 1000 to 5000 executives of various other offices located in premises.

In May 1999, the Bowling Company opened in the premises of the Phoenix Mills, and since then has been a favourite site for photo-ops of famous film stars and celebrities, as well as it became a hang-out for upper-class youth and a place for family outings, replete with video game machines, billiard and snooker tables, bowling lanes, a restaurant and bar. Considering admission charge Rs50 ,per game at the Bowling Company Rs 125 and the Rs 800 entry fee per couple charge it hardly remain a place for mill workers to unwind after a long day at work. The largest and poshest of Bombay's new discos, Fire and Ice, located in the adjacent building within the compound. Including the two residential high-rise Phoenix Towers.

The Government of Maharashtra sanctioned a relief scheme to restart the mill and provide jobs. For repair and reconstruction of **54,961.73** square metres of the mill; and permission for an additional built-up area of **22,304** square metres was also granted for commercial and R&D usage by the mill. Clearance for the development of a commercial complex was granted specifically to generate funds for the replacement of outdated technology, rehabilitation of workers, and overall modernisation and revival of the mill.

In 1984, for the relief of workers and revival of the ailing mill ,the Government notified another purported attempt. The mill was again permitted to develop **69,084.92** square metres for office space and **22,400** square metres was allowed to be converted from industrial use to residential use. Out of the office space, **22,304** sq. mts. were reserved for an MTNL office, though the condition stipulated while granting these permissions was that the rent from the office block, which amounts to about Rs 60 lakhs, was to be used for running the mill.

While the struggle of the workers with the management continued, the new constructions and developments flourishing within Phoenix Mills spelled out the future for the industry, its productive activities and its struggling workers. Two tall high-rise apartment buildings were constructed on a plot adjacent to the mill, Phoenix Towers 'A' and 'B', which unionists allege is reserved for a municipal school and public garden.

YEAR	EVENTS
1905	A textile manufacturing company on 17.3 acres land.
1959	Established in bombay stock company.
1989	Commercial centre of 3,50,000 sqft area.
1987	Entered into real estate market.
1992	Multi – stored pheonix residential towers.
1996	20 lanes bowling concourse.
2001	First hyper market concept – big bazaar.
2003	Pantaloon and lifestyle 50,000 sqft of retail.
2005	Golden jublee
2006	5 star luxury hotel ,2000+ seats 7 screen multiplex , 45,000 auto malls ,60,000 sqft luxury mall palladium , 1 million sqft for 3000 vehicle parking.
2007	Development in mumbai , pune banglore.

ANALYSIS

ENTRANCE	Curved concave edge of the high street mall invites the customer into the entry.
AXIS	Has 4 entry points of that 3 converges into the central open space obtained by the enclosure of the built from vertical axis gained dominance by vertical residential tower.
SYMMETRY	Since it was transformation from a mill to a mall , even though the arrangements of the buildings are random , many symmetrical features can be visible in the facades and other features.
STAIRS	Stairs near the courtyard tends to be very active and floor level offered by that stair offers a good visual treats to the people there . certain stairs are maintained as such as an architectural element of past like the entry to the office staff residential unit which was a conversation of old chawl.
ROOF	Roof maintained as such in certain areas and given architectural treat to preserve the past.
SPACE WITHIN SPACE	A courtyard which is formed by the built form tends to be the active space.
HUMAN SCALE	Tends to be out of scale due to its height.

2.2.3 CASE STUDIES

NATIONAL HANDICRAFT AND HANDLOOM MUSEUM , NEW DELHI

Location: Delhi, Delhi, India
Project Work Status: Completed Projects
Project Duration: 1975 – 1990
Architect: Charles Chorea

The **National Handicrafts and Handlooms Museum** (NHHM) commonly known as **National Crafts Museum** in New Delhi is one of the largest crafts museum in India.

HOW TO GET THERE

Museum complex, Pragati Maidan, New Delhi

New Delhi Map

– Apox 100 yards

- 5 kms

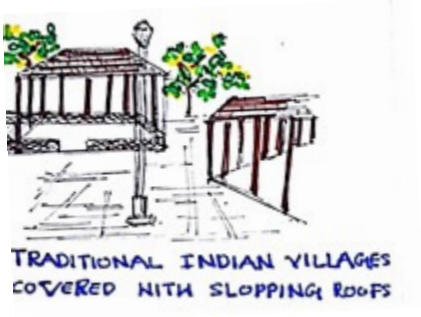
– 6 kms

– 30 kms

The Museum is near to Bhairon Mandir, opposite to Purana Quila on Bhairon Road, back to Matka Peer. for For the Museum there is a separate entrance. It is on Bhairon Marg just before to National Science Centre. 1/2 Km from Dhyanchand National Hockey Stadium, Delhi High Court and Supreme Court of India.

ABOUT NATIONAL HANDICRAFT MUSEUM AND HANDLOOM,NEW DELHI

This Crafts Museum is organised around a central pathway, casual and accepting of the artisan's vernacular, going from village to temple to palace, a metaphor for the Indian street - in fact, for India herself, where all these different kinds of crafts have always coexisted down the centuries.



In the 1950s and 60s ,the core collection of the Crafts Museum was compiled to cater as reference material for the craftsmen

whose hereditary traditions were fading on the face of modern industrialization. The low-lying museum building designed by the renowned architect Charles Correa, most appropriate for displaying India's rural and tribal arts, act as metaphor for an Indian village street - active ,affable and accommodative .The aim of the museum, was to house objects of antiquity. Culture is of Western origin ,Indians themselves did not have a tradition of setting up museums of rusted swords ,fragmented sculptures and out of context painting. Evolving context of Indian culture - the living practices of rituals, festivals, weekly markets, picture-shows of itinerant storytellers, techniques, the materials and tools of artisans. It is this overlooked dimension of Indian culture which is emphasised in the concept of the Crafts Museum.

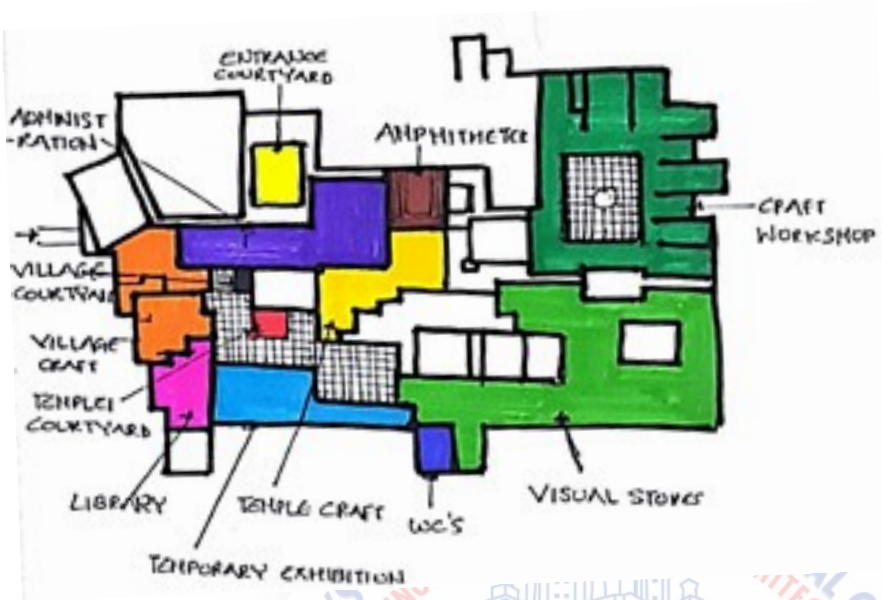



PLANNING

Based on the traditional Indian village ,the scales and proportions of the building are ,where objects of everyday life are hand made and used. A walk across the Museum building would be through open and semi open passages covered with sloping tiled roofs and lined with old carved wooden jharokhas, windows, doors, storage jars and utensils and perforated iron screens; through courtyards having domed pigeon houses adorned with arches and lattice work panels, terracotta shrines dedicated to basil plants, massive temple chariots and vermilion covered anionic wayside altars, providing every now and then a peep through a window into vast museum galleries.

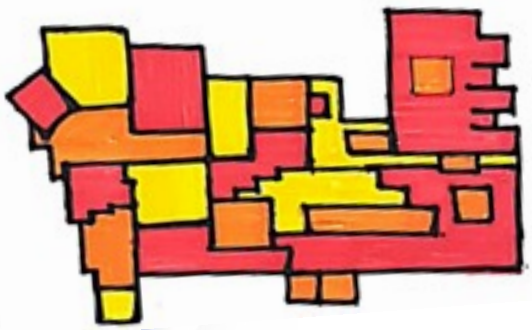



BASIC ZONNING

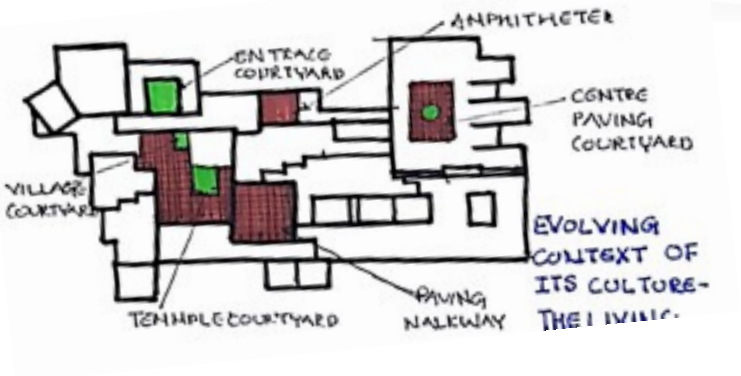


GEOMETRY

Cluster of squares and rectangle out of which a chunk is made.



LANDSCAPE



CIRCULATION

DISPLAY INCLUDES

In its galleries, the Crafts Museum has on display ,its permanent collection of Tribal & Folk Art ,Bhuta Sculpture Gallery, Ritual Craft Gallery, Courtly Craft & Textiles Gallery. Open walls along the corridors & passages of the Village Complex are used as the canvas to display the painted traditions of several tribes of folk artisans. Every month ,to paint on the museum's walls ,new folk artists come in from different parts of the country.

Painting





Bhuta Sculpture Gallery

Tribal and folk Art

Ritual Craft Gallery



Courtly Craft Gallery



2.2.3 CASE STUDIES

WOODS OF NET ,HAKONE OPEN AIR MUSEUM , JAPAN

Hakone open air museum is a garden of sculpture masterpieces spanning the modern to contempory genres which are displayed to perfection against the picturesque scenery of the hakones mountains. The museum wa founded in 1969 with a mission is to promote sculpture as an environmental art and to bring new energy to japan's culture of art.

Toshiko Horiuchi MacAdam , known for her massive, colorful architectural playgrounds/ sculptures. Expansive net-structure ,'Woods of Net' Pavilion inside the at the Hakone Open Air Museum in Japan is the most famous example of her work- which she knitted, *entirely by hand,* over the span of a year.

THEORY

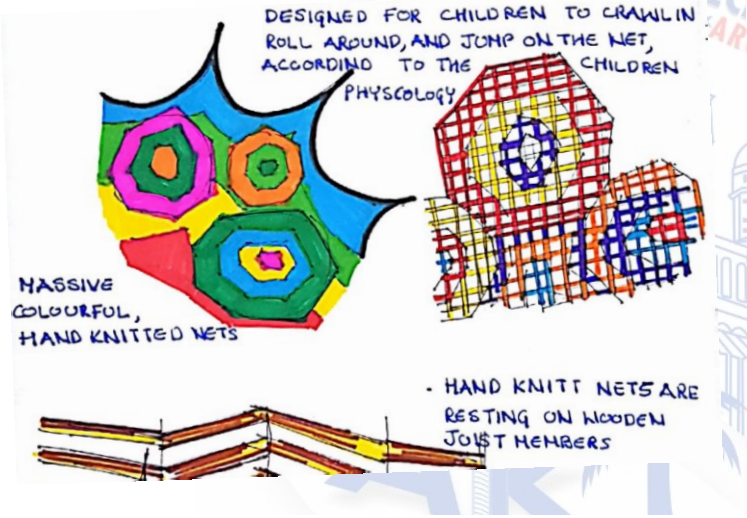
When she was a student at Tama Fine Art University in Tokyo,they were introduced to the work of Antonio Gaudi by a professor of architecture. She went to Spain to see Gaudi's work. She also traveled to Isfahan in Iran in particular to look at mosques. Both impressed her a great deal. Antonio Gaudi's

work, is based on studies of 'naturally' curved forms (catenaries) as determined by gravity, turned upside down.

When she was working as a textile designer in NYC, She began to question:

1. What does it mean to apply 'surface' design to textiles?
2. At its most basic, What is a 'textile'?

When she saw Antonio Gaudi's work, she realized immediately his forms are naturally connected to textiles. And then when she saw the mosque at Isfahan, she realized the shape of the mosque and the inlaid tile-work covering its interior and exterior surfaces are not separate but form part of the building's fabric and geometry. To create a space of fantastic beauty and spirituality ,the building form and the design of tile work together. She felt she found one of the answers she was looking for.



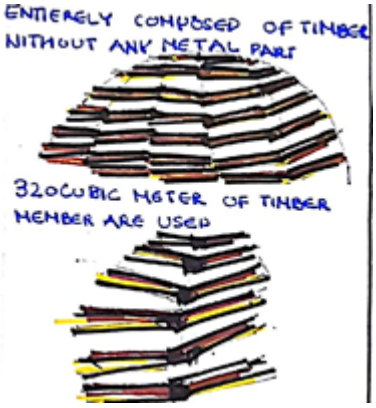
Most of her artwork involves architectural ideas or references. Through tension and the force of gravity including the weight of the material itself and textile structures how form is created. It is the intersection of science and art - like geometry – which we observe in nature.

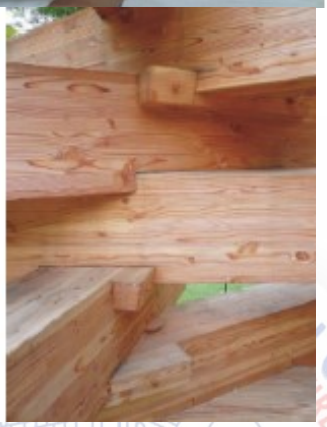
She create a space using fiber and textile structure. Textile structures yield very different forms from different types of material. To create natural forms, the construction technique, the weight of the yarn and gravity work together.

DESIGN DETAIL

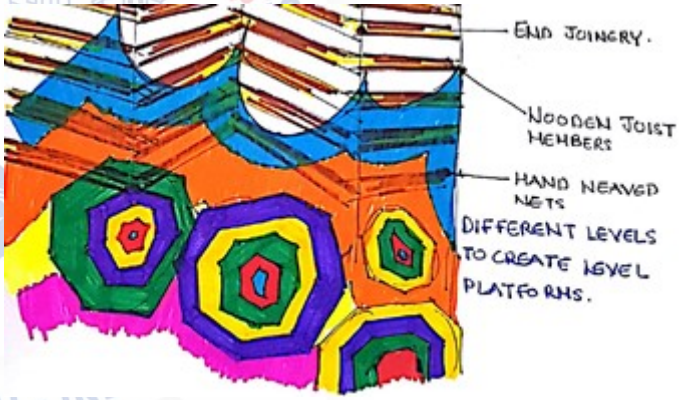


Which is design to childrens to crawl in , roll around , and jump on the net , according to childrens physcology. The children play inside of the net and parents sit around and lay on the woods. Nets are configured at different levels to create platforms, resting and playground areas.

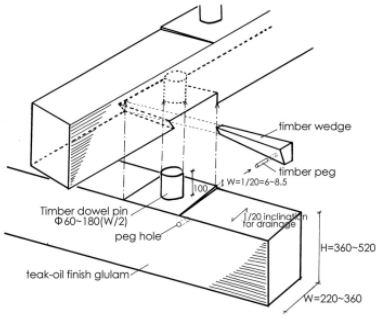


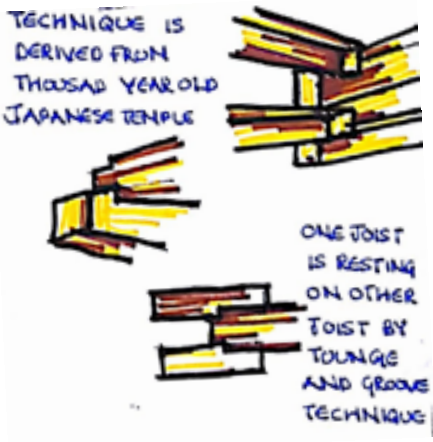


The structure is entirely composed of timbers without any metal parts . 320 cubic meters of timber members are used and there is nothing same among all 589 members . the latest structural program was developed for the pavilion , but the joint technique is derived from thousands years old japanese wooden temples in nara and kyoto. Cutting edge structural analysis has been emplyoyed to overcome the loads resistance variability that characterises timber . the structure use traditional wood joints .



JOINERY DETAILS

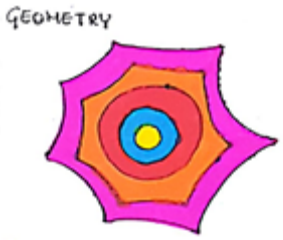




COLOURS

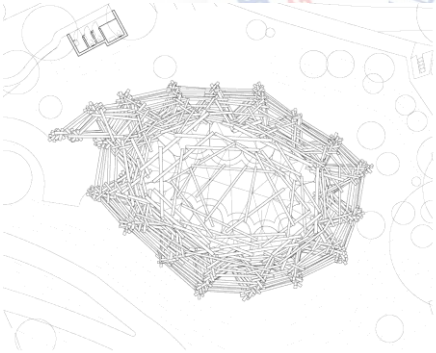
The colours used are bright and vibrant which attracts kids.

GEOMETRY

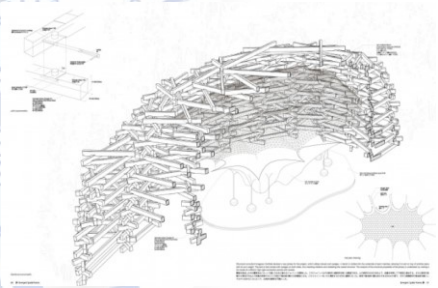


Geometry is created through tension and force of gravity including the weight of material.

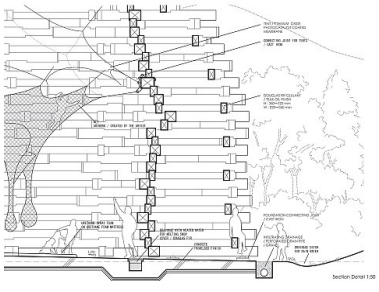
PLAN

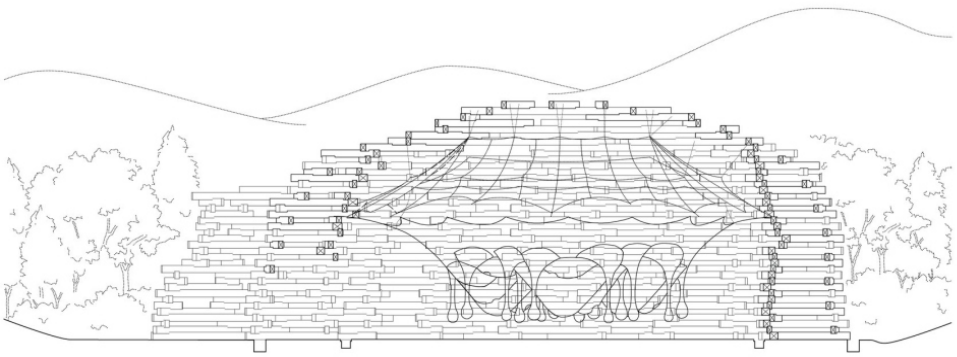


SECTION



ELEVATION





2.2.3 CASE STUDIES

JEWESH MUSEUM , BERLIN

Architects-Studio Libeskind

Location-Berlin, Germany

Architect-Daniel Libeskind

Project Year-1999

The original Jewish Museum in Berlin was established in 1933, but it was closed during Nazi rule in 1938. Till 1975 the museum remained vacant whe, a Jewish cultural group vowed to reopen the museum attempting to bring a Jewish presence back to Berlin. By 2001, Jewish Museum finally opened (completed in 1999) ,museum would finally establish a Jewish presence embedded culturally and socially in Berlin.

Jewish museum exhibits the social,political and cultural history of the Jews in Germany from the 4th century to the present. Three main idea which formed the foundation of the museum.

First, understanding the history of Berlin with the understanding of enormous intellectual, economic, and cultural contribution made by its Jewish citizens; second the necessity to integrate the meaning of the Holocaust, both physically and spiritually, into the consciousness and memory of the city of Berlin; third, that only though acknowledging and incorporating this erasure and void of Berlin's Jewish life can the history of Berlin and Europe have a human future"

While designing, the architect Daniel Libeskind plotted the addresses of German citizens and prominent Jewish on a map of pre-war Berlin and joined the points to for an"irrational and invisible matrix"on which he based the language of form, the geometry and shape of the building" (The Libeskind Building).

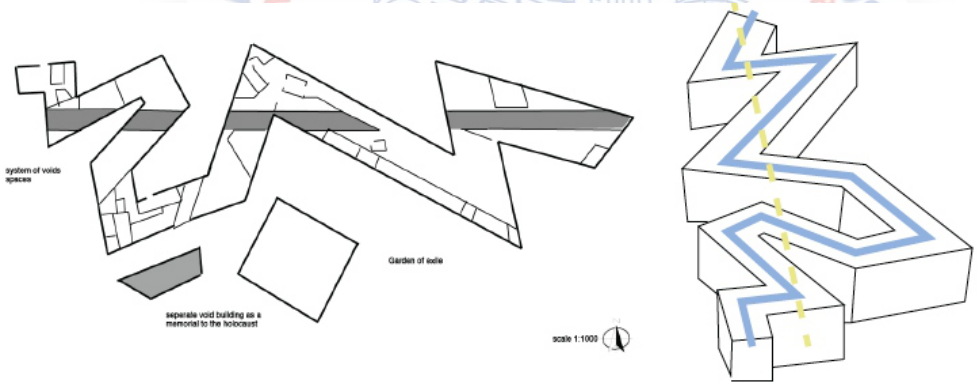
CONCEPT

Conceptually libeskind wanted to express feelings of absense , emptiness and invisibility – expression of dissappearance of jewesh culture . it was the act of using architecture as a means of narrative and emotion providing visitors with an experience of the effects of the holocaust on both the jewish culture and the city of berline.

The building's overall composition is that of a distorted Star of David, with a straight "void" running through the length of the building. Heavy with symbolism and metaphor, the building uses fragmentation, void, and disorientation to reflect the three aforementioned aspects of Jewish history.

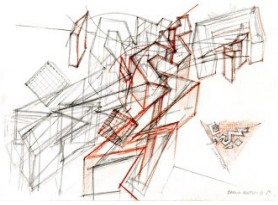
FORM

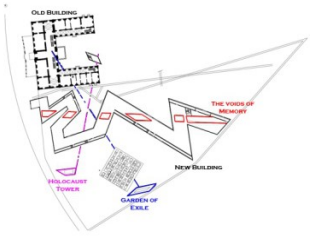
The form of the museum are based on a continous tortous line. Libeskind called his project "between the lines" since the void and the notion of the absence of jew in germany represented by empty spaces which are created not by the lines but by those spaces between the lines . the walls are important for they are the borders of those voids and this is the void " between the lines " the interesting thing is that no one who enters the building will expereince it as zig zag or a jaggad bolt of lightning . there are only its drawn resemblance as seen from above and will have virtually nothing to do with the volume of space located nside .



The jewesh museum has a fearless form which represents its naked reality of its location history . the sharp angles ,voilet lines and a wounded body of zigzag form mirror the violent dark history of jews.

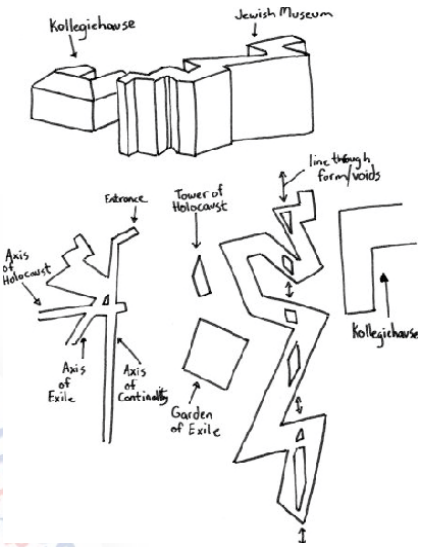
SPACES

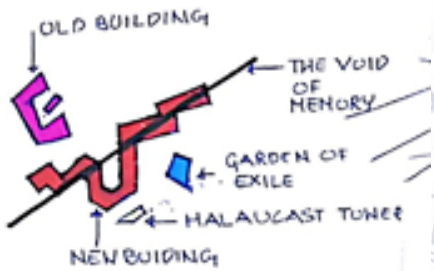




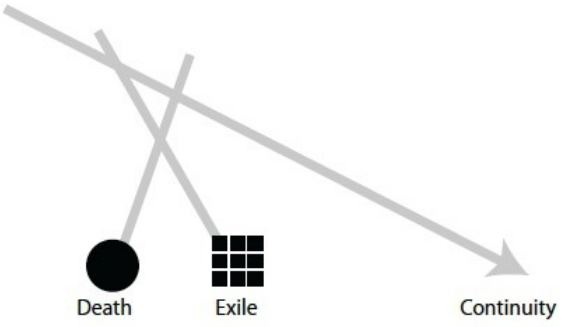
BASIC ZONNING AND PLANNING

In order to enter the new museum extension one must enter the from the original baroque museum in an underground corridoor . Libeskind creates a prominade that follows the zigzag formation of the building for the visitors to walk through and experince the space within . To witness the jewesh experience ,the three routes present opportunities ,through the continuity with german history , emigration from germany and the holocaust.

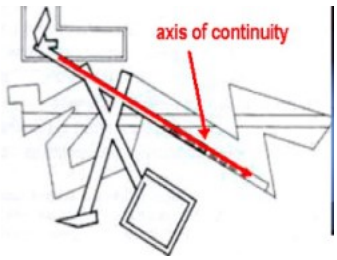


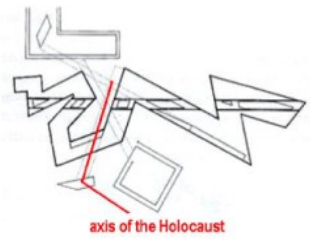


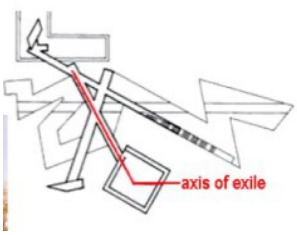
THER ARE THREE AXIS INSIDE



CONTINUITY , EXILE AND DEATH. Only one path will lead to museum gallery I,e the longest one , the continuity the continuity is the metaphore for the presence of the jewesh people . the exile corridoor leads to the garden . and death road leads to the holocaust tower which has no entrance.







ELEMENTS

Reinforced concrete which reinforces the moments of the empty spaces and dead ends where only a sliver of light is entering the space.

66' tall void that runs through the entire building where the only light emanates from a small slit at the top of the space.

A significant portion o f the extension is void of windows & difference in materiality.

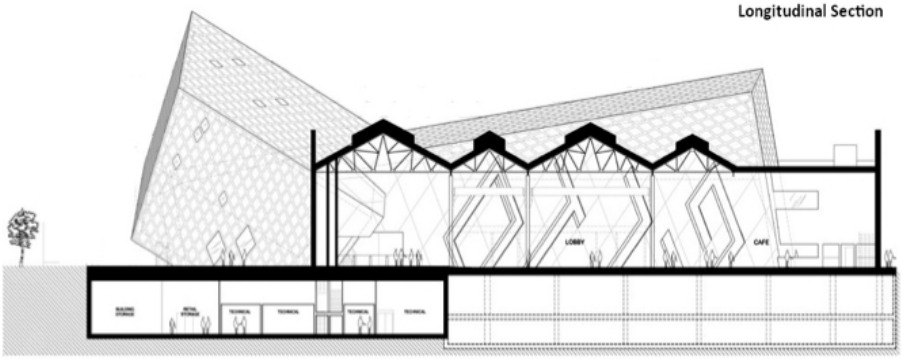
9 tall concrete pillars that are covered with plants The overbearing pillars make one lost and confused but once looking up to an open sky there is a mome of exaltation.

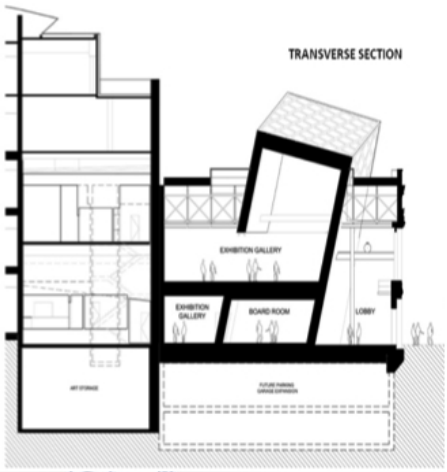
The interior spaces are extremly complex . libeskind formulated promenade leads people through galleries , empty spaces and dead ends . a significant portion of the extension is void of windows and difference in material.

Naked concrete walls withsharp angles are constructed to generate a meaningful conversation between body and the visitor .the informal geometry stir emotions , conveys angles ,fear , exile and death , squeezing between tall narrow walls , walking on the iron faces ,wandering in the exile gardens and terifying in the uncanny dark spaces are all real experience makes the museum immortal in the visitors mind .

SECTION

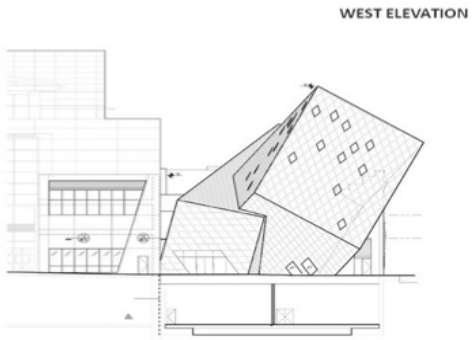
Longitudinal Section

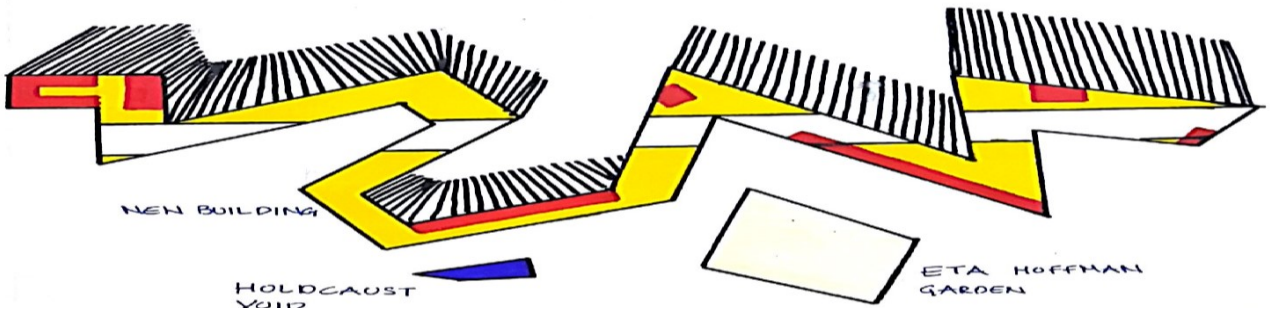



TRANSVERSE SECTION
EXHIBITION GALLERY
EXHIBITION GALLERY
BOARD ROOM
LOBBY

ELEVATION


EAST ELEVATIOI


WEST ELEVATION


NEW BUILDING
HOLOCAUST VOID
ETA HOFFMAN GARDEN

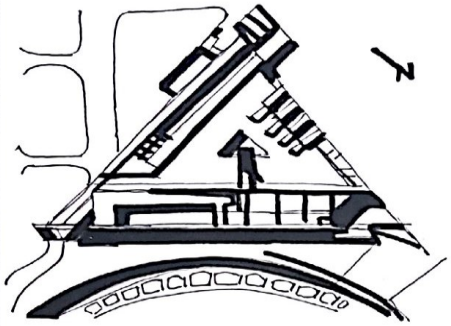
ARLES ARCHEOLOGICAL MUSEUM

LOCATION - ARLES, FRANCE
ARCHITECT - HENRI CIRIANI
PROJECT YEAR -
SITE AREA -
BUILT UP AREA -
NO OF FLOORS - G + 1

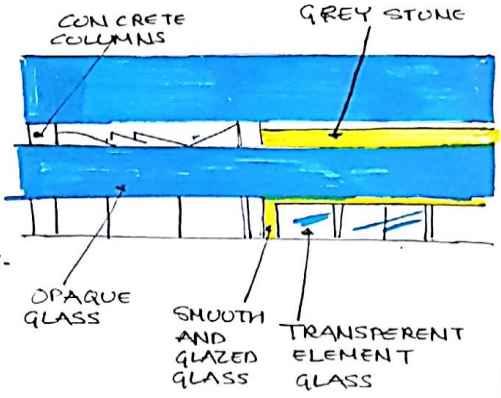
ARCHITECT CONCEPT

A SYMBOL OF THE PERMANENCE OF ANCIENT ARLES, WITH THE ORIENTATION CONDITIONS THE DEGREE OF OPACITY OF THE THREE WALLS AND THE AXIS IS TOWARD SOME SPECIFIC POINT OF VIEWS.

ANALYSIS OF BUILDING



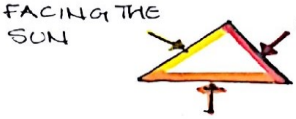
MATERIAL.



LIGHT

COLUMN GRID IS USED WHICH ALLOWS QUALITY LIGHT

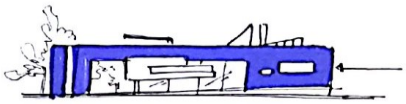
NATURAL LIGHT IS MODULATED, CONTROLS OR SCREENED BY OVER HANGS.



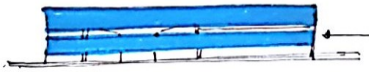
FACING THE ROMAN CIRCUS AND THE HISTORIC CITY

TRIANGULAR FORM ALLOWS EXHIBITION SPACES TO FORM A RING WHICH REDUCES CIRCULATION.

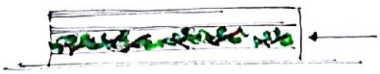
THE STRUCTURE IS A GRID OF CONCRETE COLUMNS WHICH ALLOWS TO AVOID PARTISION WALLS WHERE THE QUALITY OF NIGHT IS DEFINED



EAST FACADE IS OPAQUE



FACADE FACING RIVER RHONE IS SMOOTH AND GLAZED

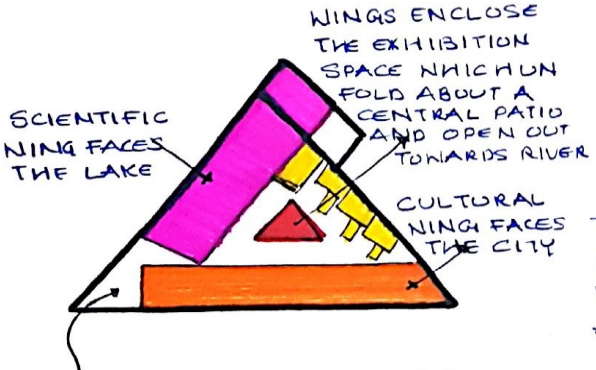


FACADE FACING ROMAN CIRCUS IS FORMED BY TRASPERENT ELEMENT

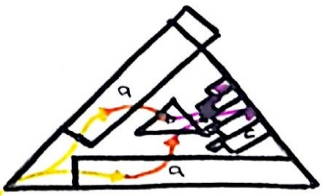
CIRCULATION

GEOMETRY

BASIC ZONING.



THE GEOMETRY COMPRISES OF TRIANGLES AND RECTANGLES. AND COMES UP TO A TRIANGULAR FORM



AFTER VISITING THE SCIENTIFIC WING AND THE CULTURAL WING LEADS TO CENTRAL EXHIBITION PATION AND THEN OPEN OUT TOWARDS RIVER

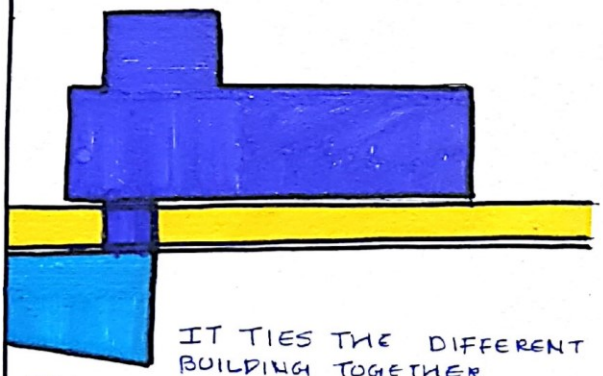
LANDESUSSTELLUNG KARNTEN

LOCATION - HUTTENBERG, AUSTRIA
YEAR OF CONSTRUCTION-
ARCHITECT - GUNTER DOMENIG
SITE AREA -
BUILT UP AREA-
NO OF FLOORS -

ARCHITECT CONCEPT

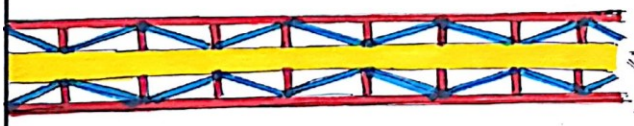
AN OLD STEEL WORK THAT HAD BEEN ABANDONED AT THE BEGINING, THE ARCHITECT HADE A REINTERPRE-TATION OF LARGE ARCHITECTURE OF THE FACTORY, HELTED WITH NEW FORMS, IN ORDER TO CREATE A MODERN CONFERENCE AND EXHIBITION SPACE.

ANALYSIS OF BUILDING.



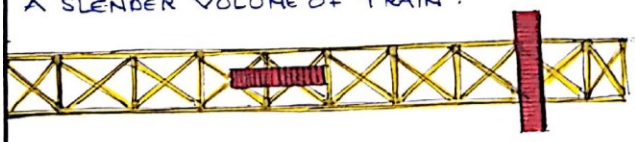
IT TIES THE DIFFERENT BUILDING TOGETHER

THE CONSTRUCTION IS ARTICULATED BY A BRIDGE SUSPENDED ABOVE THE OLD FACTORY



AN ORGANIC, WINDOWLESS VOLUME UNDER A METAL SKIN

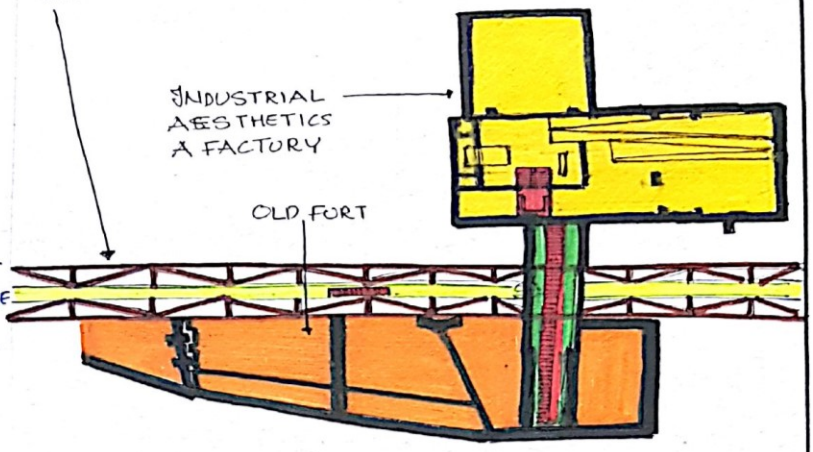
A GALLERY THAT RUNS THROUGH OUT LIKE A SLENDER VOLUME OF TRAIN.



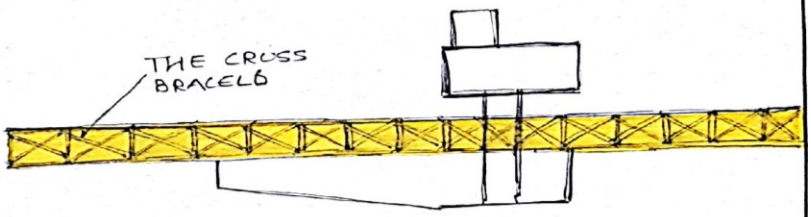
CONNECTING JUNCTIONS FROM ONE BUILDING TO OTHER

BASIC ZONING.

THE NEW INTERVENTION

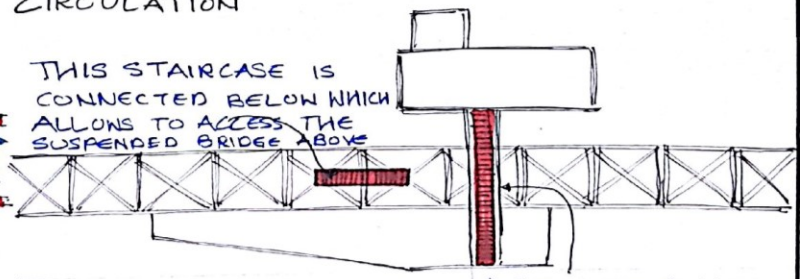


GEOMETRY

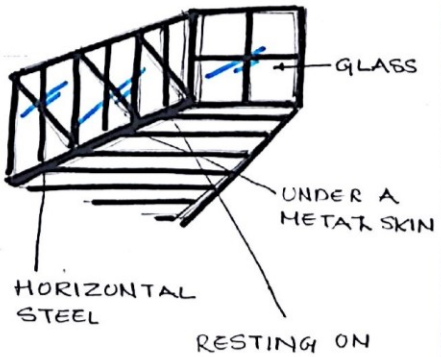


GALLERY RUNS THROUGH THE WHOLE PLAN IN A SLENDER RACTAGULAR BLOCK.

CIRCULATION



MATERIAL



ACONNETING NODE WHICH CONNECTS THE OLD FORT AND THE FACTORY

VIEW.

IMPRESSIVE TO GO ALONG IT AND VIEW THE OLD WALLS FROM NEW PERSPECTIVE OR TO LOOK DOWN FROM ONE OF THE TWO SMALL BALCONIES INTO MACHINE

COMPARATIVE ANALYSIS

NO OF CASE STUDIES.

LIVE CASE STUDY	NET CASE STDY	BOOK CASE STUDY
CALICO MUSEUM OF TEXTILE AND SARABHAI FOUNDATION COLLECTION, AHMEDABAD. KASTURBHAI LALBHAI, MUSEUM, AHMEDABAD. HIGH STREET PHEONIX, PAREL	NATIONAL HANDICRAT AND HANDLOOM MUSEUM, NEW DELHI NOODS OF NETS, HAKONE OPEN AIR MUSEUM, JAPAN JEWESH MUSEUM, BERLIN	LANDESSUSTELLUNG, KARNTEN, HUTTENBERG, AUSTRIA ARLES ARCHEOLOGICAL MUSEUM, ARLES FRANCE.

SELECTION OF CASE STUDY, WHY ?

THESIS TOPIC

MUMBAI, A PORT CITY TRANSFORMED TO CITY OF TEXTILE MILLS. GIRGAON WAS CHARACTERIZED BY INDUSTRIAL ARCHITECTURE. AND TODAY THE TEXTILE MILL LAND IS BEING TRANSFORMED INTO NEW OASIS OF ELITE BUSINESS AND LEISURE CONCERN.

LET THE MUMBAI GROW BUT NOT AT THE COST OF 100% DESTRUCTION OF HERITAGE AND HISTORIC STRUCTURES

AN OPPORTUNITY TO PRESERVE OLD MILL ARCHITECTURE IN FORM OF TEXTILE MUSEUM WHICH WILL KEEP THE CULTURE OF COTTON MILLS ALIVE

SITE.

INDIAN UNITED MILLS 2 & 3, KALACHOWKIE.

CASE STUDIES

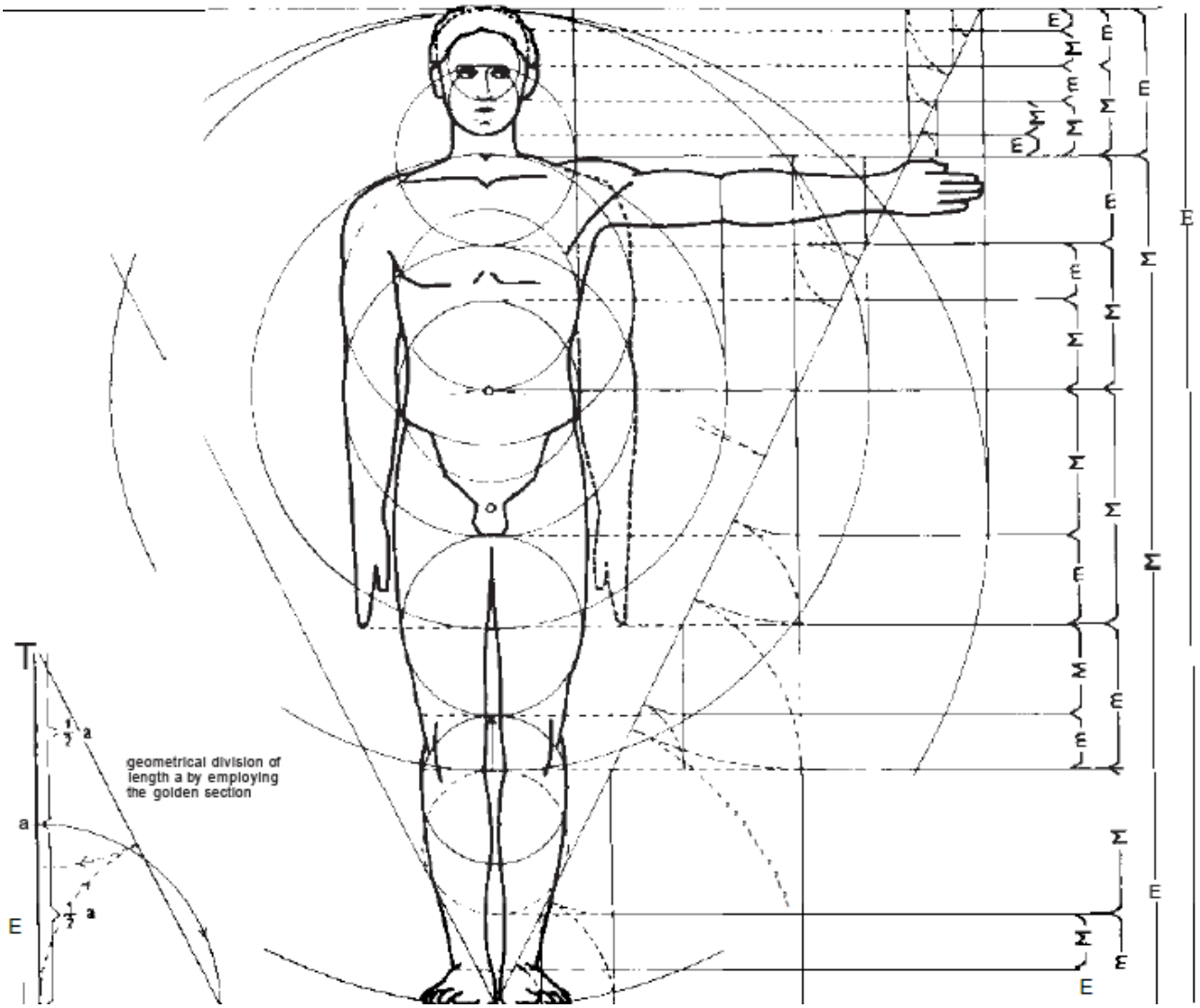
AS THE TOPIC IS TEXTILE MUSEUM ON MUMBAI'S COTTON MILL LAND AS IN TO PRESERVE THE HERITAGE OF CITY. WHERE THE FACADES AND THE BUILDING BLOCK HAS TO BE RETAINED BUT WITH A NEW FUNCTION IN IT, SO TRIED TO ACHIEVE THOSE POINTS EITHER IN THE MUSEUM IN ANCESTRAL HOMES OR IN THE EMOTIONS PLAYING IN THE FORM OR IN THE MANAGMENT OF SPACES.

COMPARATIVE ANALYSIS.

CASESTUDIES.	TYPE.	FORM	GEOMETRY	COLOURS	LANDSCAPE	MATERIAL	TECHNOLOGY
CALICO MUSEUM OF TEXTILE AND SARABHAI FOUNDATION, AHMEDBAD KASTURBHAI LALBHAI MUSEUM, AHMEDBAD HIGH STREET PHEONIX, PAREL NATIONAL HANDICRAFT AND HANDLOOM MUSEUM, NEW DELHI NOODS OF NETS, HAKON OPEN AIR MUSEUM, JAPAN JEWISH MUSEUM BERLIN LANDESSUSTELLUNG KARNTEN, HUNTTENBERG, AUSTRIA ARLES ARCHEOLOGICAL MUSEUM, ARLES FRANCE.	HILL LAND MUSEUM, TEXTILE ANCESTRAL HOME MUSEUM HALL, PALLADIUM, RESIDENTIAL TRADITIONAL VERNACULAR HANDICRAF KIDS PLAY AREA OUT OF HANDKNITT ON THE ENOTION OF JEWS INTERVENSION OF A GALLERY BETWEEN OLD BLD ORIENTATION ACCORDING TO DEGREE OF OPACITY OF THREE WALLS	AROUND FORNAL GARDEN AROUND ANCESTRAL BUNGLOW OPEN STREET SEMI OPEN CLOSE SPACES OUT OF TENSION Y FORCE OF GRAVITY CONNECTN LINES STEEL STRUCTURE FORM OF TRIANGLE WITH A GRID OF LINE	SQUARE AND RECTANGLE SIMPLE AND EXPRESSIVE SQURES AND RECTANGLES ACCORDING TO WEIGHT OF YARN. ZIG ZAG RECTANGLE WITH STEEL BRACING TRIANGLE AND RECTANGLE	BRONAL WHITE WHITE, SCHENTER RED BROWN BRIGHT VIBRANT COLOURS GREY TRANSPERANT GLASS WHITE	TRADITIONAL GUJRATI AMPHITHETER, PEBBLES, SHRUB COURTYARDS, PAVINGS, WOODS AND YARN ON AN OPEN GROUND GARDEN STEEL GIRDERS OPEN CENTRE PATIO	WOODEN FACADES GLASS, CONCRETE WOODEN CARVED WOOLY YARNS CONCRETE GLASS Y STEEL CONCRETE GLASS, GREYSTONE	TRADITION TRADITION WITH MODERNISM VERNACULAR OLD JAPANESE MODERNISM MODERNISM MODERNISM

2.3.1 STANDARDS AND DATA COLLECTION

MAN:THE UNIVERSAL STANDARD



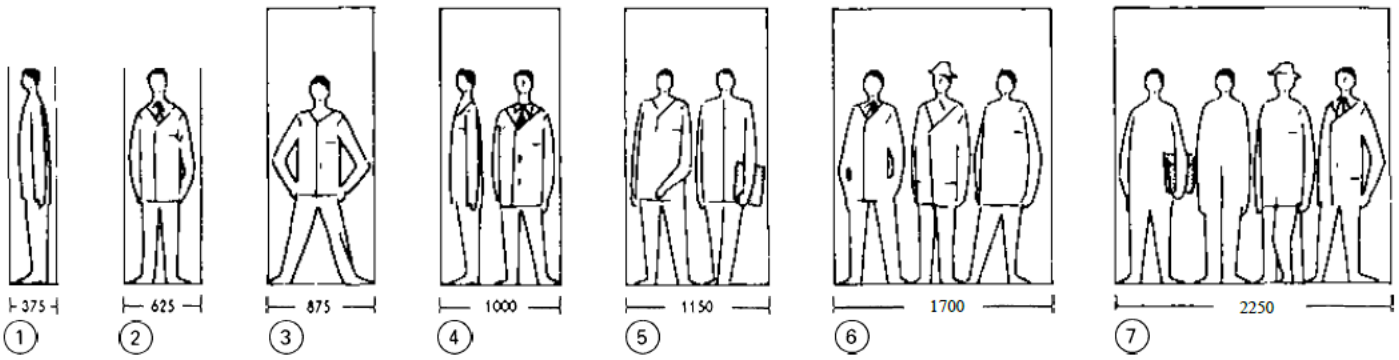
DIMENSIONS AND SPACE REQUIREMENT

BODY MEASUREMENTS

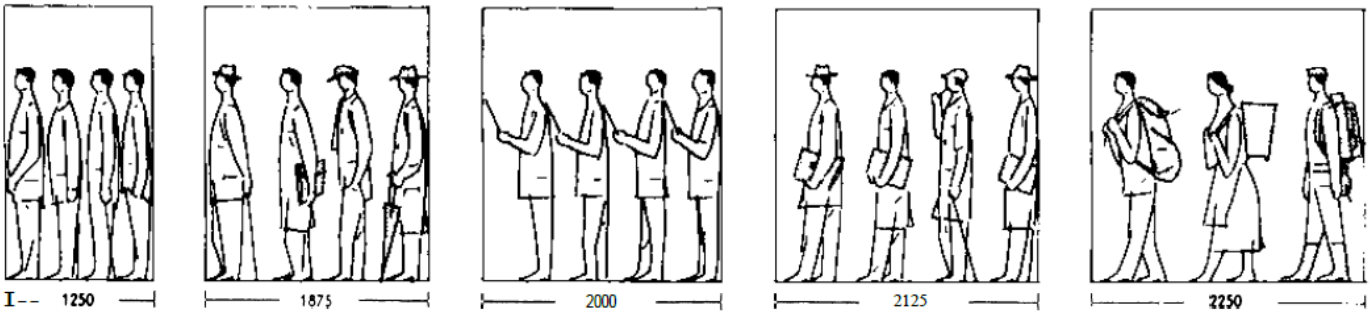
SPACE REQUIREMENTS BETWEEN WALLS

for moving people, add> 10% to widths

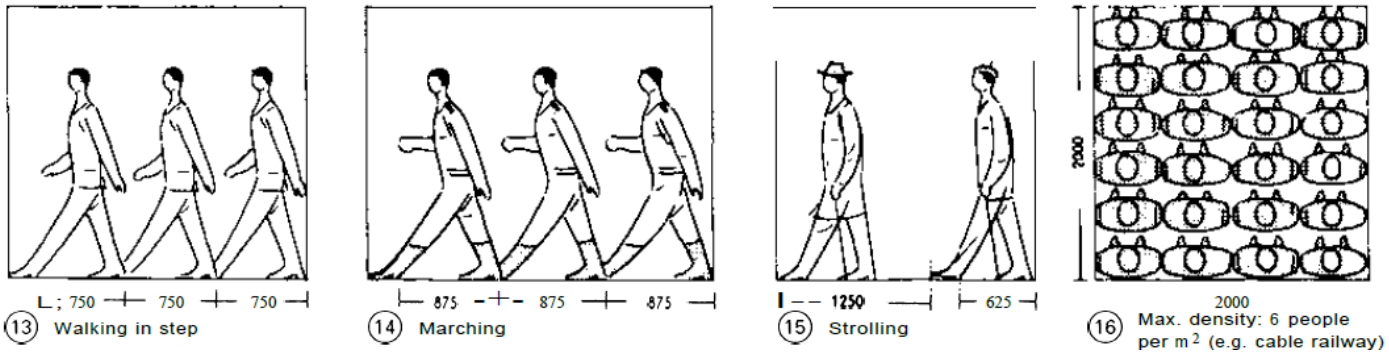
In accordance with normal measurements and energy consumption



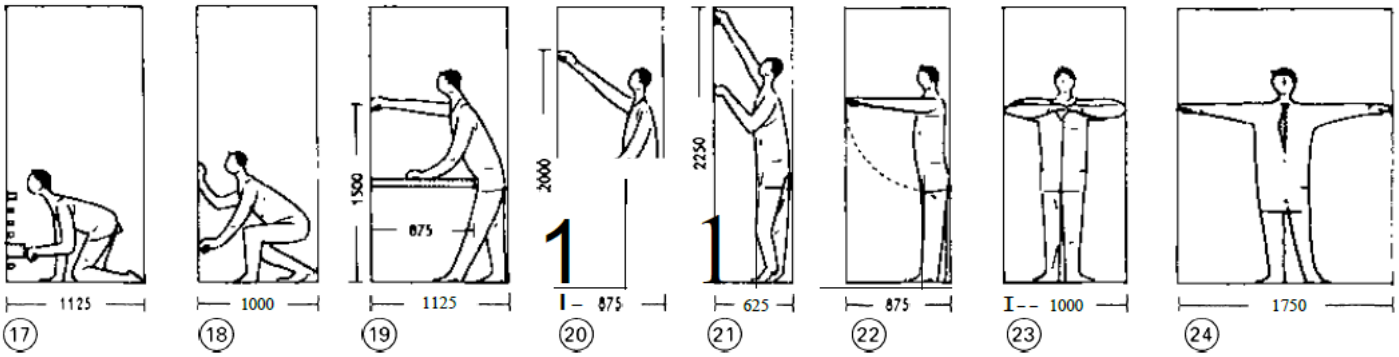
SPACE REQUIREMENTS OF GROUPS



STEP MEASUREMENTS

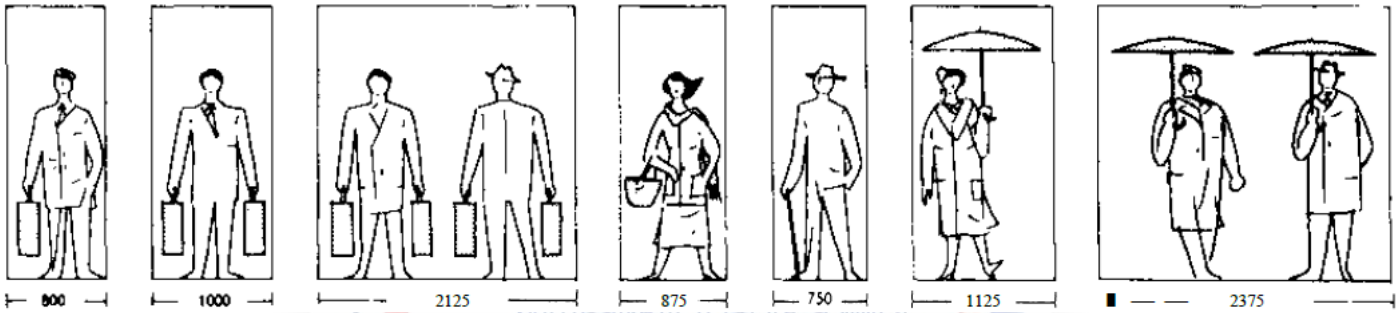


SPACE REQUIREMENTS OF VARIOUS BODY POSTURES



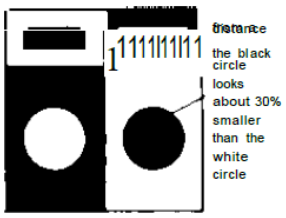
SPACE REQUIREMENTS WITH LUGGAGE

SPACE REQUIREMENTS WITH STICKS AND UMBRELLAS

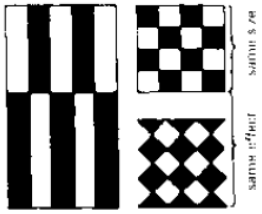


THE EYE PERCEPTION

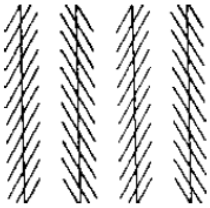
THE EYE: PERCEPTION



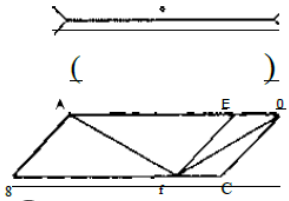
(1) Black areas and objects appear smaller than those of the same size which are white: the same applies to parts of buildings



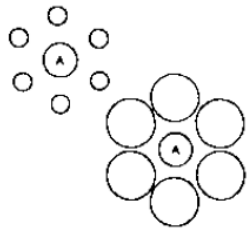
(2) To make black and white areas look equal in size, the latter must be drawn smaller



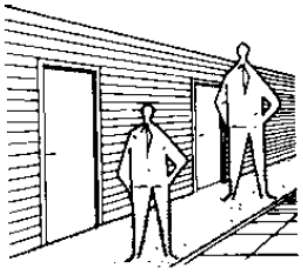
(3) These vertical rules are actually parallel but appear to converge because of the oblique hatching



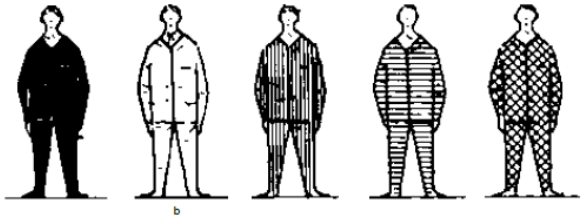
(4) Lengths a and b are equal, as are A-F and F-D, but arrowheads and dissimilar surrounds make them appear different



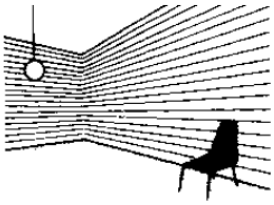
(5) Although both are equal in diameter, circle A looks larger when surrounded by circles that have a smaller relative size

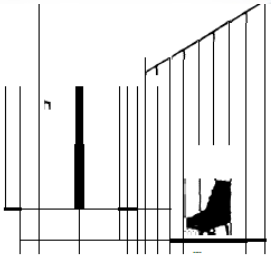


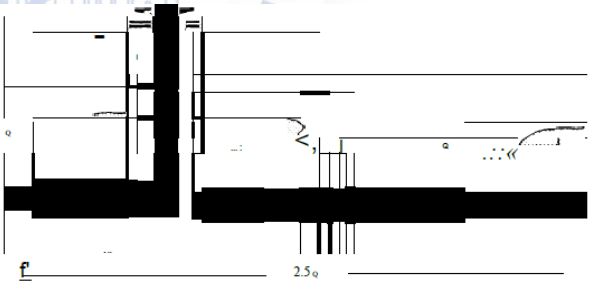
(6) Two identical people seem different in height if the rules of perspective are not observed



(7) The colour and pattern of clothing can change people's appearance: (a) thinner in black (black absorbs light); (b) more portly in white (white spreads light); (c) taller in vertical stripes; (d) broader in horizontal stripes; (e) taller and broader in checked patterns





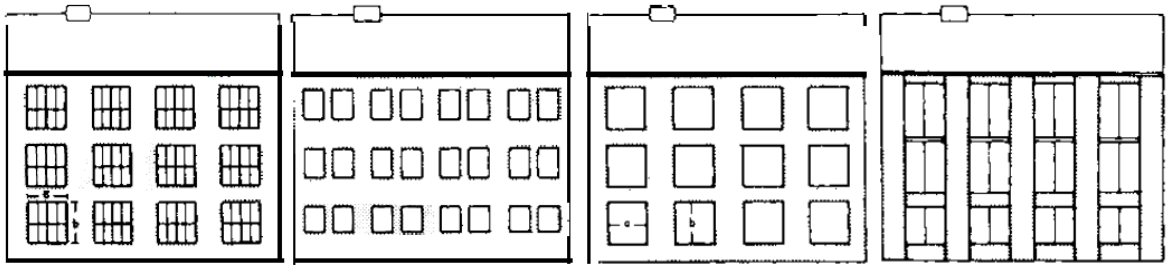


with different divisions, identical rooms can appear to differ in size and form

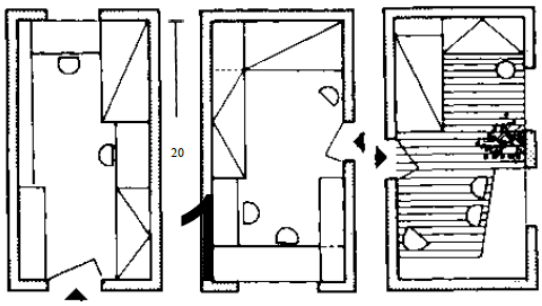
(8) Dynamic effect

(9) Static effect

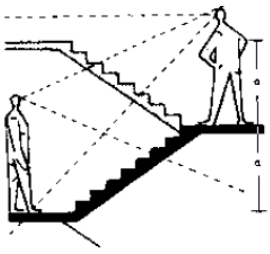
(10) Vertical dimensions appear disproportionately more impressive to the eye than horizontal ones of the same size



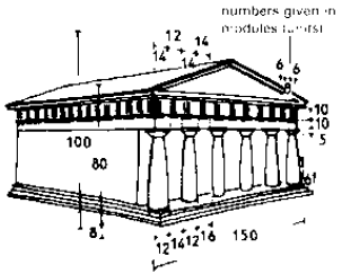
(11)–(14) The perception of scale is changed by the ratio of the window area to the remaining area of wall as well as by architectural articulation (i.e. vertical, horizontal or mixed → (10)); glazing bars can contribute substantially to this



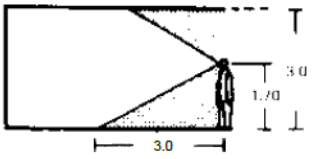
(15) - (17) **The positioning of windows, doors and furnishings can give a room different spatial appearances:** (15) long and narrow; (16) seems shorter with the bed across the room, or the table below the window; (17) with windows opposite the door and appropriate furniture, the room seems more wide than deep



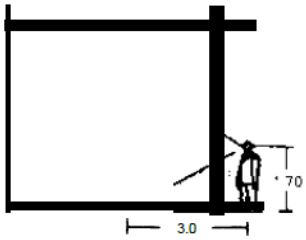
(18) A structure can appear taller if viewed from above; there is a greater feeling of certainty when looking up



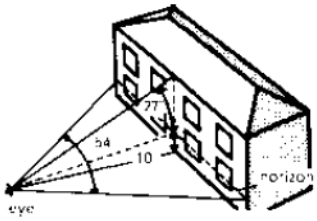
The walls slanting suitably inward seem vertical; steps, cornices and friezes when bowed correctly upwards look horizontal



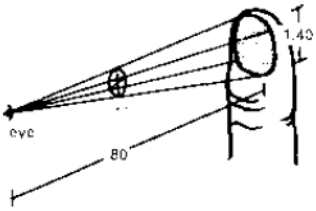
The perception of a low room is gained 'at a glance' (i.e. still picture)



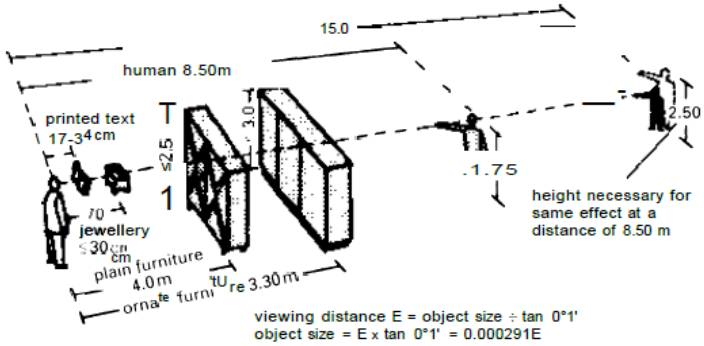
(2) In higher rooms, the eyes must scan upwards (I.e, scan picture)



(3) The human field of vision (head still, moving the eyes only) is 54° horizontally, 27° upwards and 10° downwards

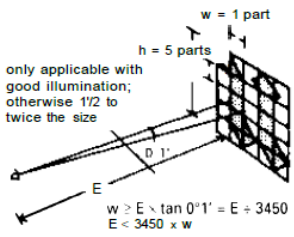


The field of view of the normal fixed eye takes in a perimeter of 1° (approx. the area of a thumbnail of an outstretched hand)

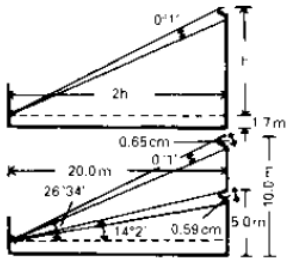


viewing distance E = object size ÷ tan 0°1'
object size = E x tan 0°1' = 0.000291E

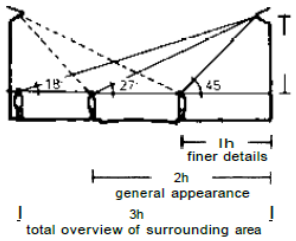
(5) The eye can resolve detail within a perimeter of only 0°1' (the field of reading), thus limiting the distances at which objects and shapes can be distinguished accurately → @



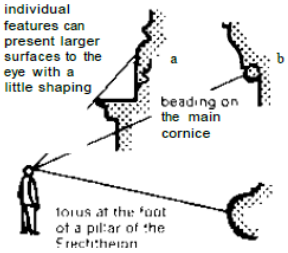
(6) To be readable at a distance of, say, 700m the width w of the letters must be: ≥700x0.000291 = 0.204; height h is usually 5w: 5xO.204 = 1.020m



(7) As in the previous examples, the size of structural parts which are differentiable can be calculated using the viewing distance and trigonometry

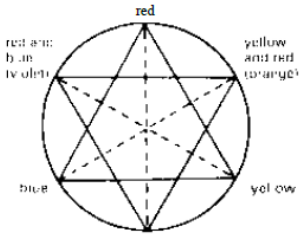


(8) Street widths play an important role in the level of detail which is perceived from ground level

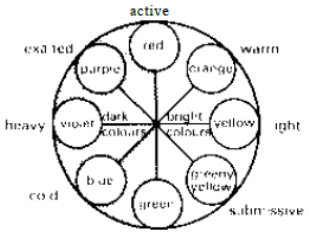


(9) Parts of buildings meant to be seen but sited above projections must be placed sufficiently high up (see a)

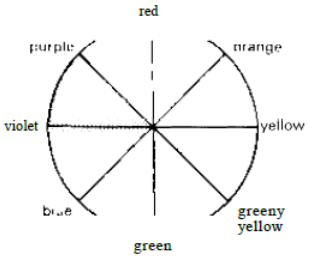
MAN AND COLOUR



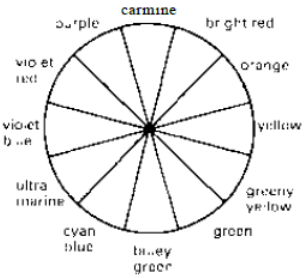
Goethe's natural colour circle: red-btue-yellow triangle are basic colours (from which all colours can be mixed); green-**orange–violet** triangle shows colour mixtures of the first rank



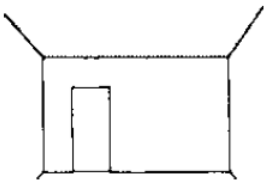
(2) Bright and dark colours and their effect on humans



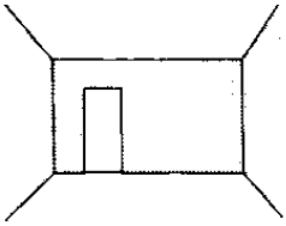
(3) Light and heavy colours (not the same as bright and dark colours → (2)): create a 'heavy' feeling



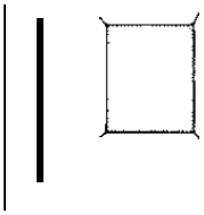
The colour circle's twelve segments



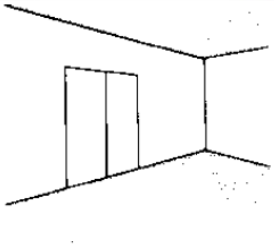
(5) Dark colours make a room heavy: rooms seem to be lower, if ceilings are heavily coloured



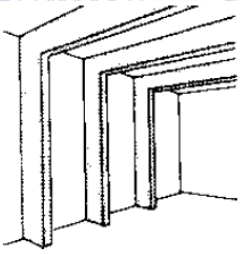
(6) Bright colours give a lift: rooms seem higher with emphasis on walls and light ceilings



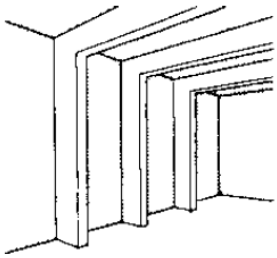
(7) Long rooms seem shorter if end cross walls stand out heavily



(8) White as a dominant colour, e.g. in laboratories, factories etc.



(9) Dark elements in front of a bright wall give a powerful effect



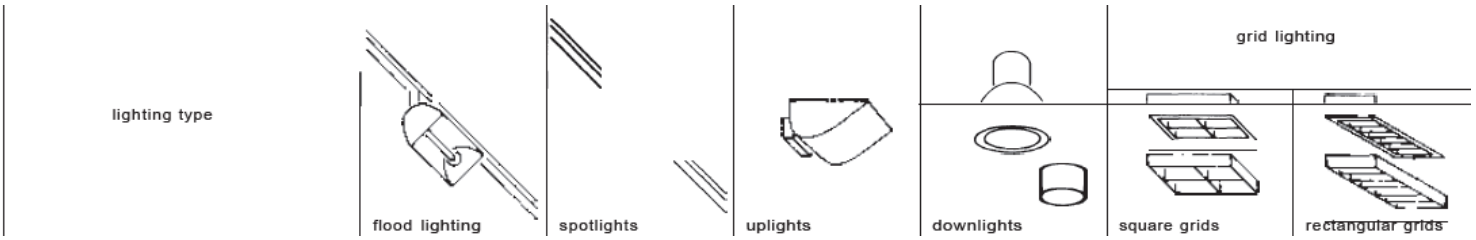
Bright elements in front of a dark background seem lighter, particularly when over-dimensioned

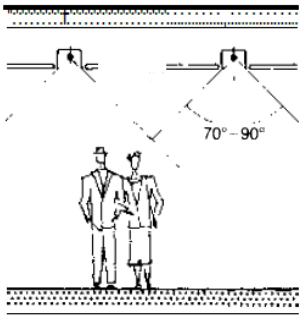
Brightness of surfaces

Values between theoretical white (1000/0) and absolute black (00/0)

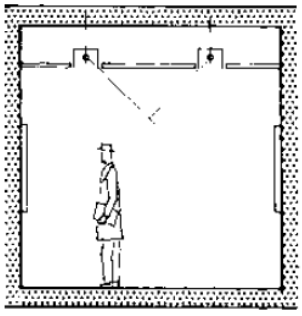
white paper	84	light brown	approx.25	grass green	approx. 20	asphalt, dry	approx.20
chalky white	80	pure beige	approx.25	lime green, pastel	approx. 50	asphalt, wet	approx.5
citron yellow	70	mid brown	approx. 15	silver grey	approx. 35	oak, dark	approx. 18
ivory	approx. 70	salmon pink	approx.40	grey lime plaster	approx. 42	oak, light	approx.33
cream	approx. 70	full scarlet	16	dry concrete, grey	approx. 32	walnut	approx. 18
gold yellow, pure	60	carmine	10	plywood	approx.38	light spruce	approx.50
straw yellow	60	deep violet	approx.5	yellow brick	approx. 32	aluminium foil	83
light ochre	approx. 60	light blue	40-50	red brick	approx. 18	galvanised iron sheet	16
pure chrome yellow	50	deep sky blue	30	dark clinker approx.	10		
pure orange	25-30	turquoise blue, pure	15	mid stone colour	35		

LIGHTING;LAMPS AND FITTING

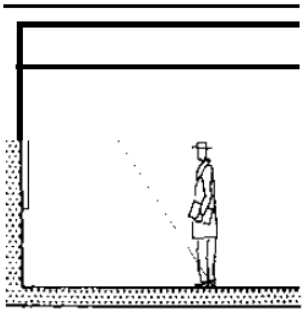




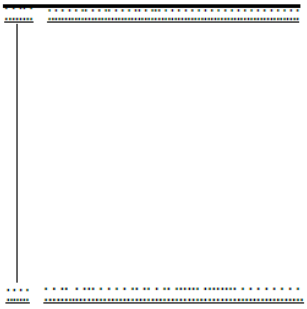
1 Direct symmetrical illumination



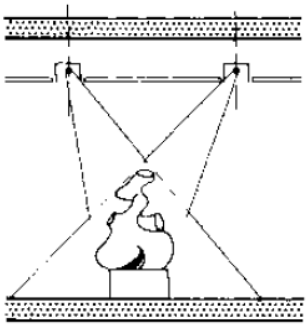
2 Wall flood; direct illumination



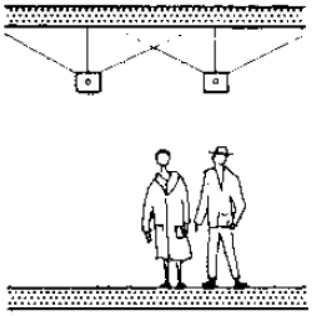
3 Wall flood on a power supply rail; partial room illumination



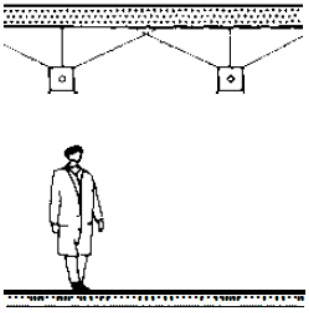
4 Wall floodlight



5 Directional spotlights

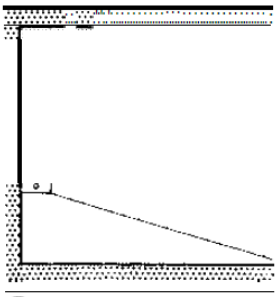


6 Indirect lighting

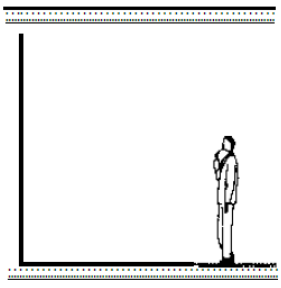


7 Direct/indirect lighting

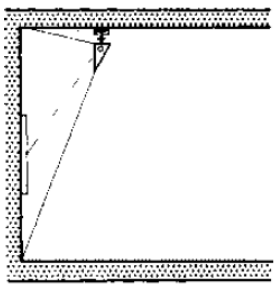
8 Ceiling floodlighting



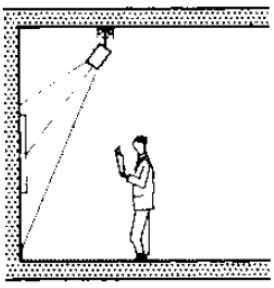
9 Floor floodlighting



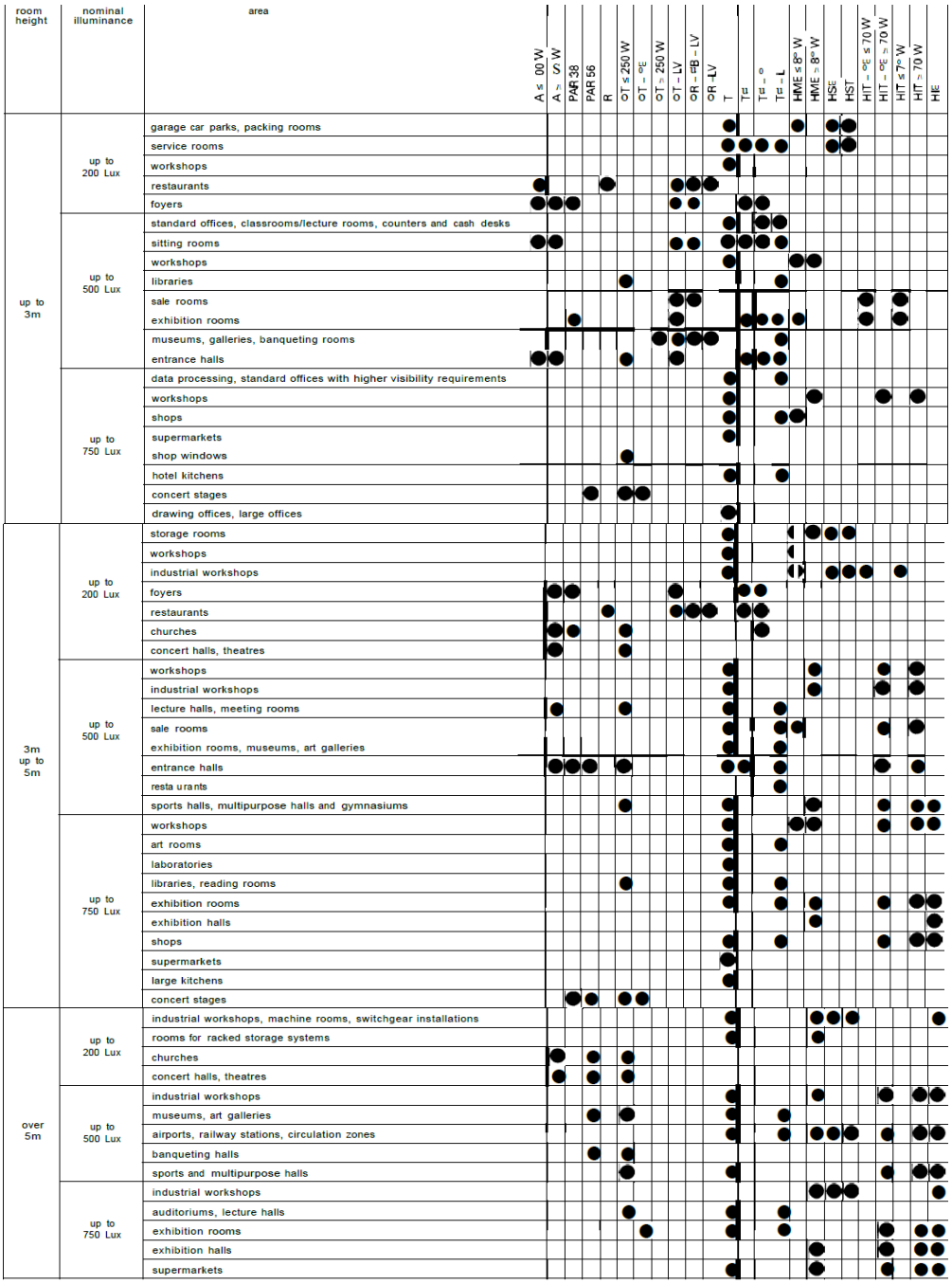
10 Wall light; direct/indirect lighting



11 Wall flood on power supply rail

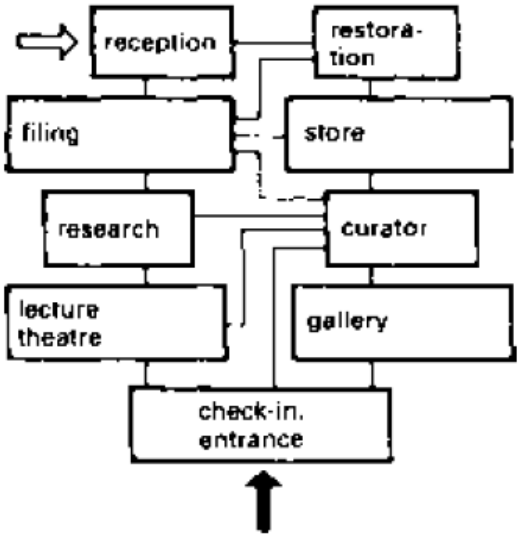


@ SPotlight on power SUPPIY rail

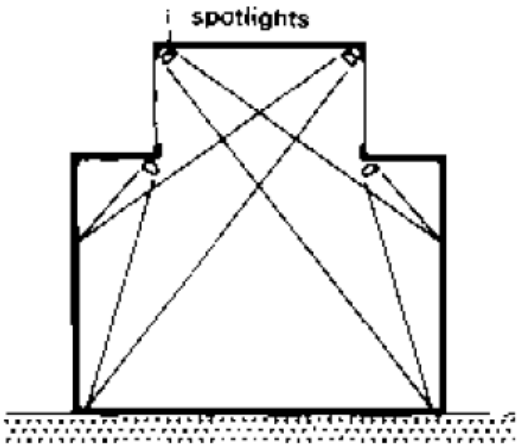


A = general purpose lamps
PAR = parabolic reflector lamps
R = reflector lamps
OT = halogen filament lamps
OT DE = halogen filament lamps, 2 sockets
OT - LV = low-voltage halogen lamps
OR - LV = low-voltage reflector lamps
OR-CB-LV = low-voltage reflector lamps, cold light
T = fluorescent lamps
TC = compact fluorescent lamps
TC - D = compact fluorescent lamps, 4 tubes
TC - L = compact fluorescent lamps, long
HME = mercury vapour lamps
HSE = sodium vapour lamps
HST = sodium vapour lamps, tubular
HIT = halogen metal vapour lamps
HIE = halogen metal vapour lamps, elliptical

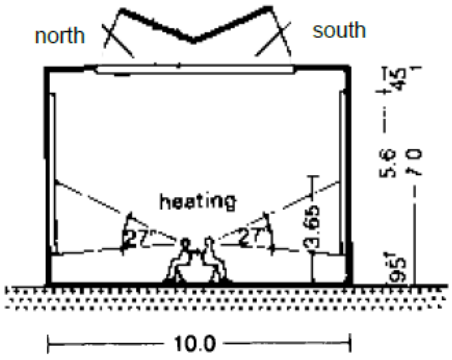
(1) Provision of lighting for internal areas



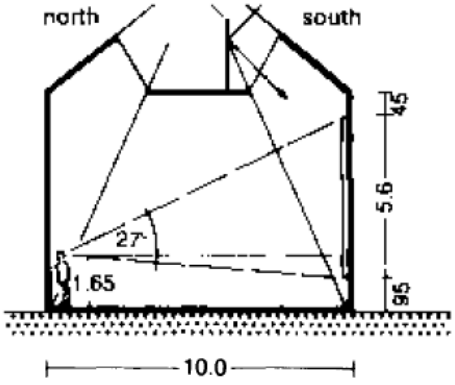
1 Circulation diagram



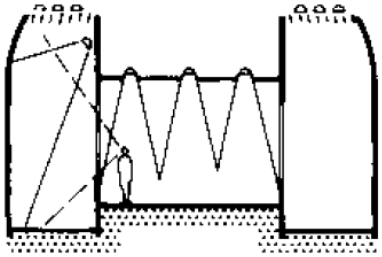
2 Install lighting so that angles of incidence correspond with natural light



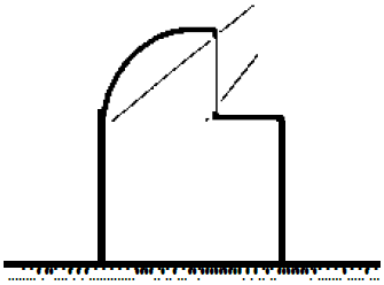
5 Well-lit exhibition hall based on Boston experiments



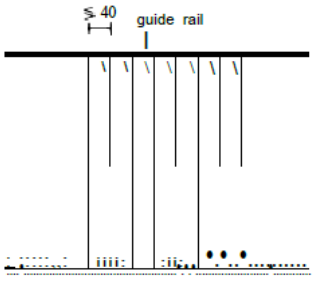
6 Ideal uniform lighting from both sides (following S. Hurst Seager)

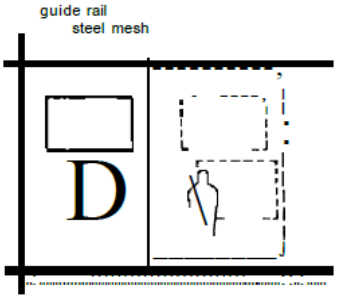


(3) Typical cross-section for museum of natural history

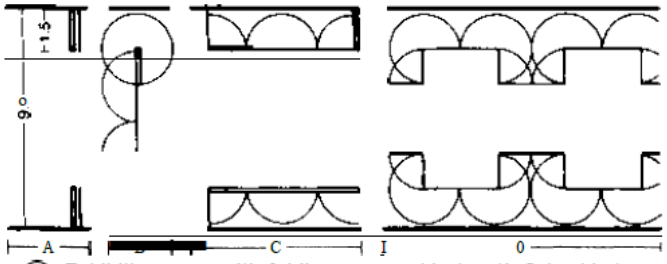


(4) Gallery passage, lit from one side only, lower part with indirect, attenuated lighting

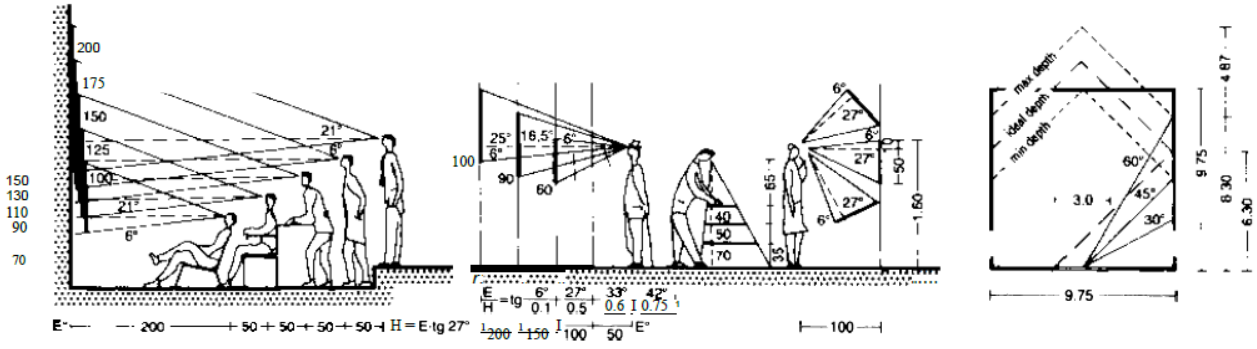




(7) Painting store with sliding steel mesh frames on which pictures can be hung as desired and be available for study



(8) Exhibition room with folding screens (design: K. Schneider) allows great variety of room arrangements



(9) Field of vision: height/size and distance

(10) Exhibition room with side lighting

The issue of the redeveloping in the mill land first came up in the early 1980's and in the appendix 3 is the memo suggesting the one-third formula sent in april 1985 to the then chief secretary B.G deshmukh .

The idea was simple a mill could be allowed to sell its land provided it surrendered one-third to the city for civic users – park, maidan, schools, hospital etc . another third wold be reserved for affordable housing (either through MHADA or through housing co-opratives). Th last third could be sold to open markets – and wold carry not only its own FSI , but also that on the land surrender to the city.

However in 1991 , in the changed context of the liberalization of the economy and due to the presure of the central government and the board for industrial and reconstruction (BIFR) , the maharashtra government indused regulation 58 in the development control regulations (DCR). This allowed the development of surplus mill lands but only for the revival or modernisation of the mills after approval of the BIFR .DCR 58 prescribed , among other things , that every mill applying for permission to develop its lands would have to surrender 33% of its land to BMC for public open spaces and 27%-37% - depending upon the area to the maharashtra housing and development authority (MHADA) for housing.

In exchange the owner got transfer of development (TDR) equal to the areas surrendered, which they could exploit. DCR 58 clearly specified that for calculating the area to be surrendered to BMC and MHADA the "entire open area and the land under the structure was to be considered ". only the structures to be retained for the revived mill were excluded . with this formula the city would get 200 acres of open public spaces and the same amount of the land for affordable housing which would accommodate 28,500 families at the rate of 30 sq.m (323 sq.ft) per family .

Appendix I

Order of february 29 , 1996

Regarding the correa committee

No. TPB 4396/ 123/ CR14/ 96/ UD-II
Urban development department ,
Government of maharashtra ,
Mantralaya , mumbai 400032

29 february, 1996

ORDER

Wghere development control regulation no. 58 of the development control reguation for brihan mumbai , 1991 has a provision that the muncipal commissioner may allow in respect of lands of cotton textile mills in brihan mumbai utilization of the existing newly built up area and / or land after dimolition of existing structures as well as lands for purpose of modernisation and after shifting and allow on such conditions deemed appropriate and specified by him.

Whereas it is considered necessary to avoid piecemeal and isolate development and that an integrated development plan for these textile mill lands and areas should be prepared on the principles of:

- Proper land use pattern therein as well as in adjoining areas.
- The requirement of additional facilities.
- Relevant architectural and urban form , and
- The environment and heritage aspet to be maintained /brought about in these areas .

And whereas it is necessary to ensure this without depriving any one of sthe benefits in terms of the FSI etc.

Now therefore in exercise of the powers wasted under development control regulations no. 62(3) for brihan mumbai and the provisions of section 154 of the maharashtra regional and town planning act , 1966, government is hearby pleased to resolve :

- That the munciple commisioner shall not give any building permission with effect from the date of this orders for the lands of and reserved as cotton textile mills unless it conforms to an integrated development plan of the textile mill area now under preparation and necessary stipulations and guidelines contained therin.
- That a study group comprising the following person, viz.
  Shri charles correa

Shri D.M. sukhtankar , chairman , heritage conservation committee

Shri deepak parekh , chairman , HDFC

Shri A.N kale director (ES & P) ,BMC

Shri gs pantbalekundri , deputy secretary , urban development department

Shri V.K pathak , chief planner , MMRDA , convenor

Is hereby constituted to prepare an integrated development plan for lands of cotton textile mills in brihan mumbai within a period of 60 days.

- That the urban development department shall get such a plan published for objectives and suggestions of the public within a period of 30 days , and thereafter submit it to the government to the approval
- That the government shall approve the same with or without modifications and
- That the muncipal commisioner shall ensure that all development permissions in respect of cotton textile mills lands and structures are given in accordance with the features and guideline for such an approved integrated development plan only , and that all relevant stipulations there in shall be specified by him as appropriate conditions for the purpose of development control regulation no. 58 without fail.

By orders and in the name of government of maharashtra

Sd/-

(DT josph)22-2-1996

Secretary of government

Appendix I

Extracts from the report of the study group appointed by the government of mahararshtra in 1996 to prepare a plan for the cotton textile mills in mumbai

BACKGROUND

1.1 there are 58 textile mills in the city of mumbai . of thes 26 were deened "sick" and were therefore taken over by the government of india – 25 of which are managed by NTC (the national textile corporation) and I by MSTC (maharashtra state textile corporation).the remaining 32 mills continued to be in the private sector.

1.2 Regulation 58 of the new development control regulations ,which came into force in march 1991. provides for development of lands of sick and / or closed cotton textile mills on conditions that :

a. One third of the land is gien to the BMC for public open spaces.
b. 27-37 percent (depending on the area of the site) is given to MHADA and PSUs for housing . the remaining land could then be developed by the owner for residential or commercial uses as maybe permissible in the D.C regulation in force.

1.3 in short the DC regulation of 1991 intended to regulate the development / redevelopment of cotton textile mill lands so as to generate open spaces and public housing for the city , in a manner which would create coherant urban form. It is truly unique opportunity for mumbai and that too in a congested area in the heart of the city which has long been neglected.

1.4 Unfortunately, in reality this has not happened . on the contrary , the sickness and the closure of the mills has frightened the workers into a state of insecurity . and such redevelopment that has occurred has been in a piecemeal and haphazard manner on a totally commercial basis without any portion of land becoming available either for low income housing or for public amenities . this has happened for a variety of reasons – one of the most crucial ones being the lack of any overall planning and and development strategy seeking to create coherant urban form ,housing for low income groups and civic amenities , and generate new employment opportunies for workers thrown out of employement by the closure of the mills.

1.5 This is why government of maharashtra by its notification dated 29 february 1996 set up our study group to prepare an integrated development plan for these textile mill lands on the basis of certain principles specified therin . the study group has undertaken this work in coordination with the secretaries committee of the government whivh was simultaneously studying other aspect of the same problem.

METHODOLOGY

1.1 shows the locations of the 58 textile mills in the city of mumbai , and indicates which ones are with NTC and MSTC and which are in the private sector . as a first step , the study group appointed teams of architects , engineers and conservations to visit the 58 mills and appraise and document the various structures and other prominent features in each of them.

1.2 Since the study group was denied access to the 32 mills in the private sector (except for 3 which appeared to be extremely keen to sell some of their lands right away) . this report deals principally with the 23 mills that are with NTC and so were reasonably accessible.

1.3 The strategy for evolving land-use plans for the NTC mill lands is briefly as follows :

A first of all , NTC identified those mill units which they felt were viable and whose land should therefore be retained by them in toto.

B NTC also identified those mill units which they had deemed to be viable , but which had a certain amount of a surplus land which could be disposed of.

C NTC felt that the land of the remaining mill units should be disposed of.

1.4 the total of all the disposable land available is divided into 3 equal parts. One third (comprising 7 sites) is proposed for being reserved for public housing to be developed by MHADA ; one third (consisting 4 sites and a portion of 4 others) for open spaces and public amenities ; and the last third (consisting of 3 sites and a portion of 3 others) for development for ntc

1.5 for each of the sites identified , a land use plan has been prepared showing how each site can be developed . through this methodology instead of meaningless hodge-podge of development , large and viable parcels of the land can be made available fo each of the 3 land uses specified , in a pattern which makes overall urban sense for the city.

Appendix 3

The Genesis of the One-Third Concept

April 1985 (from the files of the Mumbai Metropolitan Region Development Authority)

CHARLES CORREA
ARCHITECTS / PLANNERS

9 MATHEW ROAD, BOMBAY-400 004 ☎ 304858 & 304714 TELEX 011-3776 ab DCO

29 April 1985

Dear Shri Deshmukh:

As requested by you in our meeting on 24 April 1985, attached herewith is a list of issues which I think could be on the agenda of the Executive Committee.

I am also enclosing a note I had prepared a couple of years ago, which proposes incentives for new growth centres.

With kind regards,

Yours sincerely,

C.M. Correa

Shri Deshmukh
Chairman, Executive Committee
M.M.R.D.A.
Bombay

Encl: A.A.

Letter of April 29, 1985 to the Chief Secretary, Government of Maharashtra, with extract from attached memo.

THE SALE OF LAND WILL BE PERMITTED ON THE BASIS OF A SIMPLE FORMULA WHICH MAY PERHAPS BE AS FOLLOWS:

(i) ONE-THIRD OF THE LAND (WITH A MINIMUM OF SAY ONE ACRE) IS SURRENDERED TO BOMBAY MUNICIPAL CORPORATION FOR PROVISION OF PARKS, SCHOOLS OR OTHER SOCIAL AMENITIES.

(ii) ANOTHER ONE-THIRD OF THE LAND IS USED FOR LOW INCOME HOUSING AS PER THE STIPULATED GUIDELINES (OR IS SURRENDERED TO MAHARASHTRA HOUSING AND AREA DEVELOPMENT AUTHORITY FOR THIS PURPOSE).

(iii) THE REMAINING ONE-THIRD LAND, TOGETHER WITH THE FLOOR SPACE INDEX ON THE LAND SURRENDERED TO BOMBAY MUNICIPAL CORPORATION, CAN THEN BE SOLD AT MARKET PRICES AND USED FOR HOUSING (WITHOUT SPECIFYING THE INCOME LEVEL).

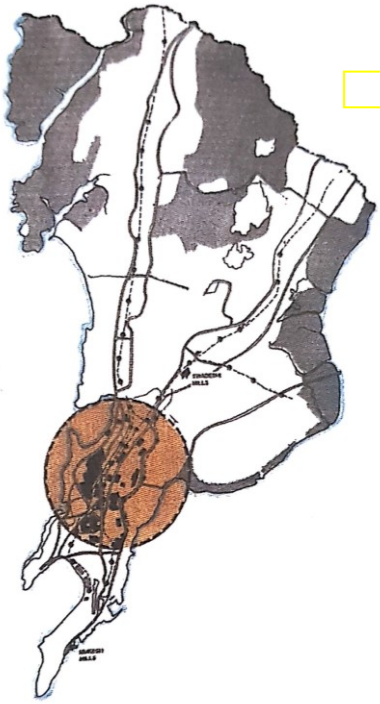
THUS THE SELLER SHOULD BE ABLE TO GET TWO-THIRDS OF THE CURRENT MARKET VALUE OF THE LAND (SINCE HE WOULD BE TRANSFERRING TWO-THIRDS OF THE F.S.I. TO THE BUYER). SUCH A POLICY WOULD

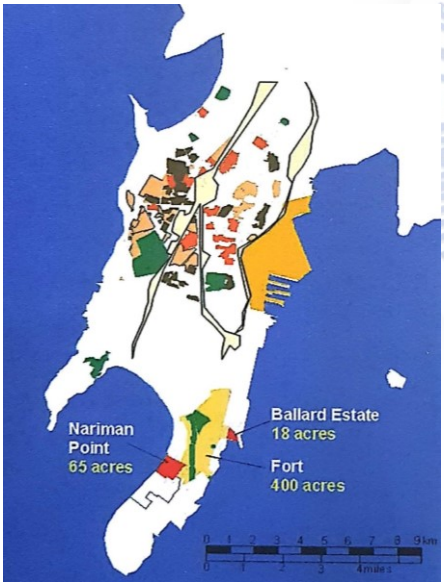
(i) INCREASE LAND FOR AMENITIES IN THE CITY WHERE IT IS MOST NEEDED.

(ii) PROVIDE LOW-INCOME HOUSES CLOSE TO WHERE THE JOBS ARE.

(iii) CONTRIBUTE TO THE RESOURCES AVAILABLE FOR THE DEVELOPMENT OF THE BOMBAY METROPOLITAN REGION.

LOCATION OF MILLS





N.T.C. MILLS PRIVATE MILLS M.S.T.C. MILLS

Total Land Potential: 2152 acres

NTC mill land	:	270 acres
Private mills	:	315 acres
BMC land	:	782 acres
Railway land	:	285 acres
BPT land	:	500 acres*
Total	:	**2152 acres**

AREA STATEMENT OF MILL LAND

SR. NO.	NAME OF MILLS	WARD		AREAS sq. mt.	acres	ha	NO. OF WORKERS	PRESENT STATUS on surplus land
1*	(N.T.C.) KOHINOOR (3)	G/N	P-4	20492.00	5.06	2.04	NIL	TO BE SOLD FULLY
2	(N.T.C.) INDIA UNITED (5)			45414.00	12.00	4.84		"
3	(N.T.C.) ELPHINSTONE MILLS	G/N	P-3	34382.00	8.49	3.43		"
4*	(N.T.C.) JUPITER MILLS	G/S	P-3	44164.00	10.93	4.41		"
5*	(N.T.C.) MADHUSUDAN MILLS	G/S	P-3	73246.00	18.15	7.32		"
6*	(N.T.C.) JAM MILLS	F/S	P-2	33517.00	8.30	3.35	1000	"
7*	(N.T.C.) SITARAM MILLS	G/S	P-2	52408.85	12.99	5.24		"
8*	(N.T.C.) NEW HIND TEXTILE MILLS	E	P-2	33720.00	8.35	3.37	1127	58000 SQM TO BE SOLD
9,10*	(N.T.C.) KOHINOOR MILLS (1,2)	F/N	P-6	87932.00	21.79	8.79	1150	42900 SQM TO BE SOLD
11*	(N.T.C.) TATA MILLS	F/S	P-1	139210.7	34.52	13.92	1688	27933 SQM TO BE SOLD
12*	(N.T.C.) MUMBAI MILLS (SAKSERIA MILLS)	G/S	P-3	67378.00	16.69	6.73		9595 SQM TO BE SOLD
13*	(N.T.C.) BHARAT MILLS	G/S	P-2	33882.00	8.35	3.38	1217	5303 SQM TO BE SOLD
14*	(N.T.C.) DIGVIJAY MILLS	F/S	P-2	37768.00	9.34	3.77	1450	38500 SQM TO BE SOLD
15*	(N.T.C.) APOLLO MILLS	G/S	P-5	56308.00	13.96	5.63	1066	8905 SQM TO BE SOLD
16*	(N.T.C.) INDIA UNITED MILL (4)	E	P-2	29968.00	7.41	2.99	1060	30432 SQM TO BE SOLD
17,18*	(N.T.C.) INDIA UNITED MILL (2,3)	E	P-2	64910.00	16.09	6.49	1000	5706 SQM TO BE SOLD
19*	(N.T.C.) INDIA UNITED MILL (5)	E	P-2	22501.00	5.56	2.25	850	TO BE FULLY RETAINED
20*	(N.T.C.) GOLDMOHUR MILLS	F/S	P-1	19325.00	4.78	1.93	1328	"
21*	(N.T.C.) PODAR PROESSORS (EDWARD)	G/S	P-2	9664.00	2.38	0.96	500 - 700	"
22*	(N.T.C.) INDIA UNITED MILL (1)	F/S	P-2	81142.00	20.11	8.11	1870	"
23*	(N.T.C.) FINLAY MILLS	F/S	P-2	42089.00	10.41	4.20	1900	"
24*	(N.T.C.) PODAR MILLS	G/S	P-3	24471.00	6.04	2.44		"
25*	(N.T.C.) NEW CITY OF BOMBAY MFG. MILLS	E	P-2	27105.00	6.72	2.71	1200	
	TOTAL					108.3		
26*	(M.S.T.C.) WESTERN INDIA SPG & WVG	F/S	P-2	31406.25	7.78	3.14		
27	(M.O.A.) SWADESHI MILLS	G/S	P-1	25000.00	6.2	2.50		PERMISSION TO DEVELOP
28	(M.O.A.) STANDARD MILLS (1)	G/S	P-3	30312.50	7.51	3.03		"
29	(M.O.A.) MATULYA MILLS	G/S	P-5	51875.00	12.84	5.18		"
30	(M.O.A.) PHOENIX MILLS	E	P-1	53429.89	13.24	5.34		"
31*	(M.O.A.) MODERN MILLS	E	P-1	35625.00	8.82	3.56		"
32,33	(M.O.A.) HINDOOSTAN SPG & WVG MILLS (1,2)							
34	(M.O.A.) RUBY MILLS	G/N	P-4	20937.50	5.17	2.09		APPLIED FOR SALE OF LAND
35	(M.O.A.) HINDOOSTAN MILLS NO.3 (CROWN MILLS)	G/S	P-3	41250.00	10.21	4.12		
36	(M.O.A.) BOMBAY DYEING (SPRING MILLS)	F/S	P-3	142187.5	35.24	14.21		
37	(M.O.A.) VICTORIA MILLS	G/S	P-3	37812.50	9.37	3.78		
38	(M.O.A.) GOKULDAS MORARJEE MILLS (1)	F/S	P-5	29375.00	7.25	2.93		
39	(M.O.A.) SWAN MILLS	F/S	P-2	61250.00	15.17	6.12		
40	(M.O.A.) MAFATLAL MILLS (UNIT NO. 3)	G/S	P-5	21250.00	5..24	2.12		
41	(M.O.A.) KHATAU MAKANI SPG & WVG. MILLS	E	P-1	45000.00	11.16	4.50		"
42	(M.O.A.) CENTURY SPG. & WVG. MILLS	G/S	P-3	121606.0	30.01	12.16		STATUS NOT KNOWN
43	(M.O.A.) BOMBAY DYEING & MFG. CO. LTD	G/S	P-3	100000.0	24.80	10.00		"
44	(M.O.A.) PRAKASH COTTON MILLS	G/S	P-2	48125.00	11.92	4.81		"
45	(M.O.A.) SHRINIWAS MILLS	G/S	P-3	42500.00	10.54	4.25	NIL	
46	(M.O.A.) KAMALA MILLS	G/S	P-3	23000.00	5.70	2.30		
47	(M.O.A.) SHRIRAM MILLS	G/S	P-2	46250.00	11.42	4.62		
48	(M.O.A.) GOCULDAS MORARJEE MILLS (2)	G/S	P-3	32812.50	8.13	3.28		
49*	(M.O.A.) DAWN MILLS	G/S	P-3	25825.00	6.33	2.56	1500	
50	(M.O.A.) STANDARD (2)	F/S	P-2	24843.75	6.15	2.48		
51	(M.O.A.) PIRAMAL SPG. & WVG MILLS	G/S	P-3	17562.50	4.33	1.75		
52	(M.O.A.) RAGHUVANSHI MILLS	G/S	P-3	62000.00	15.31	6.20		
53	(M.O.A.) NEW GREAT EASTERN SPG. & WVG MILLS	E	P-2	23125.00	5.71	2.31	300	
54	(M.O.A.) SIMPLEX MILLS	E	P-1	35462.75	8.76	3.54		
55	(M.O.A.) BRADBURY MILLS	E	P-1	23750.00	5.86	2.37	NIL	
56,57	(M.O.A.) MAFATLAL MILLS (UNIT NO. 1,2)	E	P-2	39062.50	9.67	3.90		
58	(M.O.A.) MUKESH TEXTILE MILLS						NIL	

BMC:OPEN SPACE-189239 SQM OF AREA

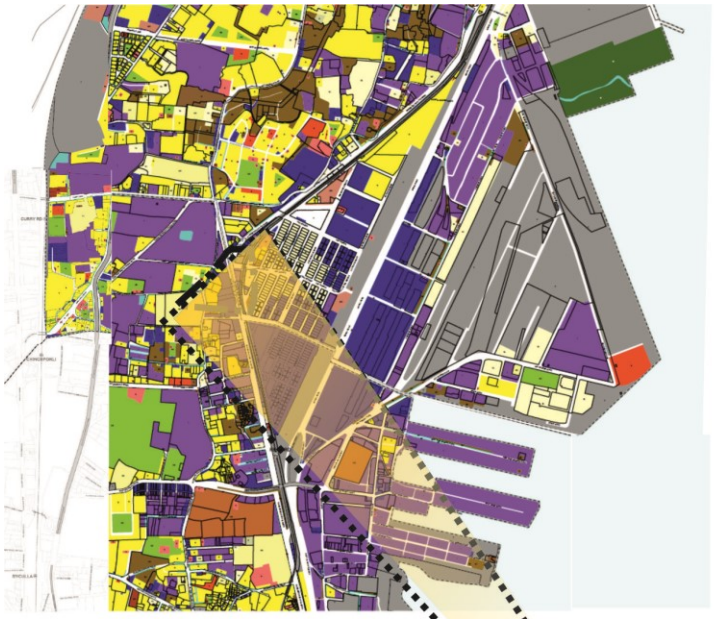
MHADA,PSU,HOUSING- 189239 SQM OF AREA

COMMERCIAL-189239 SQM OF AREA

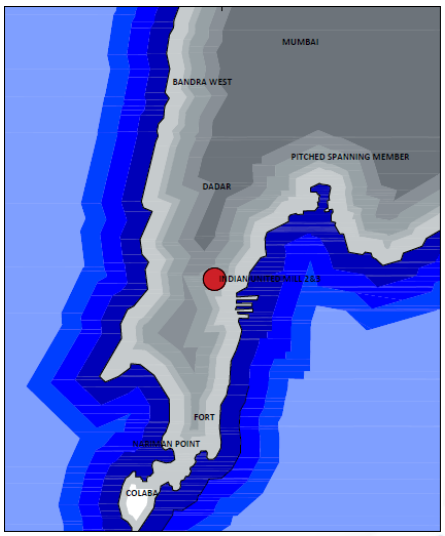
TOTAL-567718 SQM OF AREA

2.4 SITE SELECTION AND ANALYSIS

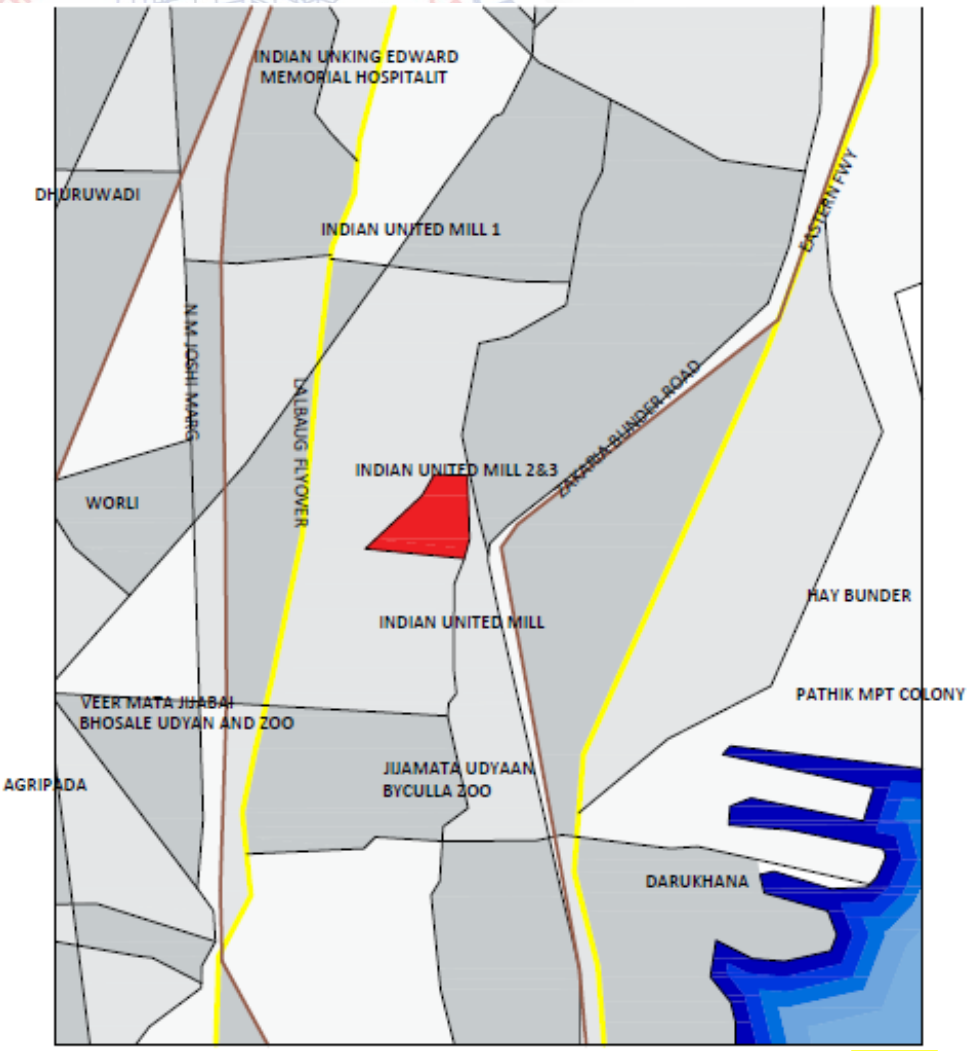
SITE LOCATION



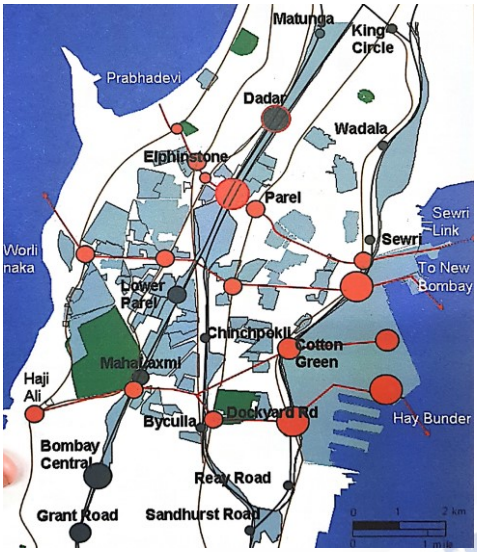
LOCATION OF MILLS



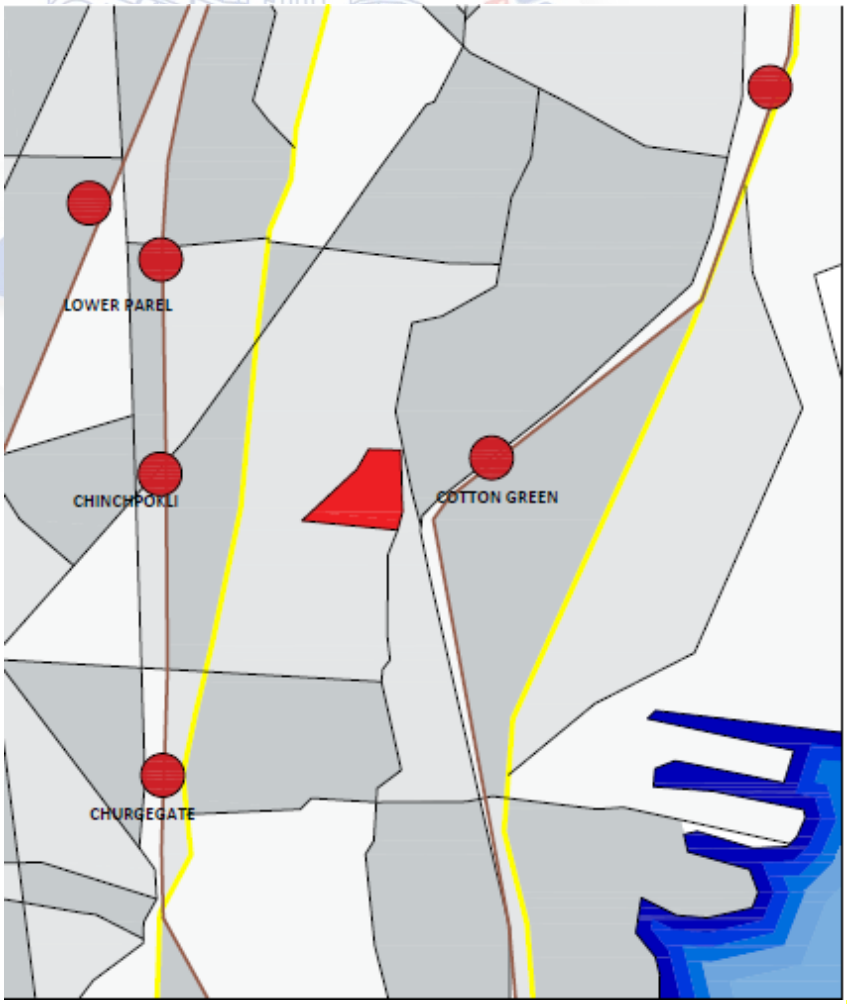
LOCATION OF SITE



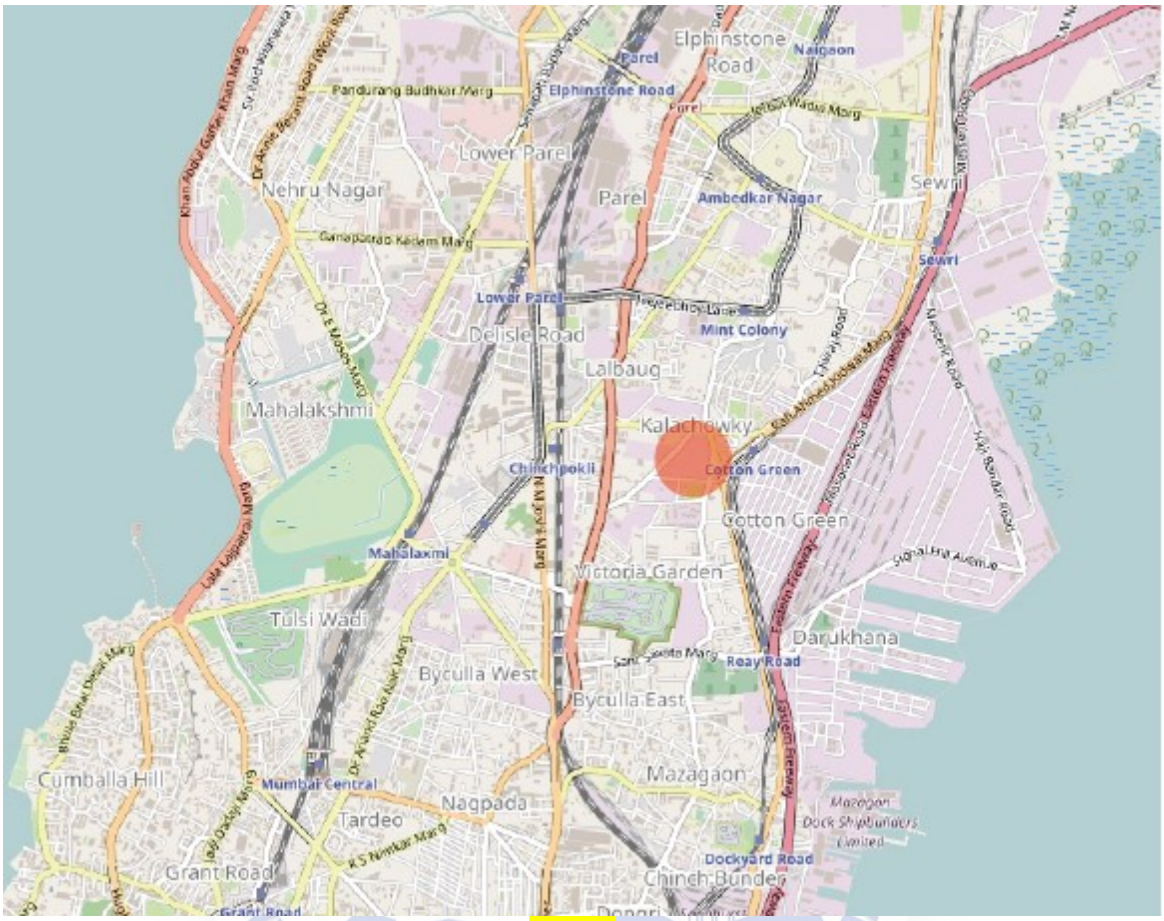
EAST-WEST LINKS

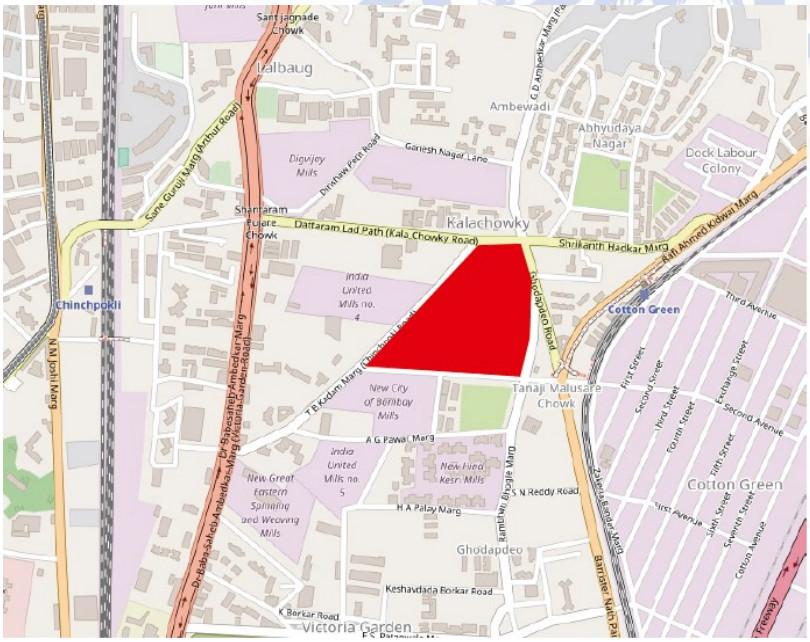


RAILWAY STATIONS NEARBY



SITE LOCATION

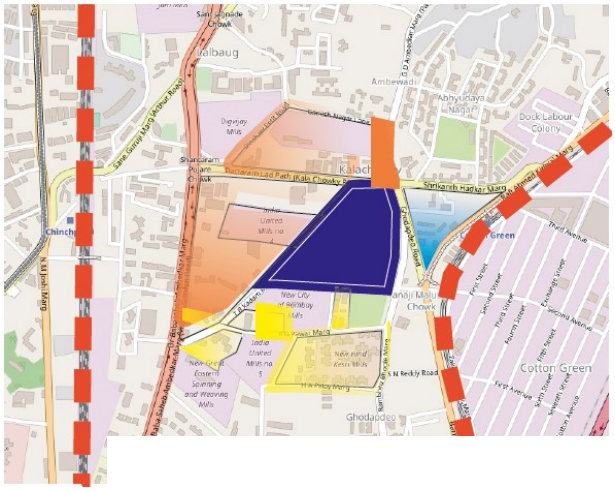


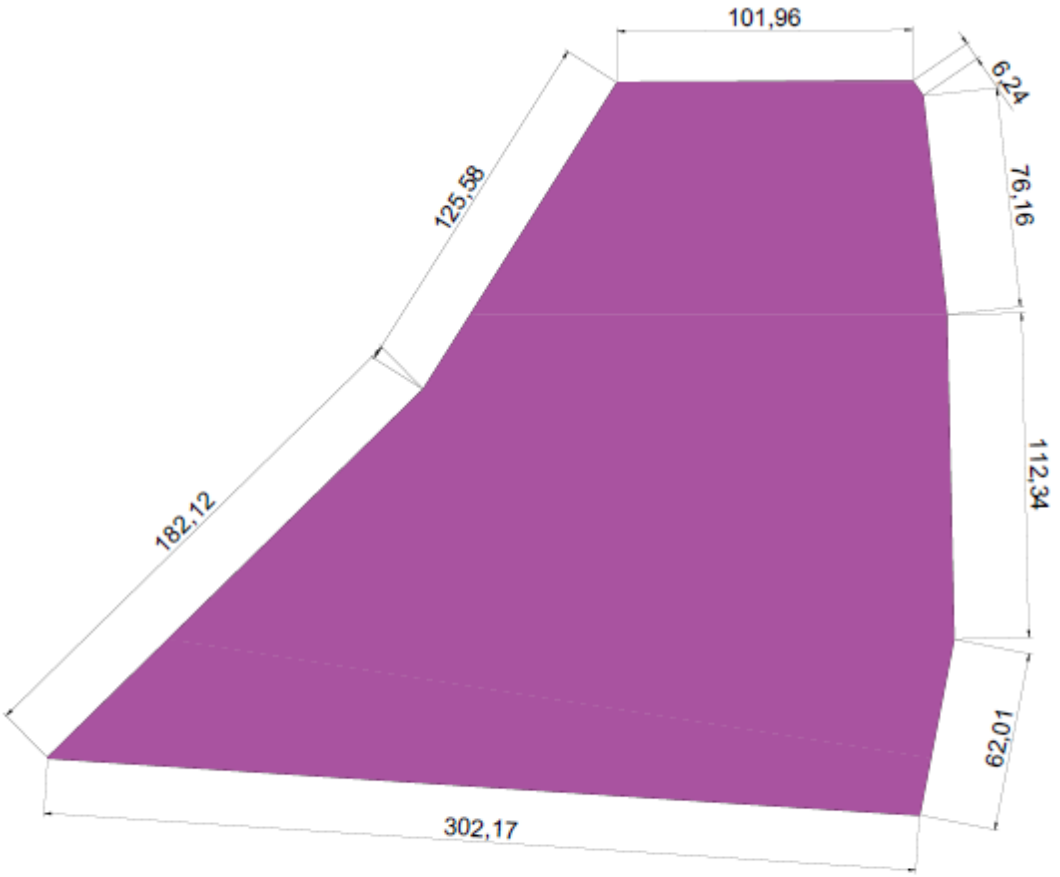


SURROUNDING CONTEXT

SITE WITH SURROUNDING CONTEXT

SITE AND ITS DIMENSION





NORTH

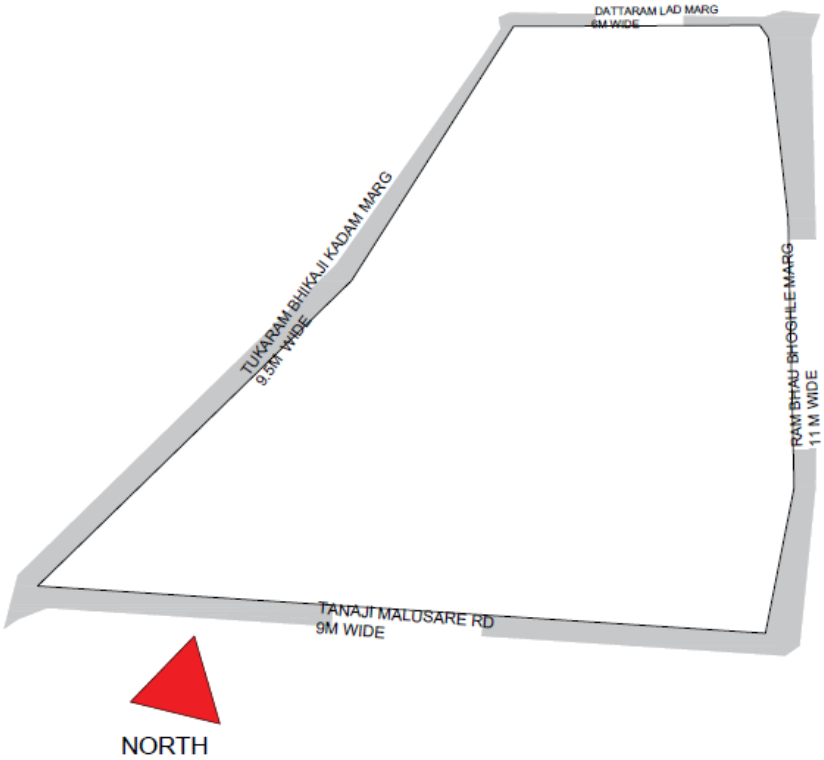
INDIAN UNITED MILL 2 & 3

PLOT AREA-64,910 SQM

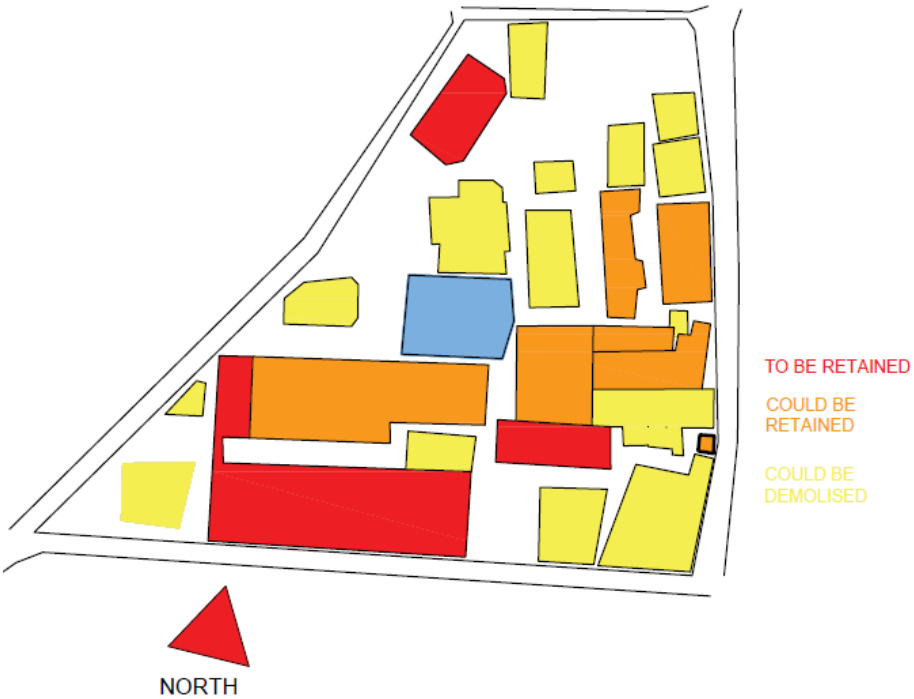
DEVELOPMENT AREA-30,432 SQM

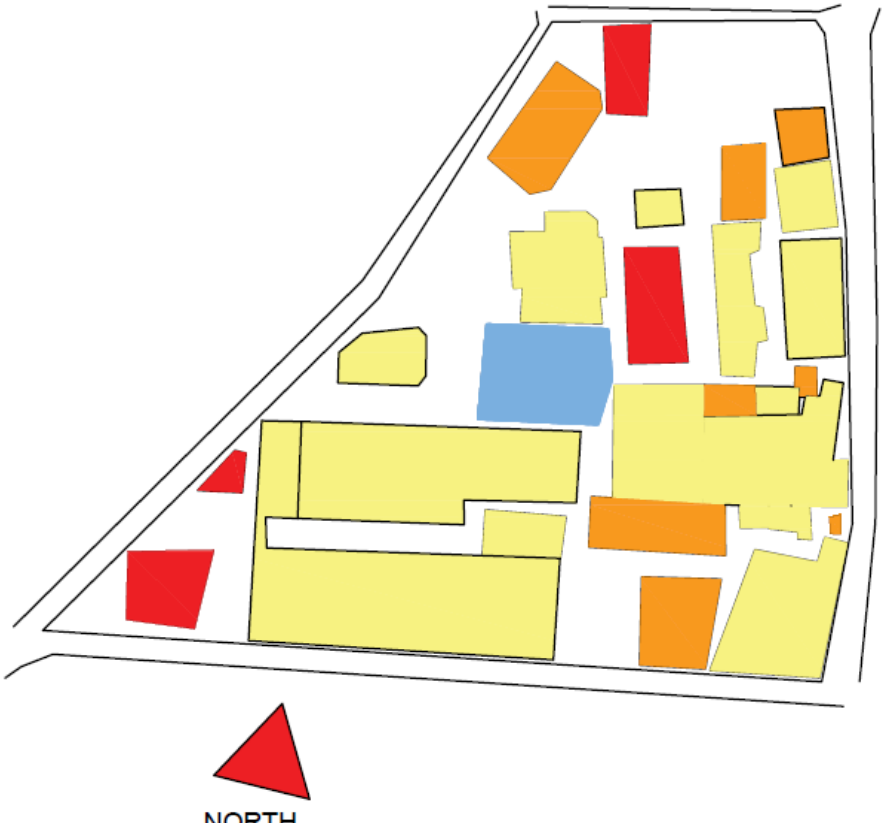
F.S.I-1.33

ROADWIDTH



EXISTING STRUCTURE IN THE SITE

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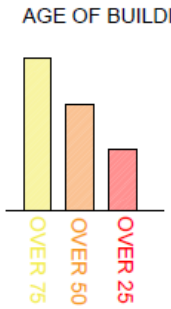
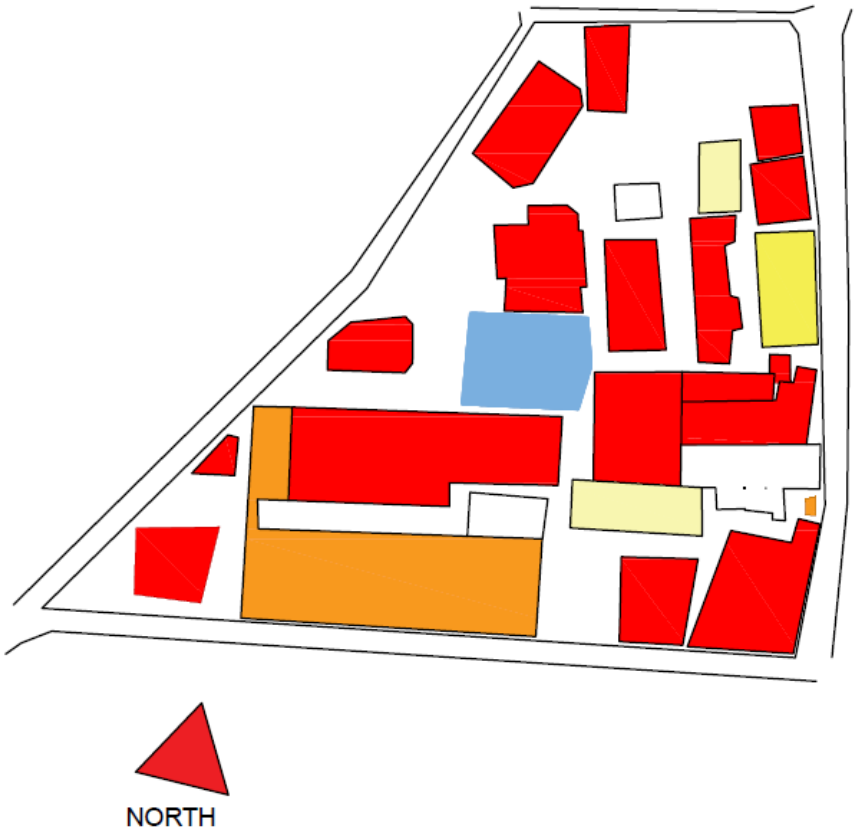
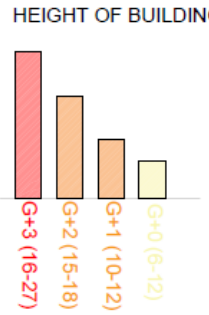
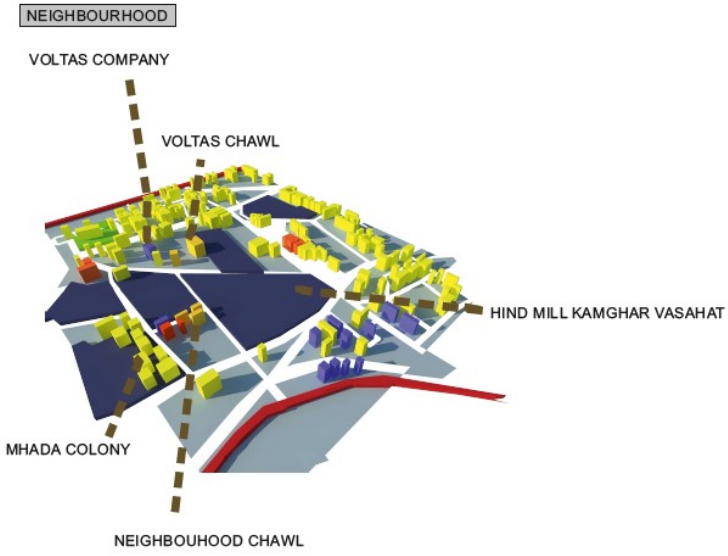

AGE OF BUILDING
OVER 75
OVER 50
OVER 25


NORTH

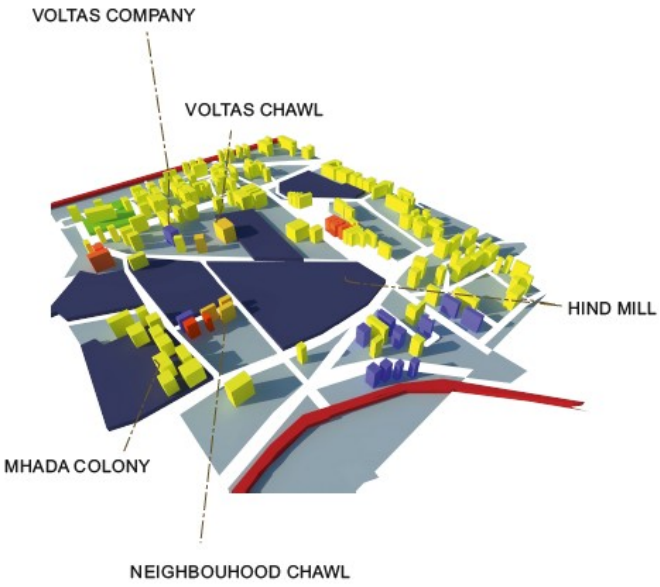

HEIGHT OF BUILDING
G+3 (16-27)
G+2 (15-18)
G+1 (10-12)
G+0 (6-12)

LANES & CHOWKS

NEIGHBOURHOOD



NEIGHBOURHOOD



MILLS AROUND


SITE ANALYSIS
BANDRA - WORLI SEA LINK
MUMBAI
NAVI MUMBAI
SITE
PEOPLE IN MOTION
ROAD SIDE SHOPPING
HOUSING
LOW COST RESIDENTIAL COLONY BUILT IN 1873
COTTON GREEN RAILWAY STATION ELEVATED ABOVE ROAD LEVEL
LEGEND
MILL LANDS OWNED BY NATIONAL TEXTILE CORPORATION (NTC)
MILL LANDS PRIVATELY OWNED
THREE NORTH - SOUTH RAILWAY LINES AS MAJOR PUBLIC TRANSPORT
LOW SPEED
AREA CONSIDERED FOR COHESIVE PLANNING
RESIDENTIAL COMMERCIAL
ARCHITECTURAL PROPOSAL
VOLTAS LTD
DENSE
TRAFFIC
NOISE
HIGH SPEED
FLYOVER
1800 ACRES LAND UNDER BOMBAY PORT TRUST
ELEVATED FOOT BRIDGE TO DROP PUBLIC ACROSS MAIN LINE AVOIDING PEDESTRIAN CROSSING.
ROAD PASSING THROUGH BOMBAY PORT TRUST LAND WHICH IS ANOTHER OPPORTUNITY FOR FUTURE EXPANSION OF MUMBAI ON 1800 ACRES OF LAND
Total Textile Mill lands available for development
High-Class Residential, Clubs and Hotels
Low Cost Housing
Parks / Playgrounds
Distribution of land after stay on development was removed by High Court.
HIGH WALLS DEAD ZONE


SITE WALKTHROUGH
GREEN VEGETATION ALONG NORTH WALL
NORTH WEST SIDE SITE CORNER
Road side property
Low to Medium cost housing provided by MHADA, Maharashtra Housing Area Development Authority
Staff Quarters
DIGVIJAY MILLS
MHADA HOUSING
COMMERCIAL / RESIDENTIAL
INDIA UNITED MILL NO 4
MILL WORKERS HOUSING
CITY OF BOMBAY MILL
PLAY GROUND
CHAWL HOUSING
View looking at the North-west corner of site
Mill Workers Housing
Major Public Transport Bus Station Connecting Different Parts Of The City
15-0" High wall surrounding the site
View looking from the Terrace of existing building to the new development in the form of Towers
View of Tanaji Malusare Marg (Street)
View showing the South - West corner of site
Temporary Street Side Market Local Fishermen Selling Fish

[USEUM AT INDIAN UNITED MILL 2&3