

Building history

वर्तमान परस्थिति

Design The John Watson Building  
Bombay India

1867

Construction of  
Watsons Hotel began

The wole framework of  
the well-kown Indian  
hotel is composed of  
Wroeght and Cast-Iron  
work.  
This is believed to be the  
first example of an iron  
framework building

1867

Construction of  
Watsons Hotel  
completed

1920

Ceased to be a hotel.  
Was used as housing for  
workers and drivers  
from the TATAs

Watson's sumptuous  
interior

1960

Partitioned into smaller  
cubicles, got rented as  
housing and offices.  
Renamend to Esplande  
Mansion

2005

Part of the buildings's  
facade collapsed  
Enlisted amongst  
'World's 100 most  
Endangered  
Monuments'

2019

Structural audit declares the building unsafe to inhabit.  
All tenants were issued a notice and the building was vacated

Figure 1

Current situation

वर्तमान परस्थिति

Figure 2

Building features

इमारत वैशबिट्ये

Figure 3

Figure 4

Figure 5

Figure 6

Figure 7

City map Mumbai

शहर का नक्शा

Figure 8

Architecture Mumbai

आर्कटिकवर

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Figure 1000

Climate Mumbai

मुंबईचे हवामान

Mumbai has a tropical climate this means it is year around warm the only difference between summer and winter is that summer is wet and winters are overall dry.

Mumbai India Weather  
AVERAGE MONTHLY TEMPERATURE AND PRECIPITATION

Figure 25

Sun study Watson's Hotel

सूर्य अभ्यास

Mumbai is located close to the equator. It is so close that the sun stands in north from January to June and stands south in July to December.

Figure 26

Infrastructure area

आधारभूत संरचना

Due to the lack of space we need an offsite storage space so we don't need to worry about a lack of room.  
For The supply chain we can make use of 2 supply routs via roads, but there is also a possibility to use the nearby harbour for shorter travel time.

Figure 27

Figure 28

Figure 29

Building methode

नर्माण बधि

Mumbai has a long history with all kinds of building method's. The most popular materials used for the construction of buildings are concrete and steel.

Concrete

Cheap (in comparison)

Better isolator

Longer building proces

Figure 30

Steel

Expensive

Worse isolator

Shorter building proces

Figure 31

Installations Watson's Hotel

अधषिठापन

Mumbai has a tropical climate it is hot all year around that's why it is very important that people have acces to cooling installations to keep cool.

Figure 32

Figure 33

The Thermodrainsystem is an cooling system for the construction. It will cool the construction by running whater threu it so it contract the heat of it. This system uses wather so we can catch rain and reuse that for this system.

Materials

साहित्य

Structural members

Columns, beams, girders - wrought and cast iron - wrought iron used for plan faces and cast iron for ornamentation

Figure 34

Figure 35

Foundation

Brick on rubble wall foundation

Walls

Hollowbricks

Floor

Floor joists with burma teak screed

Figure 36

Figure 37

Roof

Wrought iron double roof

Tiles

Minton tiles

Figure 38

Figure 39



	Cheap + Fast to apply + Rot fast - Light + Availability +		Cheap + Fast to apply + Rot fast - Light + Availability +		Cheap + Fast to apply + Rot fast - Light + Availability +
	Cheap + Fast to apply + Bad isolation - Light + Availability +		Expensive - Fast to apply + Rot fast - Light + Availability +		Cheap + Time consuming - Bad isolation - Light + Availability +
	Cheap + Time consuming - Good isolation +		Expensive - Fast to apply + Good isolation + Heavy - Availability +		Cheap + Time consuming - Bad isolation - Heavy -
	As expensive as you wish + Fast to apply + Light +		Expensive - Time consuming - Availability +		

Everything is close together which may make it obscure.

Part of the road has to be closed to make room for the construction site.

There is more space for the construction site, which makes it more accessible to reach everything.

The road does not have to be closed, which

Takes up more space  
Not usual in India -> needs to be installed  
More efficient  
Less overall electricity usage  
No facade pollution

Less heat from the sun inside  
Keeps out pollution  
High price  
Hard to install

Higher water needs  
Higher volume of pipes running through construction  
More efficient heat buffering  
Electrically neutral

Takes longer for the building to cool down  
Higher cost  
Not effective in this climate  
Takes longer for de building to

Less efficient  
Higher electricity usage  
Facade pollution  
Easy to install  
Amount of units can be varied

High weight when soaked with water  
Needs to be watered in dry season  
Not usual in India -> needs to be installed  
More mass means more heat buffering  
Better outside space  
Great for solarpanels

More wait -> needs stronger construction  
Needs to be poured on side  
Has a time of the year to be poured  
More mass means more heat buffering  
Less sound transfer between floors  
Better for fire safety

# The Watson's Hotel

वॉटसन हॉटेल

Logistic

Materialization

Construction

**Ground Floor**

**First Floor**

**Second Floor**

**Third & Fourth Floor**

**Variant 2**

For variant 2, it is more focused on meeting places. The ground floor houses an art gallery, shops and a cafe. For the floors above it will have different functions because it will be zoned-free

Art gallery  
Shops  
Mixed function  
Arcade  
Stairwell  
Cafe  
Terrace

FLOORS 1 - 4  
GLAZED ATRIUM  
GROUND FLOOR

**Variant 1**

for variant one, we have food courts on the ground floor where food can be obtained and seated. The floors above are filled with apartments where residents of all age groups can live in.

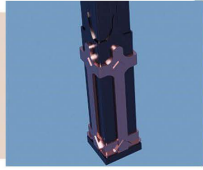
Foodcourt  
Stairwell  
Apartments

**Ground Floor**

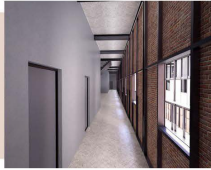
**First, second. Third & Fourth Floor**



## Details



## तपशील

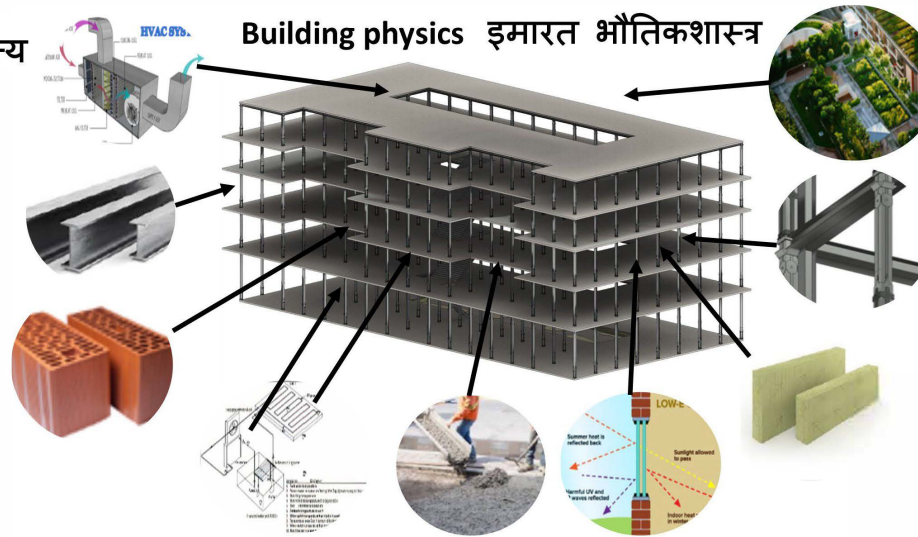


## Materials साहित्य

For the materials we have chosen steel because of the flexibility when applying, it also makes sure the look of the building stays as meant To be.

The hollow bricks are light and the labour Costs are low so its a very cheap option. The concrete Floors are cheap and easy To Apply further we can apply the thermo-drain installation in the floors.

## Building physics इमारत भौतिकशास्त्र



## Functions

### Food court



### Creates jobs



## कार्ये

### Market

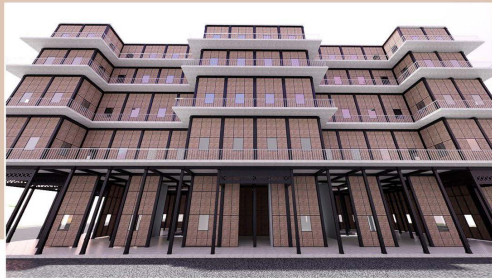


### Appartments for the low segment

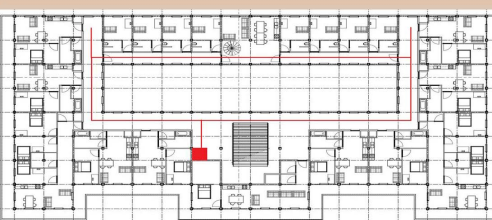


Because there are a lot of people unemployed, we have chosen for a foodcourt and market to provide for jobs. On top of that many people of Mumbai lives in the slums because of a lack of housing, that's why we've put appartments in the building.

## Facade views दर्शनी भाग.



## Ventilation वायुवीजन

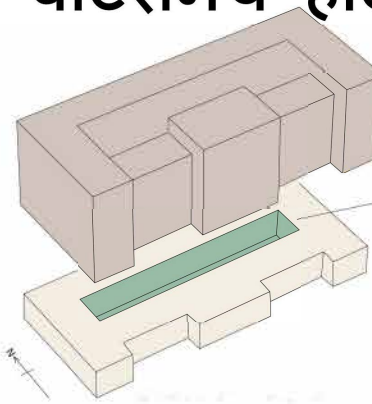


# The Watson's Hotel



## वॉटसनचे हॉटेल

For the technical aspects of this building we will be using a combination of an big hvac system for air cooling for the building and the therm o drain system that was previously explained on this poster. these 2 systems will be maximized by adding thermal mass in the form of a green roof, concrete floors and isolation. because of this mass the construction needs to be reinforced with a new steel construction as shown in the construction picture above.



- Local market
- Arcade
- Stairway (apartments)
- Student apartments
- Apartments

## Floor plans

## मजला आराखडा

for the final design we choose to combine the 2 variants together. With on the ground floor a foodcourt and market where you can buy food en gather around. It's accesible for everyone. In the middle of the ground floor there is a outside garden. The other floors are a mix of appartments and studenthousing. On the first and second floor you can live with a caretaker who learns you how to live by yourself

