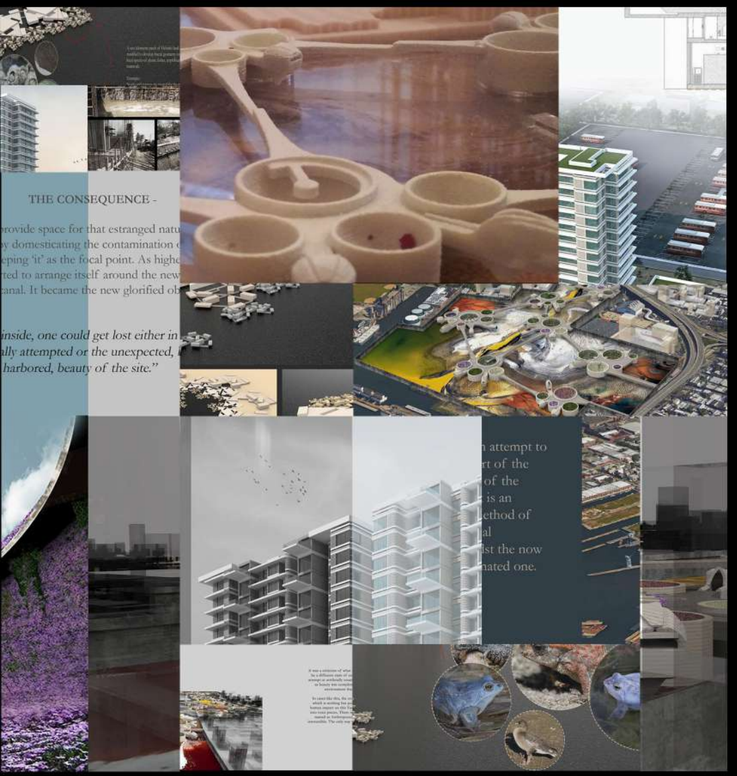
PORTFOLIO

Menka Desai



Masters Of Science in Achitecture and Urban Design
UD - Studio
Horrific Beauty

Professional Work
1302 Davon Lane, Houston, Texas
San Leon, Texas
5418 Libbey Lane, Texas
Saffron Residency, Mumbai

Bachelors of Architecture
Undergraduate Thesis
Conserve-Redevelopment of Crawford Market

Bachelors of Architecture
NASA Work (National Association of Students of Architecture)

`

Horrific Beauty

2015 - 16 - UD studio

Masters of Science in Architecture and Urban Design

'And all is not golden that glitters, and not all that glitters is gold.'

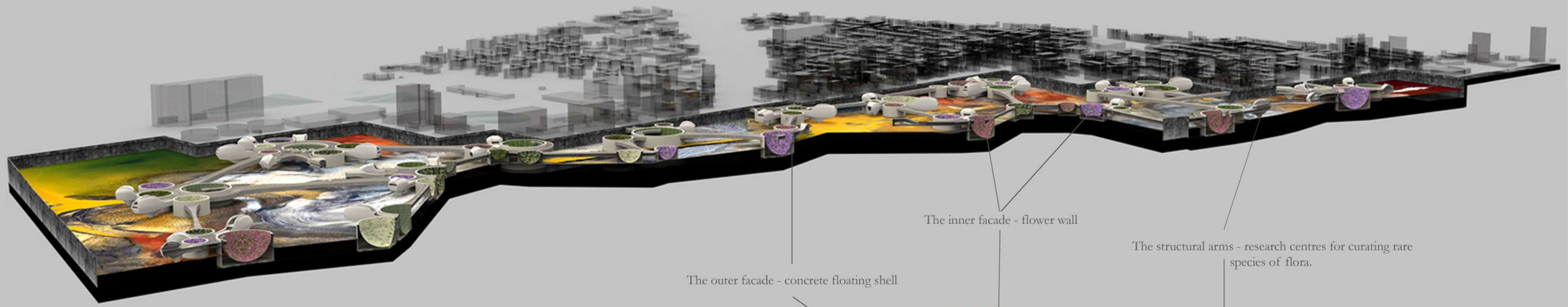
Aloysius Charles Swimburne

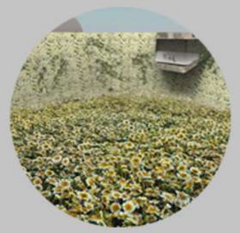
The painted picture made up of rich patterns, peculiar strokes and mixtures of infinite colors uses the previously undefiled surface of this planet as the canvas. This aerial shot captures the following narrative in its perfect sense by mixing the present scenario with figments of fiction backed up (maybe or maybe not) by scientific facts. The abstract illustration, thus created, lures the viewers in and compels them to look at it more closely with a tad bit more attention and lots of curiosity, along with a stronger appreciation for the beauty of the picture. Eagerness to know the subsequent consequences that must have led to the formation of such an intriguing situation leads the viewers on the path to a horrified discovery.

THE NARRATIVE -

To curb the spread of the pollutants in the Gowanus neighborhood, a slurry wall has been introduced around the canal, that took up the extents to which the toxicity had spread, as its demarcating border. The wall contains openings for the roads to pass through it, leading to the man-made clusters of circular tanks.

These tanks are an attempt to retain a certain part of the original ambience of the Gowanus canal. It is an unconventional method of creating an artificial environment amidst the now accepted contaminated one.





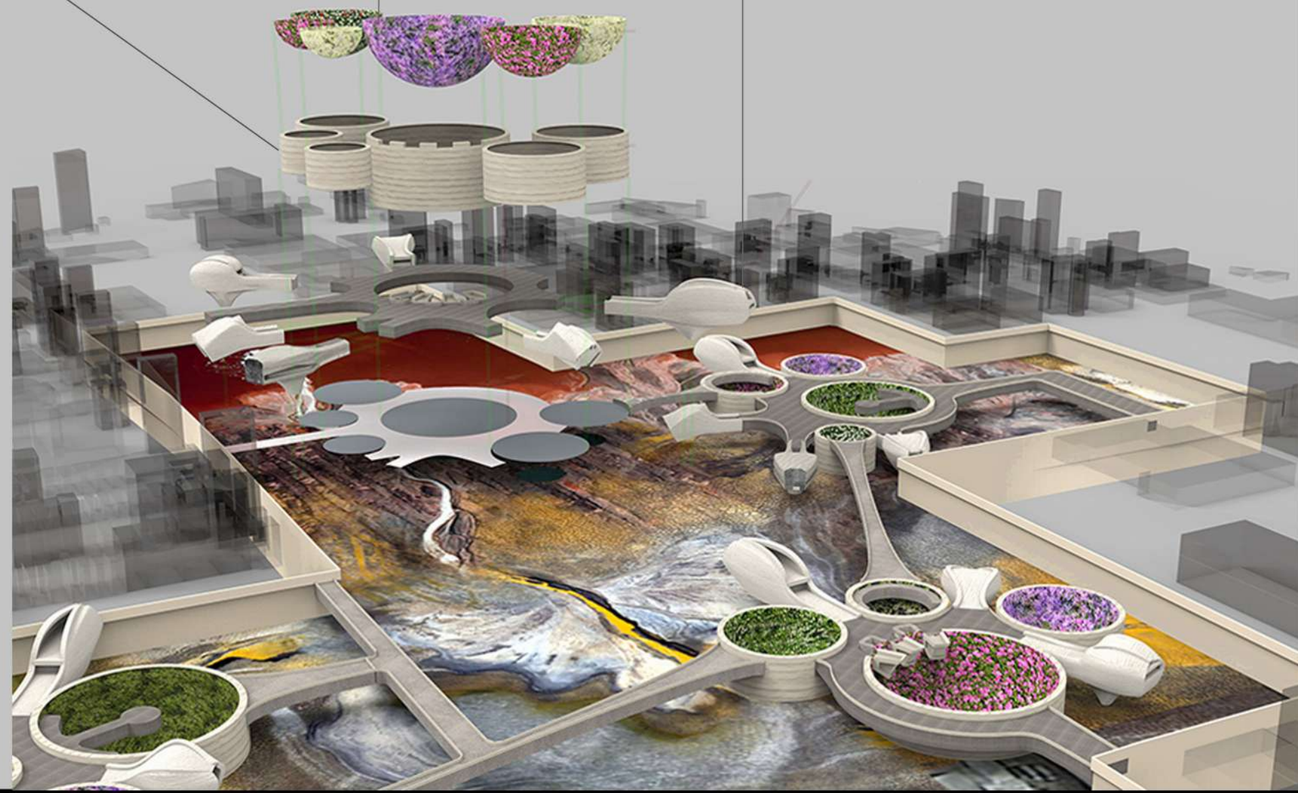
THE SMALLER DETAIL

The negative spaces between the tanks in each cluster are pulled outwards to become long arms. These facilitate the much needed architecture that accommodates the spaces to monitor the tanks, the elaborate irrigation system and the research centers.
Each circular tank comprises of two vessels. The inner one has perforated walls for the water to seep in for irrigation purposes. It is almost floating in the outer vessel so as to have the liberty to rotate for appropriate light and view.
This inner environment is created artificially to curate species of plants and flowers.
This apparatus is repeated and located at different points in a way that every major tank of the cluster could be directly accessed by the existing roads of the city.

The outer facade - concrete floating shell

The inner facade - flower wall

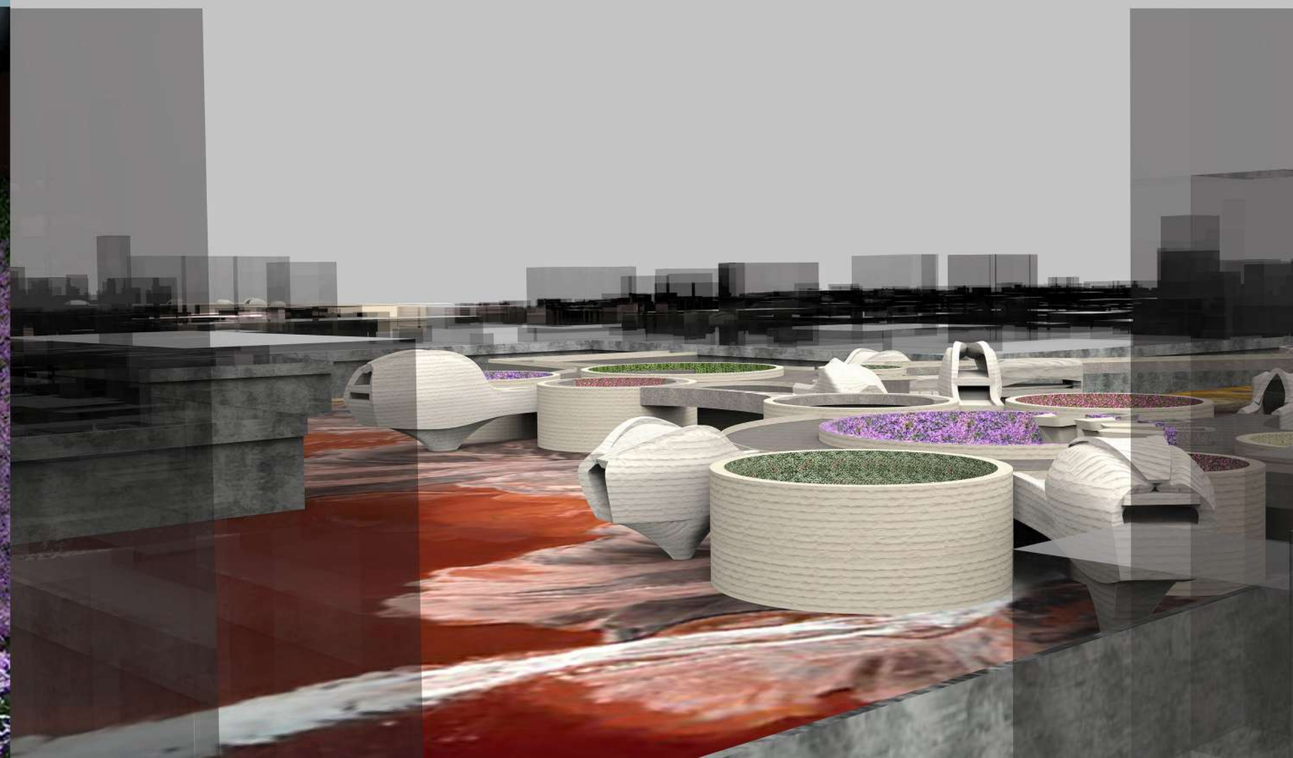
The structural arms - research centres for curating rare species of flora.



THE CONSEQUENCE -

The existing urban fabric had been punctured to provide space for that estranged nature of toxicity which was not only accepted but was admired for its beauty. The ripple that was created by domesticating the contamination of the canal was seen in its most physical form. High rise buildings started to come up around the canal keeping 'it' as the focal point. As higher up you went from the centre, the more beautiful the picture you'd get! With this idea, the real estate started to arrange itself around the new view conveniently. The buildings became taller and taller surrounding the canal. It became the new glorified object to look and admire.

"Once inside, one could get lost either in the artificially attempted or the unexpected, but harbored, beauty of the site."

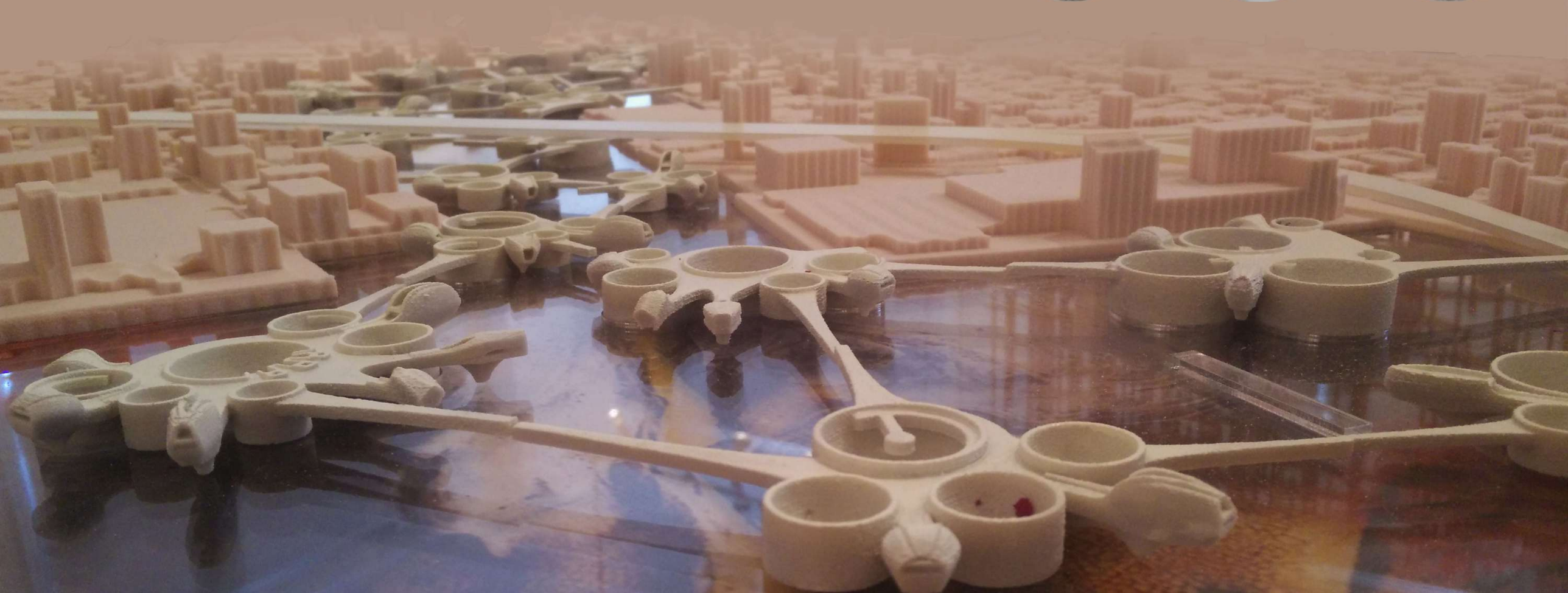


It was a criticism of what can be beautiful; a criticism of what can be a different state of existence for the term 'beauty.' Here, the attempt at artificially creating an environment of what we perceive as beauty was completely overshadowed by the unexpected environment that was established outside of it.

In cases like this, the zoomed in view of the beautiful picture, which is nothing but polluted water, makes us realize how the human impact on this Earth is causing this planet to disintegrate into toxic pieces. There is no escape from this era, what we have named as Anthropocene, because we have already done the irreversible. The only way would be to create alternate scenarios of existence.

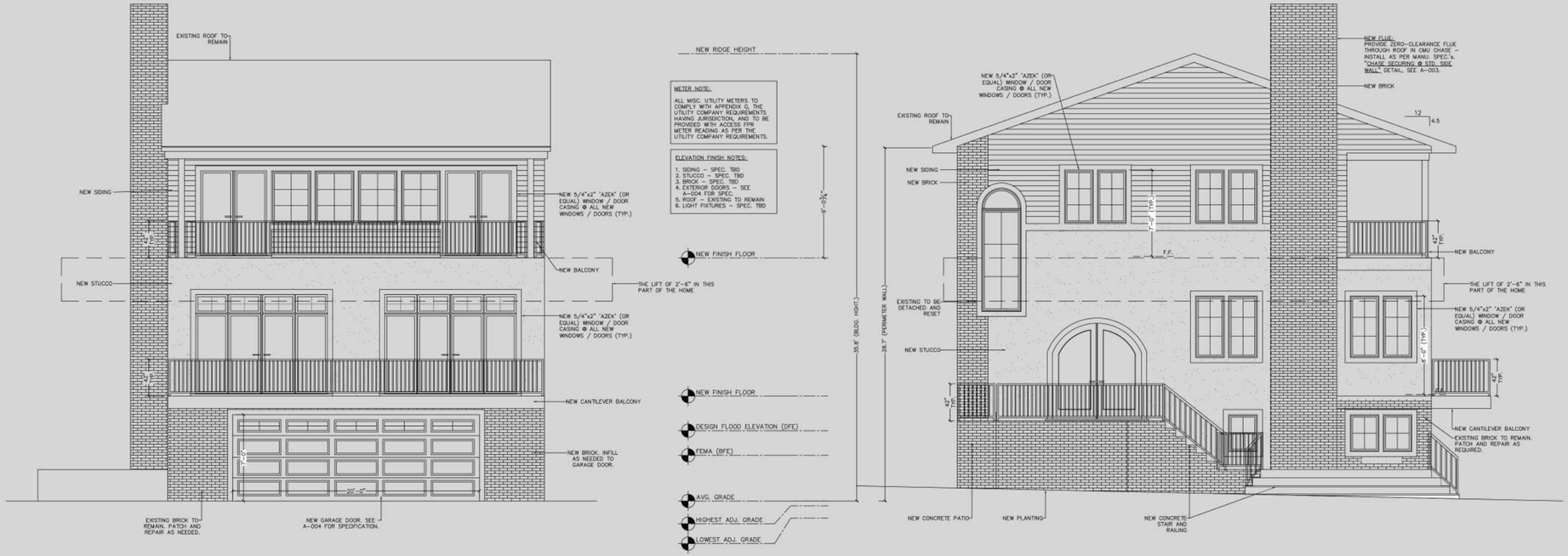
THE PHYSICAL REALITY

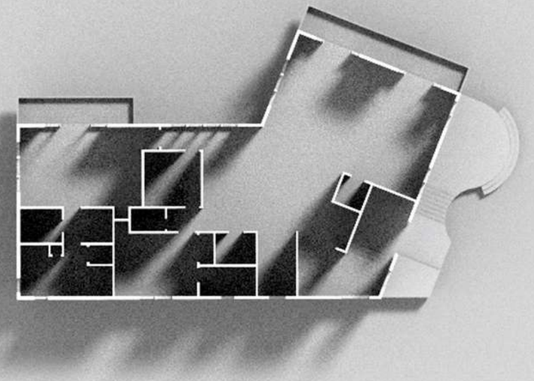
A model was made - 40 inches x 36 inches in dimensions, to have a look at the scaled structures in their physical form to have a better idea of the real urban scenario.

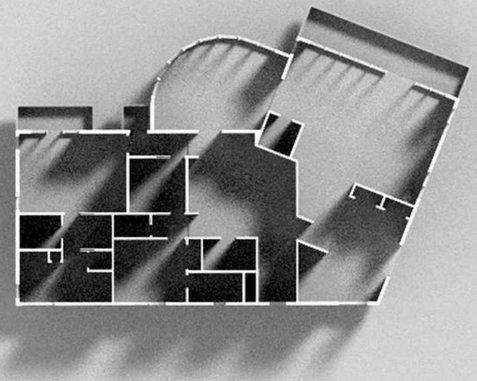


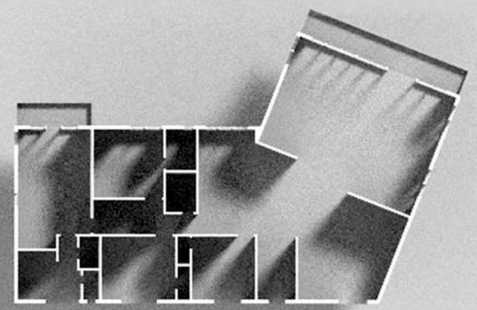
Professional Work

2013 - 17





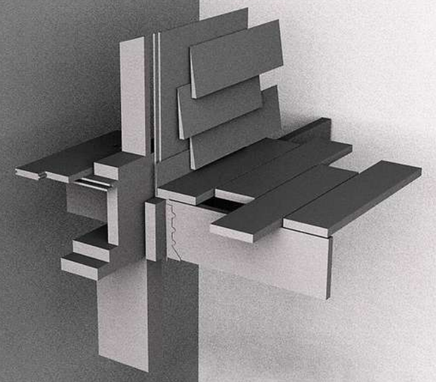


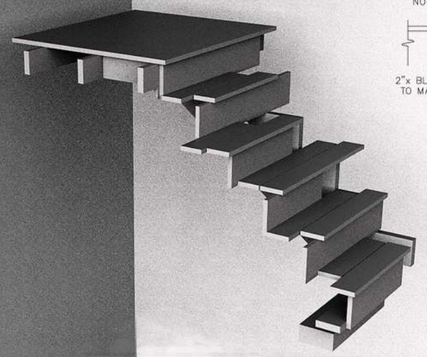


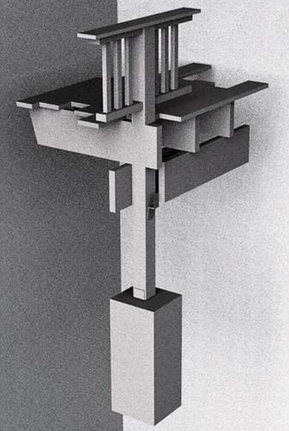
1302 Davon Lane, TX

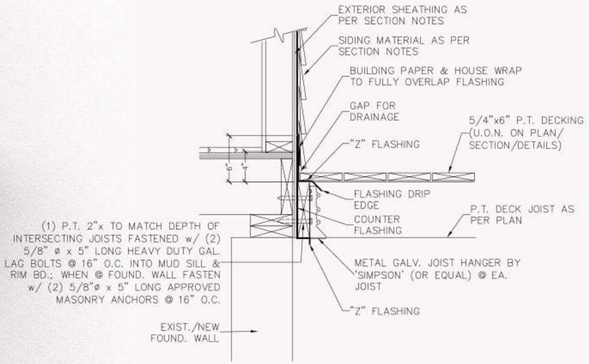
Located in Houston, Texas, this project is a part of Resilient Architecture - The unconventional way that Government chose to deal with the rising sea levels and impending constant dangers of floods and hurricanes.

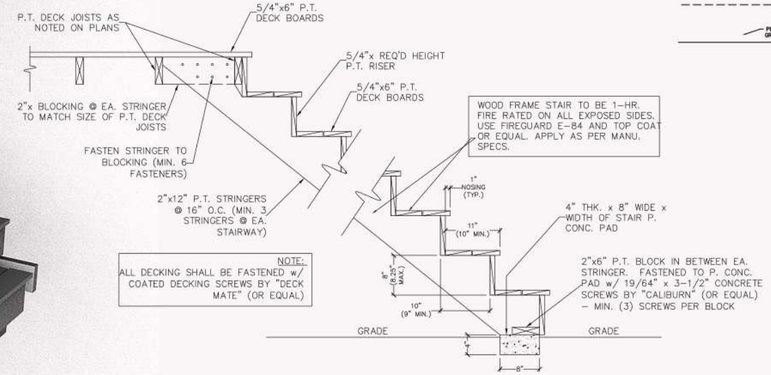
The house has been proposed to be lifted off of the ground by 9' and subsequently the interior spaces have been designed to get maximum light and ventilation by playing with the most basic form of cirulation - spatial composition of line, dot and curve.

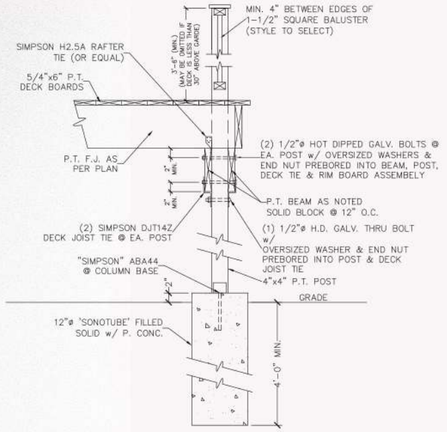


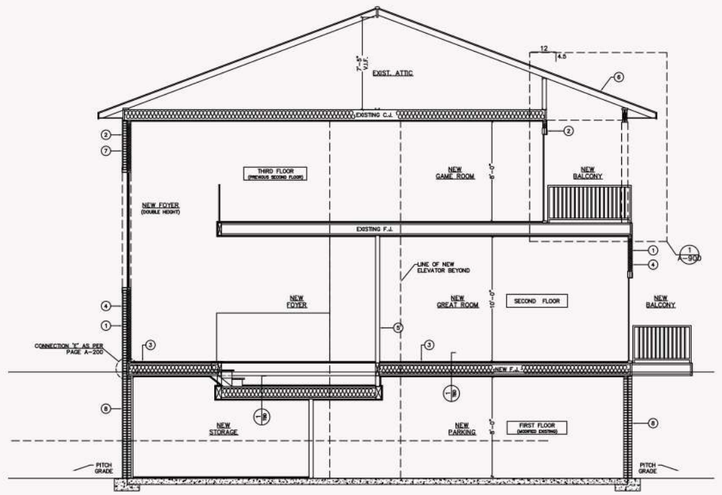


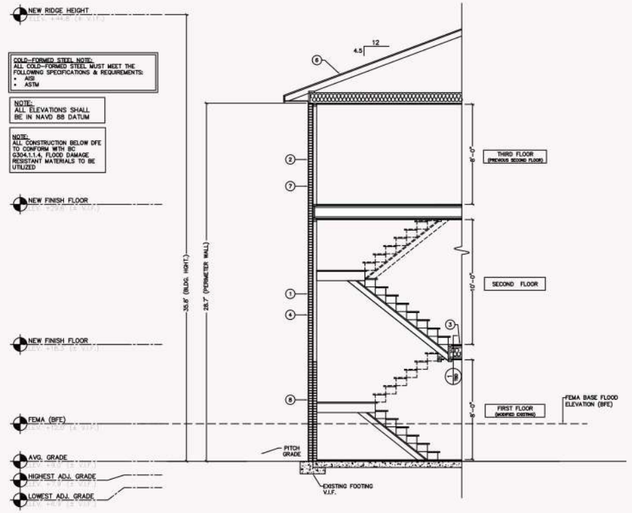












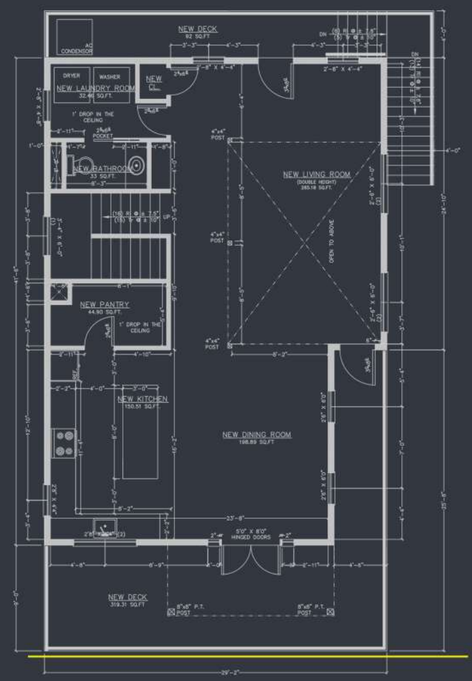
DETAILS

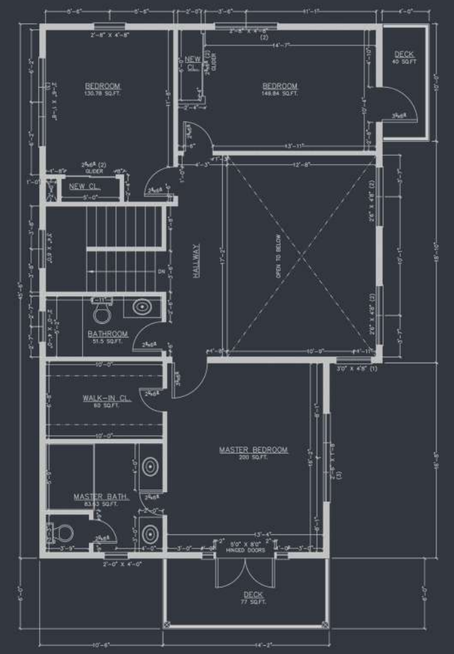
The requeat of the client was to disguise the lift of the house as a key element of the aethetics and hence, every detail was worked through by the team to suit the structural as well as the aethetic needs of the house. The first floor became the second floor and the second became the third and so on. So the spaces were replanned and readjusted to the new finctions to be served.

San Leon, TX

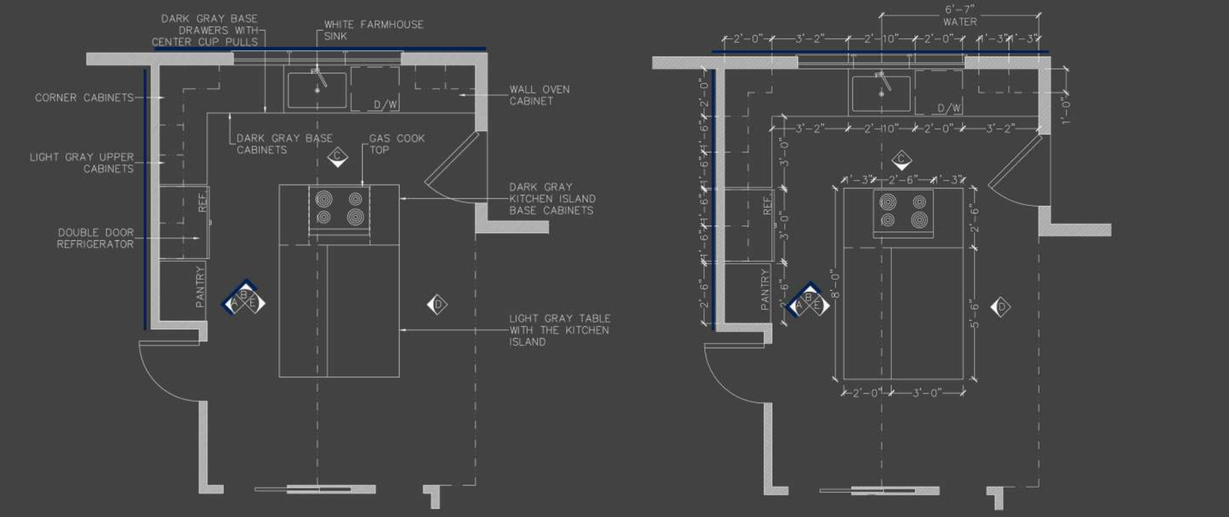
San Leon is a real estate development project in Texas, started by AMP Development. Being the Design Architect of this project, the major constraint I faced was the narrowness of the plot and three directional allowance for fenestrational opening. This directed the design circulation - the services, staircase and the kitchen were hence stacked against the fourth wall with minimum ventilation but were open to light on the opposite side.

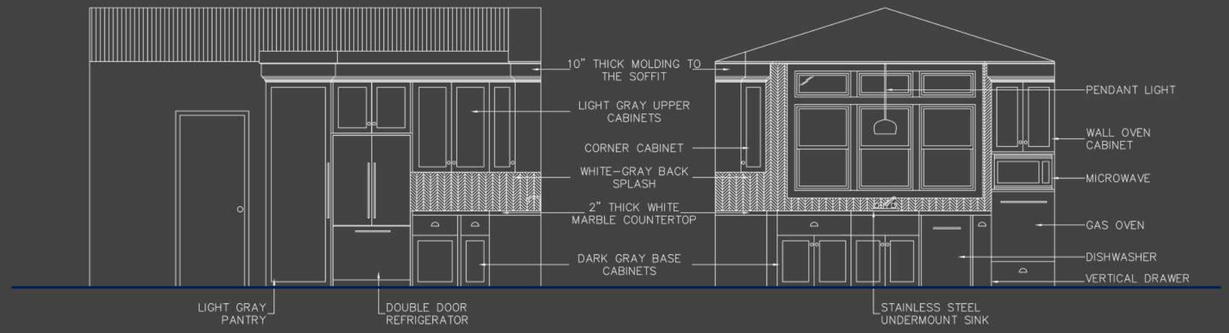
Double height spaces in the living room helped restore the openness and elegance even though the house was constricted in space.





PROJECT DATA	
FLOOD HAZARD / PBFE	YES / AE 15
CONTROLLING FLOOD MAP	PBFE – 9/27/12
LOT AREA	4,000.00 S.F.
FIRST FLOOR	
FIRST FLOOR DWELLING AREA	1,090.00 S.F.
FIRST FLOOR DECKS	411.31 S.F.
STORAGE BELOW HOME	280.00 S.F.
SECOND FLOOR	
SECOND FLOOR DWELLING AREA	900.00 S.F.
SECOND FLOOR DECKS	238.33 S.F.





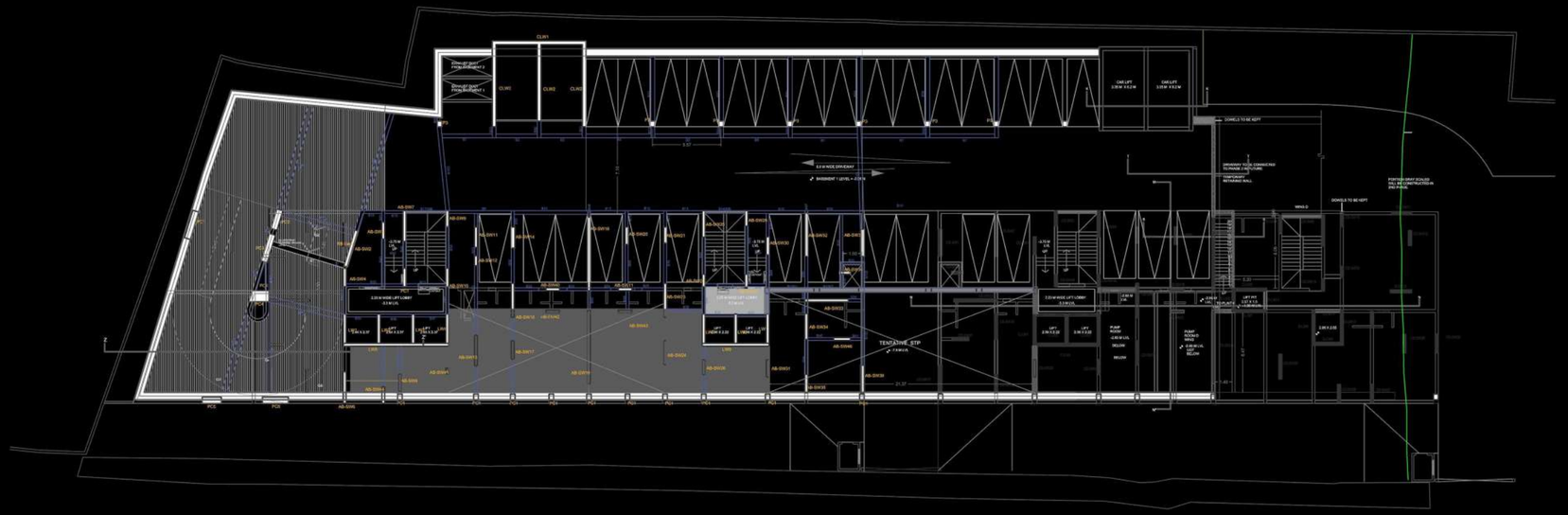
5418 Libbey Lane, TX

Proposed kitchen for this house was bold and modern, with steel gray affordable appliances. Paired with white gray backsplash and exquisite pendant lights, it gave the space a contemporary look.

As a part of AMP Architecture, I received ample opportunities to learn and create interior spaces along with bidsheets, construction drawings for contractors and furniture/finish list for the clients, in different genres of design.

Saffron Residency, Mumbai

It is the project that defines the current trend of redevelopment in the city of Mumbai to the best. "Budget Housing" has become a word of contradicting importance to people and the Government. Here, this is one of the examples of Budget housing designed to satisfy the requisite needs of the tenants, clients and also the building code of Mumbai.



Construction Drawings

Planning to be in phases, this project had a major constraint of height restriction of 50.38M being so close to the Mumbai Airport called the Aviation Restriction. Like any other site in this dense city, this piece of land in Kurla had its own feasibility issues in terms of soil type, form and irregularity of the shape, linear dimensions, and massive requirements of facilities to be accomodated in.

Reality
Currently, the foundation has been laid, the pile shoring has been done and the construction has reached the second floor of Phase 1.

After two years of design development, the construction of the project started in early 2015. Expected completion - Late 2018.

UNDERGRADUATE STUDY

2013 - Undergraduate Thesis
ConservRedevelopment of Crawford Market

Bachelors of Architecture (B.Arch.)

In the past, preserving Mumbai's Heritage was limited to conservationists and administrative officers. Now it has a become a topic for debate and discussion for denizens and political parties.

There is an urgent need to preserve the fast disappearing 'façade of Bombay'.
Defunct mills and crumbling traditional structures are being razed to make way for high rises and malls.

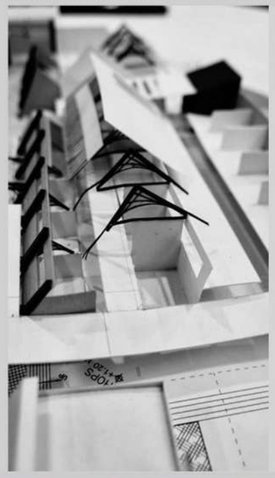
But for a heritage structure to survive in a city like Mumbai, the base and the function of the structure should be strong and have greater efficacy. Because of land scarcity, historic monuments have to justify their existence with respect to financial feasibility.

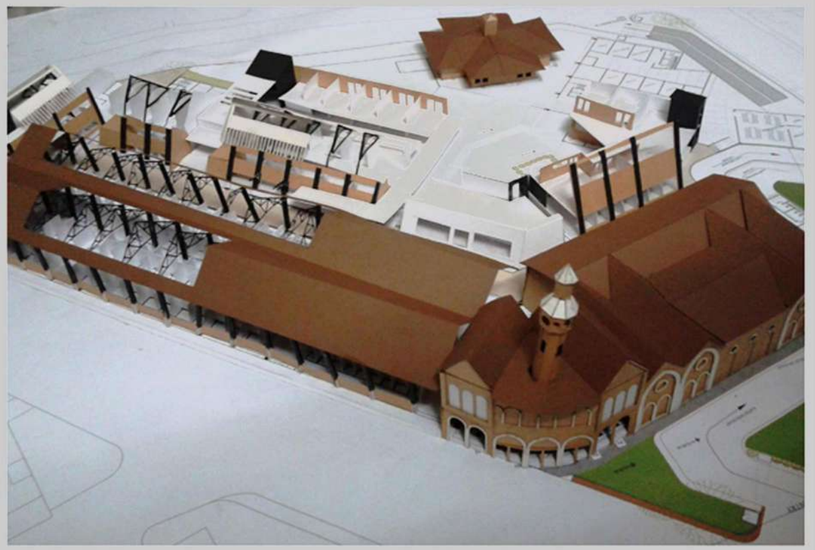
This is when redevelopment comes into picture. Redevelopment is the key to the problems of land scarcity, lack of open and recreational areas, unorganized planning and improper utilization of space.

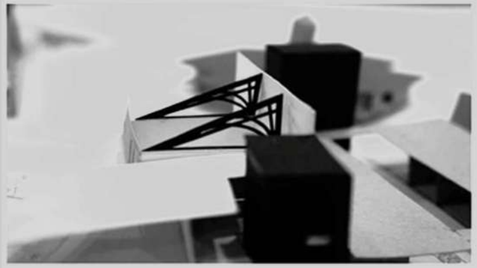
However, Redevelopment is not the only solution to the current problems of the city. It might help in increased land use and functions, but at the cost of the 'historic character of Mumbai' doesn't seem to be justified.

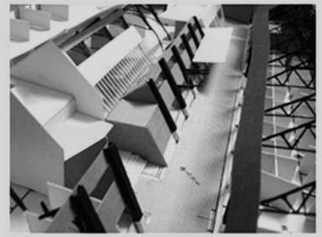
" In the rapidly growing Mumbai city, its indeed a challenge to preserve and protect its Heritage without coming in the way of city's development. This calls for evolving of specific schemes by which the city's Heritage structures and modern constructions can harmoniously co-exist and compliment mutually. This is a unique challenge as city has not segregated Heritage Zones and Non-Heritage Zones.
It would, thus, be necessary that the architectural design of the new construction near the Heritage structure compliments the Heritage structure."

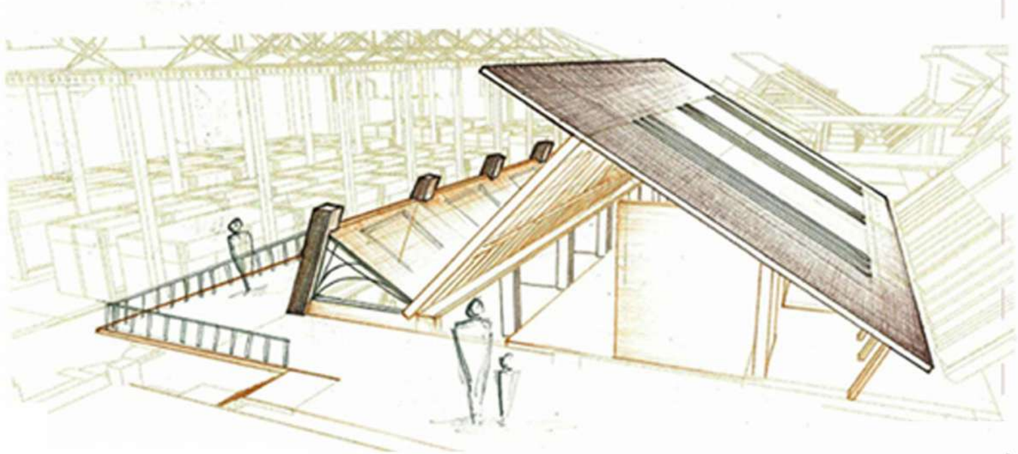
- MUMBAI CITY DEVELOPMENT PLAN 2005 - 2025



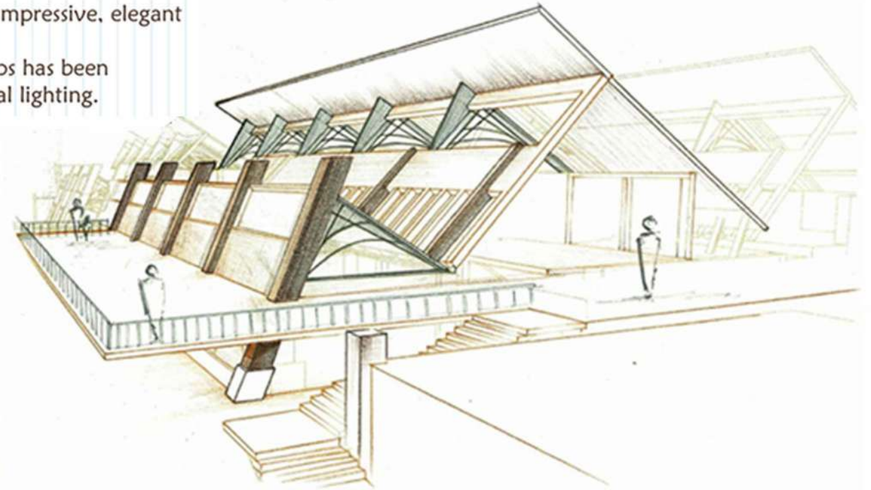








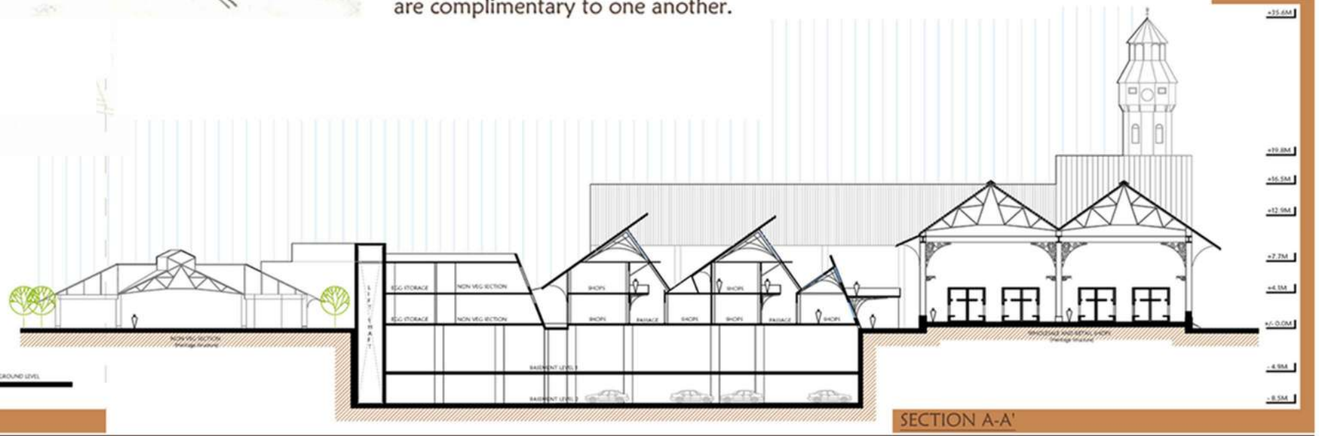
The vast volume of the Heritage structure is what makes it impressive, elegant and also airy and comfortable as an habitable space.
By using trusses for individual shops, the volume of the shops has been increased with an addition of skylights at the roof for natural lighting.



Crawford Market got constructed as before as the year 1867. Today, still the market is identified by the same old structure. It is tried and made sure that even after a part of the campus gets redeveloped according to the proposed design, the market would still be recognized by the elegant Heritage Building because the modern structure would blend into the old one.

The design of the columns in the modern structure have been inspired from the old structure itself.
This ensures that both the structures that are adjacent to each other are complimentary to one another.

NORTH EAST ELEVATION



SECTION A-A'

UNDERGRADUATE STUDY

2008 - 2012 - NASA (National Association of Students of Architecture) Projects
Louis. I. Kahn Trophy

Bachelors of Architecture (B.Arch.)

INDUSTRIAL ARCHITECTURE

Jessop & Company Limited,
Dum Dum, West Bengal, India

Comprising of 70 acres of land, this railway gauge manufacturing industry was established in the late 1800s.
It became an engineering marvel of its time with its advanced steel truss construction.

INDUSTRIALIZATION IN INDIA

THE TERM INDUSTRIALIZATION REFERS TO THE GROWTH OF MANUFACTURING INDUSTRIES. THE LATER HALF OF 19TH CENTURY WAS MARKED BY A MAJOR DIVISION IN THE WORLD'S ECONOMY INTO AGRICULTURAL AND INDUSTRIAL ECONOMY. THE FOUNDATION OF THIS TRANSITION OF ECONOMY WAS TRADE FOLLOWED BY AN INCREASE IN DEMAND AND SUPPLY OF GOODS. TECHNOLOGICAL ADVANCES IN TRANSPORT, INFRASTRUCTURE AND COMMUNICATION CREATED NEW OPPORTUNITIES FOR TRADE.

NUMEROUS COMPLEXITIES FACED IN THE EXTENSIVE PERIOD OF INDUSTRIALIZATION HAVE BEEN RESPONSIBLE FOR MODIFYING THE ARCHITECTURAL EDIFICE, SEVERAL ADAPTED TO SUIT THE FUNCTION THEY HOUSED. THE ERA OF THESE SPONTANEOUS CHANGES, TERMED AS REVOLUTION, PROVED EFFECTUAL IN COPING WITH THE INCREASE IN DEMAND THEREBY STRENGTHENING INDUSTRIALIZATION.

INDIA FACILITATED A DIRECT EXPANSION IN INDUSTRIALIZATION AS IT HAD EASY ACCESS TO NATURAL RESOURCES AND AVAILABILITY OF RAW MATERIALS ALONG WITH GOOD TRANSPORTATION FACILITIES. INDUSTRIALIZATION ENCOURAGED URBANIZATION AS PEOPLE MIGRATED IN SEARCH OF EMPLOYMENT.

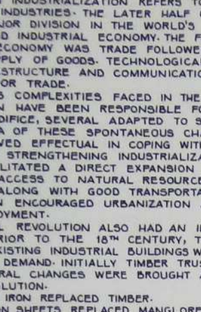
INDUSTRIAL REVOLUTION ALSO HAD AN IMPACT ON INDUSTRIAL ARCHITECTURE. PRIOR TO THE 18TH CENTURY, THE ARCHITECTURAL CHARACTER OF EXISTING INDUSTRIAL BUILDINGS WAS PURELY BASED ON THE SUPPLY AND DEMAND. INITIALLY TIMBER TRUSSES SUPPORTED SHORT SPANS, BUT SEVERAL CHANGES WERE BROUGHT ABOUT BY THE INDUSTRIAL REVOLUTION.

- CAST, WROUGHT IRON REPLACED TIMBER.
- GALVANIZED IRON SHEETS REPLACED MANGLORE TILES.
- FURTHER STEEL REPLACED IRON DUE TO ITS COMPRESSIVE TENSILE STRENGTH. THE RIVET SYSTEM REPLACED NUT AND BOLTS WHICH WERE THEN REPLACED BY WELDING.

THE BRITISH WERE RESPONSIBLE FOR THE BASE OF CONSTRUCTION TECHNIQUES USED IN THE INDUSTRIES OF INDIA.

BRIEF INTERPRETATION

INDUSTRIES HAVE BEEN BOLSTERING THE PROGRESS OF OUR NATION ECONOMICALLY AS WELL AS IN TERMS OF TRADE AND INFRASTRUCTURE. THE MANUFACTURING INDUSTRY WHICH PLAYS A MAJOR ROLE IN DEVELOPMENT ORIGINATED IN THE 19TH CENTURY. TO COPE UP WITH THE CHANGE, EVOLUTION OF NEW CONSTRUCTION TECHNOLOGIES AND MATERIALS WERE USED TO REACH A POINT OF PERFECTION. INDUSTRIES RESPONDING TO THE CHANGE HAVE SUSTAINED WITH AN ASCENDING GRAPH OF PRODUCTION. HENCE THE STUDY OF THESE INDUSTRIES IN TERMS OF THEIR ECONOMICAL, ARCHITECTURAL AND ADMINISTRATIVE EVOLUTION AND ADAPTATION IS ESSENTIAL FOR THE PROGRESS OF INDUSTRIES IN TODAY'S DAY AND AGE.



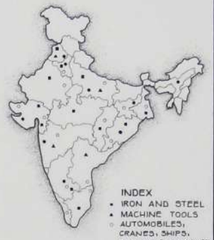
MAP OF INDIA SHOWING TRADE ROUTES

MAP OF KOLKATA

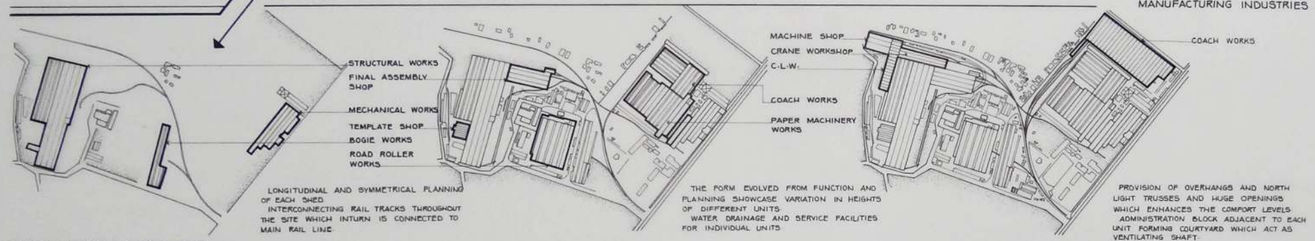
LOCATION OF SITE IN DUM DUM

- INDUSTRIALIZATION IN INDIA BEGAN IN THE LATER HALF OF 19TH CENTURY THROUGH BRITISH TRADE.
- LOSS OF TIME THROUGH MERE EXPORT OF RAW MATERIAL VIA SEA ROUTES ENCOURAGED THE ESTABLISHMENT OF INDUSTRIES IN CLOSE PROXIMITY TO THE SOURCE OF MATERIAL.
- DUE TO AN INCREASE IN POPULATION AND RESULTANT RISE IN THE DEMANDS OF BASIC NECESSITY, THE ESTABLISHMENT OF MANUFACTURING INDUSTRIES WERE ENCOURAGED TO LOWER COSTS AND HASTEN PRODUCTION.
- THE INDUSTRIAL REVOLUTION BROUGHT ABOUT A SHIFT FROM AGRARIAN ECONOMY TO INDUSTRIAL ECONOMY.
  - 1ST PHASE COMPRISED OF A SHIFT FROM MANUAL LABOUR TO MACHINES.
  - 2ND PHASE MANIFESTS THE INTRODUCTION OF RAILWAYS AND ITS NEED FOR WORKSHOPS. MAXIMUM EVOLUTION OF THESE INDUSTRIES WAS OBSERVED IN KOLKATA, MUMBAI, KANPUR AND CHENNAI.
- DURING THIS ERA, KOLKATA, A PROMINENT CITY OF THE BRITISH EMPIRE WAS FAVOURABLE FOR INDUSTRIAL GROWTH AS A RESULT OF:
  - AVAILABILITY OF RAW MATERIAL
  - POWER SUPPLY AND LABOUR
  - PORT FACILITIES FOR EXPORT AND IMPORT
  - SURFACE TRANSPORT FACILITIES
- THESE FACTORS LED TO EXPANSION OF INDUSTRIES IN EVERY CORNER OF BENGAL.
- JESSOP AND CO. A MAJOR ENGINEERING INDUSTRY WAS ESTABLISHED IN 1821 IN HOWRAH AND MANUFACTURED IRON BRIDGES, SHIPS, STEAM BOATS, ROAD ROLLERS AND PARTS OF CRANE ATTACHMENTS ALONG WITH PRIMITIVE TRANSPORT ITEMS.
- DUE TO GOVERNMENT LAND ACQUISITION, FOR THE HOOGHLY BRIDGE IN 1923 JESSOP AND CO. SHIFTED BASE TO DUM DUM.
- DUM DUM, A TOWN IN 24 NORTH PARAGANAS DISTRICT OF BARRACKPORE SUB DIVISION OF KOLKATA STATE IN INDIA WAS ESTABLISHED IN 1784 BY THE BRITISH COUNCIL.
- DUM DUM IS EASILY ACCESSIBLE FROM:
  - DUM DUM CANTONMENT RAILWAY STATION
  - JESSORE ROAD - CONNECTS NATIONAL HIGHWAY NETAJI SUBHASH CHANDRA BOSE AIRPORT, DUM DUM AIRPORT
- THESE FACTORS PLAYED A MAJOR ROLE IN MAKING DUM DUM A STRONG BASE FOR SETTING ENGINEERING FIRM LIKE JESSOP AND COMPANY.
- THE COMPANY PURCHASED A CONSIDERABLE AREA (70 ACRES) OF LAND FROM INDIAN GOVERNMENT IN DUM DUM.

MAP SHOWING MAJOR SOURCES OF RAW MATERIAL



MAP SHOWING MANUFACTURING INDUSTRIES



LONGITUDINAL AND SYMMETRICAL PLANNING OF EACH SHED. INTERCONNECTING RAIL TRACKS THROUGHOUT THE SITE WHICH INTURN IS CONNECTED TO MAIN RAIL LINE

THE FORM EVOLVED FROM FUNCTION AND PLANNING SHOWCASE VARIATION IN HEIGHTS OF DIFFERENT UNITS. WATER DRAINAGE AND SERVICE FACILITIES FOR INDIVIDUAL UNITS

PROVISION OF OVERHANGS AND NORTH LIGHT TRUSSES AND HUGE OPENINGS WHICH ENHANCES THE COMFORT LEVELS. ADMINISTRATION BLOCK ADJACENT TO EACH UNIT FORMING COURTYARD WHICH ACT AS VENTILATING SHAFT.

EVOLUTION OF SITE

PHASE 1: 1925-1940

- FABRICATION UNIT WAS THE FIRST MAJOR UNIT IN 1928 AS A MAIN PART OF STRUCTURAL WORKS FOLLOWED MECHANICAL WORKS IN 1930, PLANNED ON EITHER SIDES OF RAILWAY LINE WHICH CONNECTS TO MAIN DUM DUM RAILWAY STATION.
- JESSOP AND CO. STARTED THE TRADITION OF MANUFACTURING OF MAJOR ENGINEERING COMPONENTS AT VAST SCALE AND WIDE RANGE OF VARIETY LIKE WAGONS, BRIDGES AND GATES.
- THESE SHEDS ARE PLANNED ALONG THEIR LENGTH TO FACILITATE EASY INTAKE OF RAW MATERIALS AND ALSO TO FOLLOW THE FUNCTION OF THE SHED.
- THE EVOLUTION OF THESE SHEDS AND THE CHANGE IN PRODUCTION RAISED THE ECONOMIC GRAPH OF THE COMPANY.
- THE SCENE CHANGED RAPIDLY FOR JESSOP AND CO. IN THE COMING YEARS.

PHASE 2: 1940-1955

- DURING THIS PERIOD THE STATUS OF THE COMPANY WAS VIRTUALLY TRANSFORMED FROM PRIVATE TO PUBLIC LIMITED WITH PARTIAL AVAILABILITY OF SHARES IN KOLKATA MARKET IN 1941.
- WORLD WAR-II ADVERSELY AFFECTED THE FUNCTIONS AND OPERATIONS OF JESSOP AND CO. TO GREAT EXTENT AS THERE WAS SPURT IN THE GROWTH OF INDIAN INDUSTRIES AFTER 1940. HOWEVER THE COMPANY OVERCAME THIS CRISIS SUCCESSFULLY. WAR EFFECTS DEMANDED MAJOR PRODUCTION OF WAGONS AND TRANSPORT VEHICLES AND RESPONDING TO THIS DEMAND ROLLING WORKS, SUPPLIMENTED BY FINAL ASSEMBLY, BRIDGE WORKS AND TEMPLATE SHOP IN 1940 WERE ESTABLISHED.
- THE FIRST FIVE YEAR PLAN EMPHASIZED ON AGRARIAN SECTOR AND DAMS AND IRRIGATION PROJECTS, JESSOP AND CO. MANUFACTURED BRIDGES AND GATES FOR SEVERAL BARRAGES ALL OVER INDIA.
- JESSOP AND CO. WAS APPROACHED BY THE GOVERNMENT FOR A PROPOSED EXTENSION FOR MECHANICAL WORKS.

PHASE 3: 1955-1970

- THIS PHASE MARKS THE INFRASTRUCTURAL DEVELOPMENT PLAN IN INDIA WITH EXPANSION IN INDUSTRIES AND ALSO THE OUTCOME OF 2ND FIVE YEAR PLAN.
- FOCUSSED ON INDUSTRIES AND ON THE PRODUCTIVE SECTOR IN ORDER TO MAXIMIZE LONG RUN ECONOMIC GROWTH. THIS LED TO THE ADDITION OF SEVERAL RAILWAY LINES IN INDIA ESPECIALLY IN THE NORTH EAST.
- JESSOP AND CO. RESPONDED WITH THE ESTABLISHMENT OF CHIEF DIVISION OF COACH WORKS IN 1958-59, WHICH MANUFACTURES E.M.U. COACHES, PASSANGER COACHES, WAGONS AND BOGIES.
- THE SHEDS WERE WELL PLANNED AND HAD A 1:1 SPAN TO HEIGHT RATIO BASED ON FUNCTION.
- JESSOP AND CO. WAS AFFECTED BY THE INDO-PAK WAR DUE TO THE ECONOMIC SHIFT FROM THE INDUSTRIAL SECTOR TO THE DEFENSE SECTOR. TO OVERCOME THIS LOSS, THE COMPANY INCREASED ITS FOREIGN EXPORTS AS A RESULT OF WHICH IT ESTABLISHED THE CRANE WORKSHOP, MACHINE SHOP AND C.L.W. IN 1970.

ECONOMIC GRAPH

JESSOP AND COMPANY'S ASCENDING ECONOMIC GRAPH CONTINUED WITH THE ESTABLISHMENT OF STRUCTURAL AND MECHANICAL WORKS IN 1930. THE COMPANY'S REVENUE ACCOUNTS SHOWED A GROSS PROFIT IN 1937-38 AS SOON AS THE FABRICATION AND ERECTION WORK OF HOWRAH BRIDGE WAS INITIATED.

THE COMPANY ESTABLISHED ROLLING STOCK IN 1940 FOLLOWED BY THE FINAL ASSEMBLY FOR THE PRODUCTION OF ROLLING STOCK AND WAGONS ASSURED ANOTHER PEAK IN ITS PROFIT. POST WAR EFFECTS LED TO RAPID GROWTH IN TRADE EXPENSES WHICH INCREASED FURTHER LOSS IN 1945.

THE FIRST AND SECOND FIVE YEAR PLAN INITIATED THE GROWTH OF COACH WORK DIVISION IN 1958-59 WHICH BROUGHT A NEW CHANGE IN RAILWAYS BY MANUFACTURING OF E.M.U. COACHES FOR THE FIRST TIME IN INDIA. INDO-PAK WAR AFFECTED THE COMPANY IN TERMS OF LABOUR SHORTAGE AND INCREASE INTRODUCTION COST.

THE ADDITION OF THE CRANE WORKSHOP AND THE MACHINE SHOP TO THE STRUCTURAL WORKS IN 1970 LED TO THE INCREASE IN THE OVERALL PROFIT BY MANUFACTURING A 300 TON CAPACITY LADDLE CRANE TO TATA IRON AND STEEL COMPANY ON SCHEDULE.
ANY LOSS INCURRED IN THE SPAN OF 30 YEARS FROM 1970-2000 HAS BEEN BALANCED OUT BY THE STEADY RATE OF PRODUCTION MAINTAINED BY THE COMPANY.

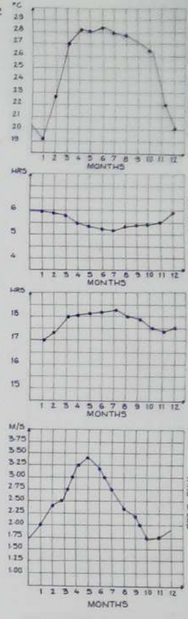
CLIMATIC ANALYSIS

TOPOGRAPHY

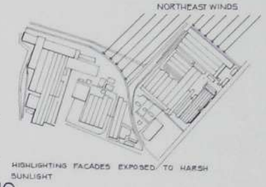
INDEX
FALLOW LAND
ARABLE LAND
FOREST
OTHERS
WATER BODY

DISTRICT MAP OF 24 NORTH PARAGANAS

DUM DUM, LOCATED ON THE OUTSKIRTS OF MAIN CITY THAT IS 10 KM FROM THE CITY CENTRE OF KOLKATA.
LOCATION
22°37' NORTH AND 88°25' EAST
DEMOGRAPHICS
POPULATION OF DUM DUM COMPRISES OF 52% MALES AND 48% FEMALES
AVERAGE LITERACY RATE - 59.5%
ACCESSIBILITY
DUM DUM AIRPORT IS LOCATED 3KM AWAY FROM SITE.
DUM DUM CANTONMENT STATION IS 2KM AWAY FROM SITE.
THE SITE IS CONNECTED TO MAIN JESSORE ROAD WHICH THEN CONNECTS TO NH35.



SUNPATH AND WIND DIRECTION

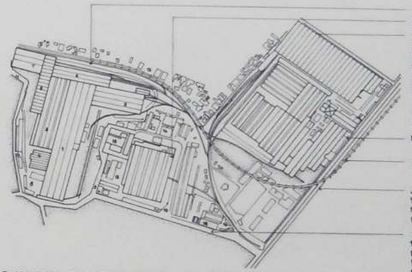


HIGHLIGHTING FACADES EXPOSED TO HARSH SUNLIGHT

- THE EXTERNAL FACADE RECIEVING DIRECT SUNLIGHT HAVE BEEN COVERED BY GALVANISED IRON AND ASBESTOS CEMENT SHEETS TO AVOID DIRECT GLARE

PRESENT SCENARIO

- THE PRESENT STATE OF THE COMPANY HAS BENEFITED WITH MASS PRODUCTION FOR THE DEVELOPMENT OF INFRASTRUCTURE.
- JESSOP AND CO. STILL SUSTAINS SUCCESSFULLY WITH THE SAME PRODUCTIVITY EXCEPT FOR THE PAPER MACHINERY AND BLACKSMITH SHOP WHICH WERE CLOSED DUE TO TRANSFER OF THE COMPANY FROM PUBLIC SECTOR TO PRIVATE SECTOR IN 2000.
- JESSOP'S CRANE DIVISION IS BUSY BRANCHING OUT, ARMED WITH GLOBAL TECHNOLOGICAL ACQUISITIONS IN THE AREA OF CRANES AND OTHER MATERIAL HANDLING EQUIPMENT.
- THE COMPANY'S MANUFACTURING RANGE INCLUDES ALL TYPES OF WAGONS, E.M.U. COACHES AND METER GAUGE PASSENGER COACHES FOR INDIAN, INTERNATIONAL RAILWAYS LIKE POLAND, EAST AFRICA, VIETNAM AND YUGOSLAVIA AND SEVERAL INDUSTRIAL CUSTOMERS.
- THE COMPANY HAS ACQUIRED FOREIGN TECHNOLOGY IN THE FIELD OF ROAD CONSTRUCTION EQUIPMENTS.

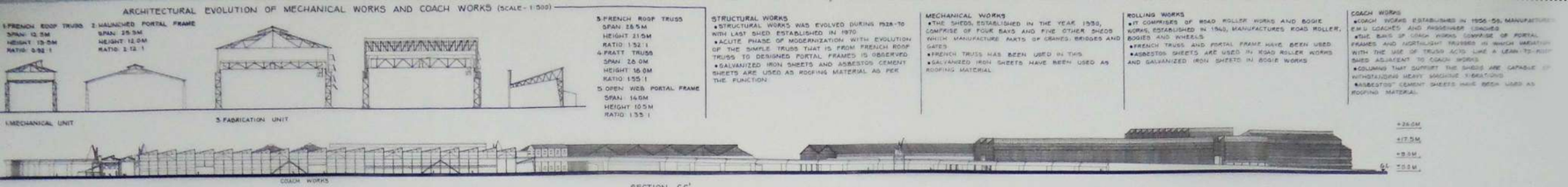


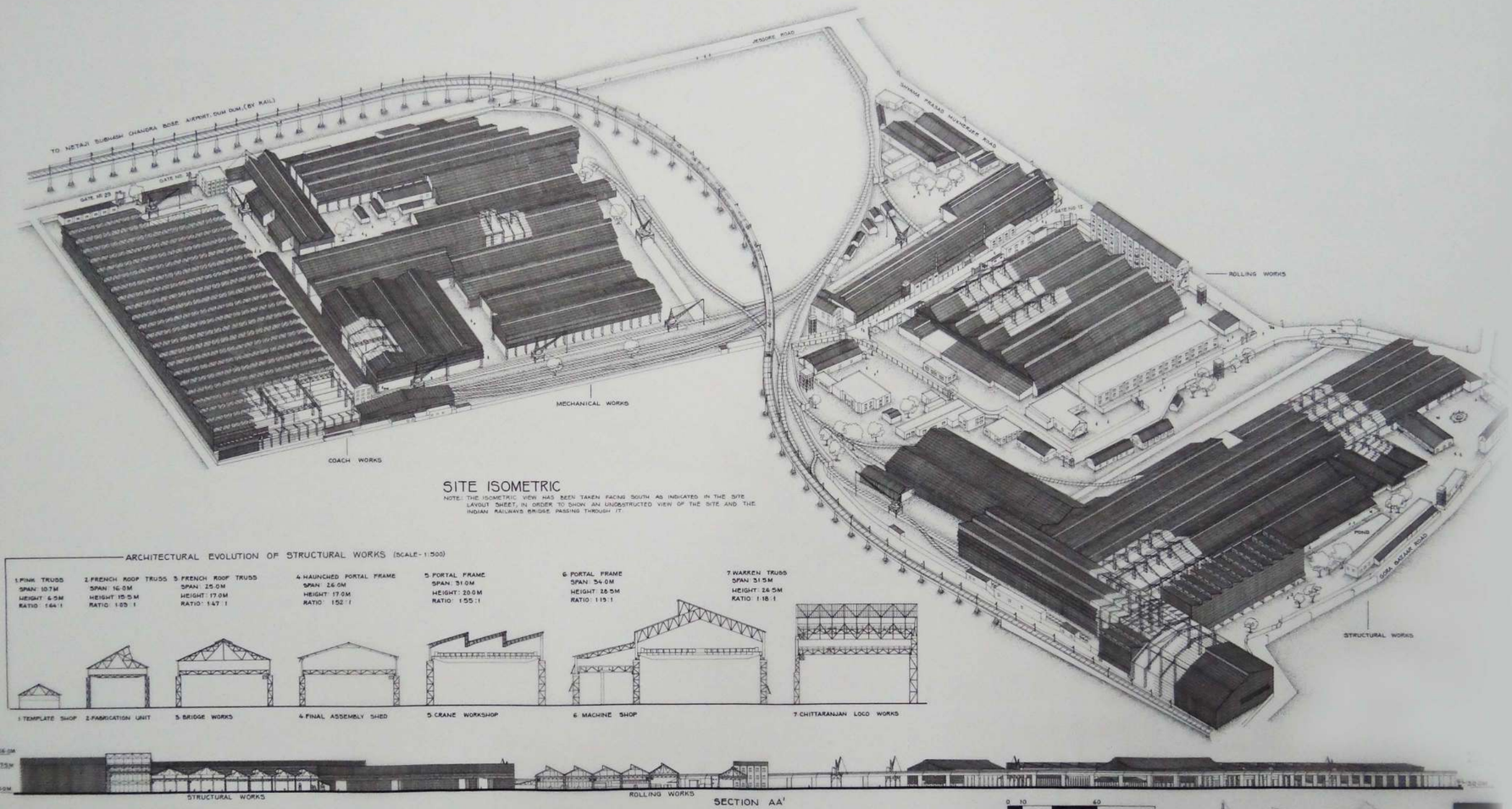
LAYOUT SHOWING PRESENT STATE OF THE SITE AND SURROUNDING SETTLEMENT

SITE JUSTIFICATION

THROUGH THE YEARS A SERIES OF TRANSITIONS HAS SHAPED INDUSTRIAL ARCHITECTURE INTO WELL PLANNED AND ECONOMICALLY DESIGNED BUILDINGS WITH ABILITY TO RESPOND TO THE CHANGING NEEDS OF THE WORLD. OF THE FEW THAT HAVE SURVIVED AGAINST ALL ODDS JESSOP AND CO. IS ONE SUCH INDUSTRY THAT HAS RETAINED ITS GLORY THROUGH THE LONG SPAN OF YEARS

INITIALLY BEGUN AS A LEGACY OF BRILLIANT ENGINEERING THE COMPANY DID NOT SHY OF EMBARKING ON MAJOR CHANGES THAT SHAPED THE INDUSTRIAL REVOLUTION. THE COMPANY ALSO MADE AN EFFORT TO MINIMIZE CONSTRUCTION COSTS BY SMART MANAGEMENT OF MATERIALS. TILL DATE, JESSOP AND CO. MAINTAINS ITS STATUS AS A PRIME INDUSTRY BY MANUFACTURING A VAST RANGE OF TRANSPORT RELATED PRODUCTS.





SITE ISOMETRIC

NOTE: THE ISOMETRIC VIEW HAS BEEN TAKEN FACING SOUTH AS INDICATED IN THE SITE LAYOUT SHEET, IN ORDER TO SHOW AN UNOBSTRUCTED VIEW OF THE SITE AND THE INDIAN RAILWAYS BRIDGE PASSING THROUGH IT.

NOTE: THE CORRUGATED SHEETS AND RAILWAY TRACKS ARE INDICATIVE AND NOT TO SCALE

0 10 40
50 100M

JESSOP & CO. LTD.
DUM DUM, WEST BENGAL

SITE ISOMETRIC
LOUIS I. KAHN TROPHY 2010-11

NASA

Jessop & Company not only pushed the limits of engineering feats but also pioneered in the steel construction which had just started to take its hold in the country at that time.

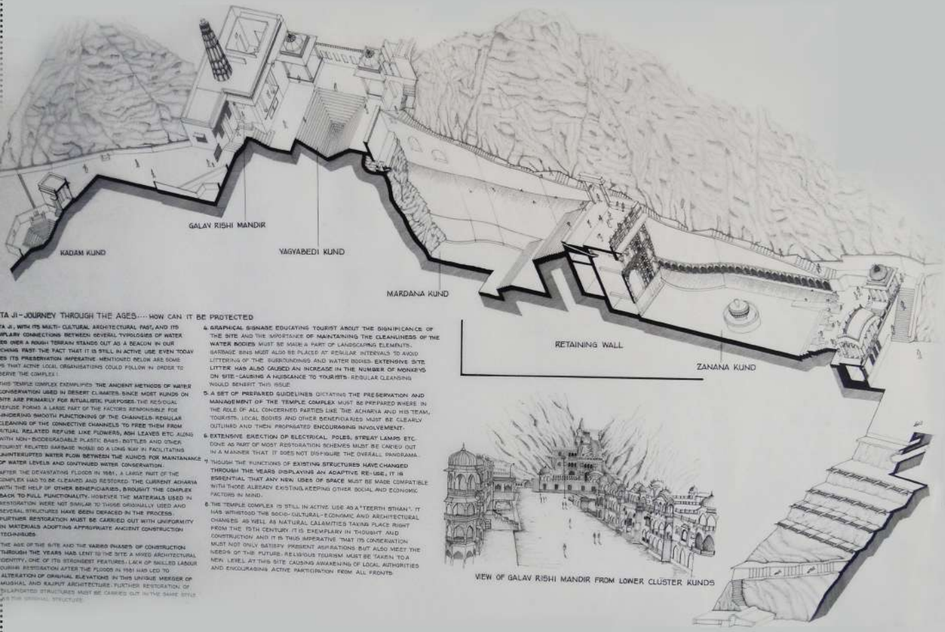
This exploded site isometric view was drafted to show the same along with the vastness of the site at a zoomed out level.

As a team of 40 students, we documented the whole site and prepared 20 A1 sheets comprising the scaled drawings.

As a student of Third Year B. Arch, my contribution to the trophy that year was the documentation and drafting of the exploded site isometric view.

WATER ARCHITECTURE

Stretching out linearly in a valley between two mountains, this site connects 9 kunds/step wells with underground pipes.
The connections are so simple yet intrcately done centuries ago during a time when technology was a faraway thought.



TA JI - JOURNEY THROUGH THE AGES.... HOW CAN IT BE PROTECTED

TA JI, WITH ITS MULTI- CULTURAL ARCHITECTURAL PAST, AND ITS PLARY CONNECTIONS BETWEEN SEVERAL TYPOLOGIES OF WATER DE UNDER A HINDU TERRAIN STANDS OUT AS A BEACON IN OUR CHING PAST THE FACT THAT IT IS STILL IN ACTIVE USE EVEN TODAY ES ITS PRESERVATION IMPERATIVE MENTIONED BELOW ARE SOME IS THAT ACTIVE LOCAL ORGANISATIONS COULD FOLLOW IN ORDER TO SERVE THE COMPLEX.

THIS TEMPLE COMPLEX EXEMPLIFIES THE ANCIENT METHODS OF WATER CONSERVATION USED IN DESERT CLIMATES. SINCE MOST KUNDS ON SITE ARE PRIMARILY FOR RITUALISTIC PURPOSES, THE RESIDUAL REFUSE FORMS A LARGE PART OF THE FACTORS RESPONSIBLE FOR UNDERMINING SMOOTH FUNCTIONING OF THE CHANNELS. REGULAR CLEANING OF THE CONNECTIVE CHANNELS TO FREE THEM FROM RITUAL RELATED REFUSE LIKE FLOWERS, ASH LEAVES ETC. ALONG WITH NON-BIODEGRADABLE PLASTIC BAGS, BOTTLES AND OTHER TOURIST RELATED GARBAGE NEEDS GO A LONG WAY IN FACILITATING UNINTERRUPTED WATER FLOW BETWEEN THE KUNDS FOR MAINTAINANCE OF WATER LEVELS AND CONTINUED WATER CONSERVATION.

AFTER THE DEVASTATING FLOODS IN 1981, A LARGE PART OF THE COMPLEX HAD TO BE CLEARED AND RESTORED. THE CURRENT ACHARYA WITH THE HELP OF OTHER BENEFICIARIES, BROUGHT THE COMPLEX BACK TO FULL FUNCTIONALITY. HOWEVER THE MATERIALS USED IN RESTORATION WERE NOT SIMILAR TO THOSE ORIGINALLY USED AND SEVERAL STRUCTURES HAVE BEEN DEFACED IN THE PROCESS. FURTHER RESTORATION MUST BE CARRIED OUT WITH UNIFORMITY IN MATERIALS ADOPTING APPROPRIATE ANCIENT CONSTRUCTION TECHNIQUES.

THE AGE OF THE SITE AND THE VARIED PHASES OF CONSTRUCTION THROUGH THE YEARS HAS LENT TO THE SITE A MIXED ARCHITECTURAL IDENTITY, ONE OF ITS STRONGEST FEATURES. LACK OF SKILLED LABOUR DURING RESTORATION AFTER THE FLOOD IN 1981 HAS LED TO ALTERATION OF ORIGINAL ELEVATIONS IN THIS UNIQUE MERGER OF MUGHAL AND RAJPUT ARCHITECTURE. FURTHER RESTORATION OF DILAPIDATED STRUCTURES MUST BE CARRIED OUT IN THE SAME STYLE AS THE ORIGINAL STRUCTURE.

6. GRAPHICAL SIGNAGE EDUCATING TOURIST ABOUT THE SIGNIFICANCE OF THE SITE AND THE IMPORTANCE OF MAINTAINING THE CLEANLINESS OF THE WATER BODIES MUST BE MADE A PART OF LANDSCAPING ELEMENTS. GARBAGE BINS MUST ALSO BE PLACED AT REGULAR INTERVALS TO AVOID LITTERING OF THE SURROUNDINGS AND WATER BODIES. EXTENSIVE SITE LITTER HAS ALSO CAUSED AN INCREASE IN THE NUMBER OF MONKEYS ON SITE - CAUSING A NUISANCE TO TOURISTS. REGULAR CLEANSING WOULD BENEFIT THIS ISSUE.

5. A SET OF PREPARED GUIDELINES DICTATING THE PRESERVATION AND MANAGEMENT OF THE TEMPLE COMPLEX MUST BE PREPARED WHERE IN THE ROLE OF ALL CONCERNED PARTIES LIKE THE ACHARYA AND HIS TEAM, TOURISTS, LOCAL BODIES AND OTHER BENEFICIARIES MUST BE CLEARLY OUTLINED AND THEN PROPAGATED ENCOURAGING INVOLVEMENT.

6. EXTENSIVE ERECTION OF ELECTRICAL POLES, STREET LAMPS ETC. DONE AS PART OF MOST RESTORATION SCHEMES MUST BE CARRIED OUT IN A MANNER THAT IT DOES NOT DISTURB THE OVERALL PANORAMA. THOUGH THE FUNCTIONS OF EXISTING STRUCTURES HAVE CHANGED THROUGH THE YEARS, DISPLAYING AN ADAPTIVE RE-USE, IT IS ESSENTIAL THAT ANY NEW USES OF SPACE MUST BE MADE COMPATIBLE WITH THOSE ALREADY EXISTING, KEEPING OTHER SOCIAL AND ECONOMIC FACTORS IN MIND.

8. THE TEMPLE COMPLEX IS STILL IN ACTIVE USE AS A "TEERTH STHAN". IT HAS WITHSTOOD THE SOCIO-CULTURAL, ECONOMIC AND ARCHITECTURAL CHANGES AS WELL AS NATURAL CALAMITIES TAKEN PLACE RIGHT FROM THE 15TH CENTURY. IT IS EXEMPLARY IN THOUGHT AND CONSTRUCTION AND IT IS THUS IMPERATIVE THAT ITS CONSERVATION MUST NOT ONLY SATISFY PRESENT ASPIRATIONS BUT ALSO MEET THE NEEDS OF THE FUTURE. RELIGIOUS TOURISM MUST BE TAKEN TO A NEW LEVEL. AT THIS SITE CAUSING AWAKENING OF LOCAL AUTHORITIES AND ENCOURAGING ACTIVE PARTICIPATION FROM ALL FRONTS.

VIEW OF GALAV RISHI MANDIR FROM LOWER CLUSTER KUNDS

STRENGTH

- THE SITE IS SELF SUSTAINABLE WITH NATURAL SPRINGS SOURCE INSPITE OF THE ARID CLIMATE IN RAJASTHAN.
- DESPITE THE ARID CLIMATE IN RAJASTHAN THE LEVEL OF WATER IN THE KUNDS WILL ALWAYS REMAIN STABLE DUE TO INGENIOUS CONSTRUCTION OF WATER CHANNELS DRAWN FROM THESE WATER BODIES.
- GALTA JI TEMPLE COMPLEX IS THE CRUCIAL ELEMENT ON THE BASIS OF WHICH THE CITY OF JAIPUR HAS EVOLVED AND HAS STILL RETAINED ITS IMPORTANCE.
- THE RETAINING WALL OF THE KUNDS ARE AN ENGINEERING MARVEL IN ITSELF AND PRIME EXAMPLE OF WATER ARCHITECTURE.

WEAKNESS

- THE FLOW OF THE NATURAL SPRING HAS IMMENSELY REDUCED FROM THE PAST, LEADING TO STAGNATION OF FILTH.
- REGULAR INSPECTION OF WATER CHANNELS IS NOT POSSIBLE.
- INSPITE OF THE INCREASING TOURIST IMPORTANCE, THERE ARE NO PROVISIONS FOR TOILET BLOCKS BEING MADE.
- THE AGE OLD RETAINING WALL HAS BEEN PROVIDED WITH AN EXTERNAL R.C.C. SUPPORT TO REINFORCE THE RETAINING WALL.

WATER ARCHITECTURE

Three A1 sheets were joined to make this gigatic view of Galti temple complex.
It represents the different contours and the narrowness of the site.
By exploding the view, the internal and underground connections along with the depths of the various wells were made apparent.

As a student of Third Year B. Arch, my contribution to the trophy that year was the documentation and drafting of the exploded site isometric view and details.