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SJK Architects DESIGN AS CALIBRATION

To house a team of car-designing creative professionals, industrial sheds have been transformed into 'designed sheds' with the aesthetic of a contemporary, where the aim is not monumentality but the perfection of craftsmanship. The new design layers infuse the existing structure with a new-age sculptural visual order, while remaining grounded to its industrial origins

Text Kaiwan Mehta

All architecture is about interventions. As architects, we are today by nature entering into spaces and landscapes, contexts and scenarios that are always already existing. The metropolitan architect or studio is also always trying to make sense of scenarios within which architecture is taking shape – it is, at most times, not about grand buildings, but about calibrations with materials and structures. Architecture is about measured building of calibrations.

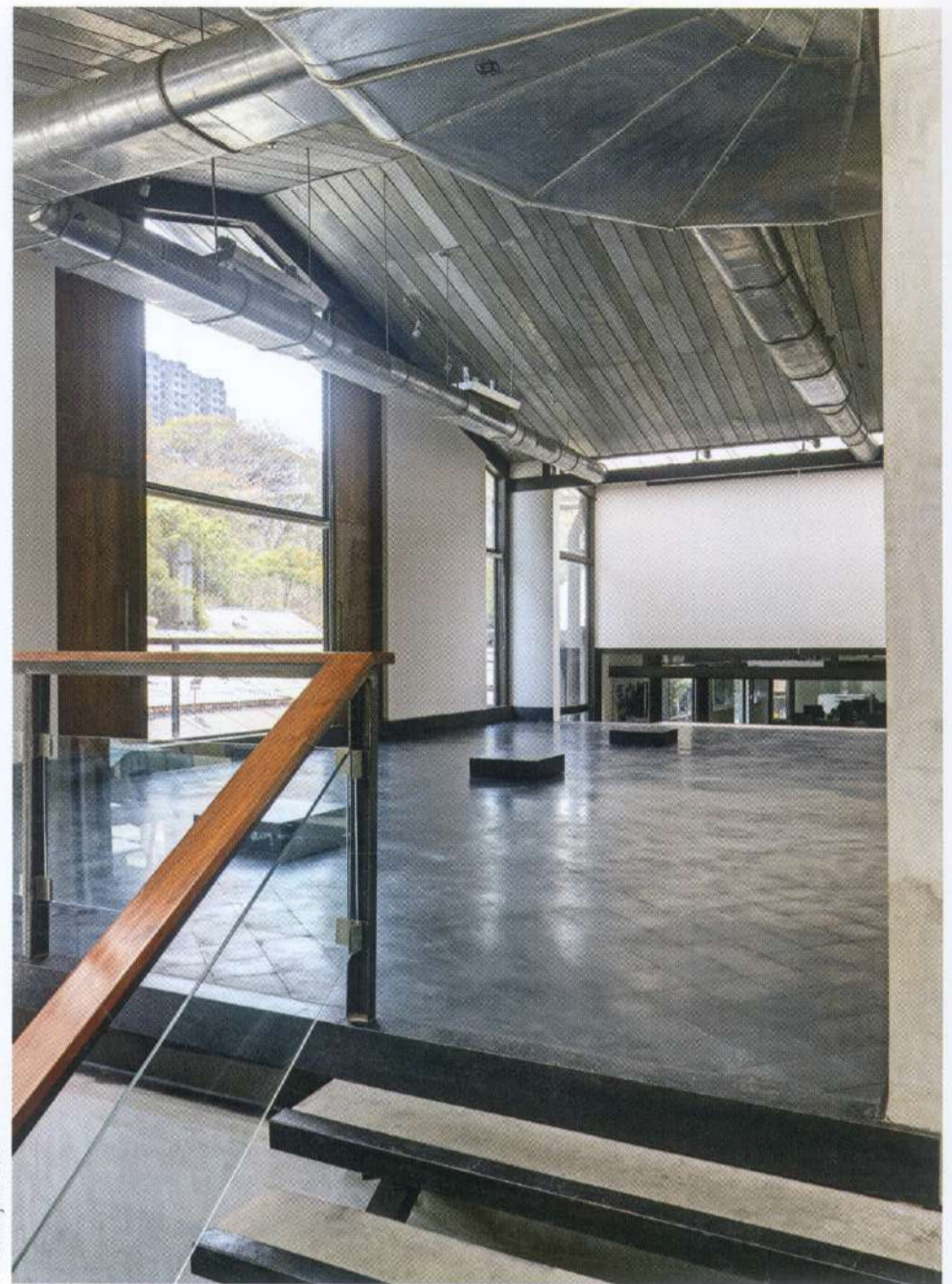
The Mahindra and Mahindra Automobile Design Studio designed by SJK Architects

is a good case to understand the nature and shape of architecture today – as a 'building of calibrations'. SJK Architects have worked on a range of projects and there is a certain aesthetic sensibility with which they approach architectural materials and structure; it is the aesthetic of a contemporary where the aim is not monumentality but the perfection of a craftsman with structure and materials, again it is not about fine craftsmanship but conceptual interpretation of craftsmanship. So there is a production of architecture that sees the classic building more as a system (not

This spread: the design assimilated the influences of site, context and brand identity to conceptualise a rugged, raw space that used natural light, celebrates its industrial and metallic context and complements it with a neutral concrete backdrop



Photo Rajesh Vora



just set) of parts – as a network of multiple decisions that would come and sit together. The building is a semiotic register – not of any myths and legends – but simply of times where markets and professional jobs/tasks are re-formatting themselves – which even influences the kind of spaces and programmes that ask for design – as for themselves to be housed within designed ‘sheds’. Designed sheds, not decorated ones!

Design produces the quotient of being within contemporary scenarios of production and professionalism. A few years back SJK Architect designed a building in Bengaluru to house the designers and team of Nirvana Films (featured in Domus India 06, April 2012 issue) – this building which, in many ways, challenged the form-space, wall-aperture divide/binary and reimagined what it meant to ‘work’ for a creative-professional team – was the cue as well attraction to invite SJK Architects to design the Mahindra and Mahindra Automobile Design Studio. The new avatar of the designer-professional as well as the new ethics of work-creativity do make the demands for a specific work shelter – the ‘designed shed’. Design is no generic term today; it is a terminology that emphasises the self-aware individuality of the working-living self today – it is a way of being.

The industrial campus in Kandivali that must have once been a far suburb to south and central busy-Bombay today, exists within an urbanised Mumbai metropolitan region. A few sheds within this campus were selected to house a team of designers that would help the company and manufacturing organisation develop a new brand outlook. The automobile industry, which at one point worked with

the logic of intelligent engineering, is today gearing up for a generation and context that invests in design and thinking through design. These two are not only specific fulcrums to this project and its design journey, but are central definers for the scenarios within which many designers function, find projects, and develop an aesthetic language. The relationships of work to creativity, design to manufacturing technologies and systems, designer to engineer, craftwork to material experiments – are actually some of the new-age associations that would define the programme of spaces, their nature and look, as well as the sensibility of a building project. SJK Architects headed by Shimul Javeri Kadri received these sheds and the mandate to house a particular team/programme – designers, clay model-making, carpentry of an industrial nature, as well as showcase of experimental and finished models. At one point, the wish was to work with industrial aesthetics that they inherited, and keeping in tune with the engineering and metal references to an automobile industry. Walks within the industrial campus as well as workshops in the city such as the neighbourhood of Kumbharwada helped establish a set of early thoughts on the particular design. However, the design team as well as the management looked for a space and volume that reflected a professional outlook and represented the thinking (designing) core of the company and their brand’s future – an expression of being contemporary and creative. But also the space was not the object of display – it was to house objects of displays – the models of cars in the process of design; so the building had to

This spread: the buildings were stripped down to bare the structural system to keep the site’s history alive while evolving a “today” that is contemporary, comfortable and poetic. Top left and right, opposite page top left: abundant sunlight pours in from the skylight and tall windows. Opposite page, top right: the mezzanine communicates with the display space below through a metallic screen that balances the need for the designer’s privacy as well as the need for connectivity to the display space; far below: a staircase cast in concrete, but there is a feeling of openness and lightness to them. Corten steel weathers constantly in the initial years of its being and the shades of orange-rust evolve constantly



Photo Rajesh Vora

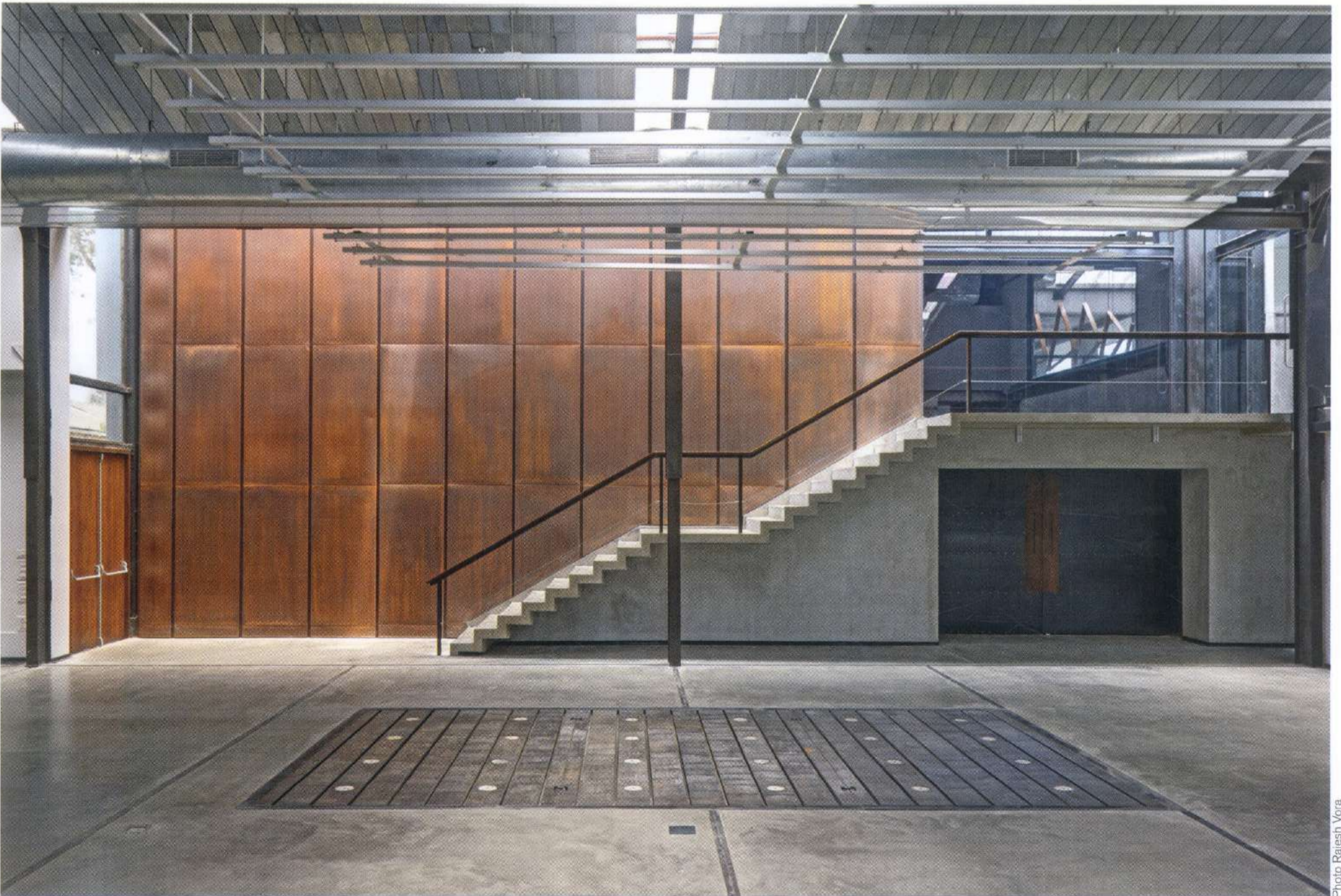
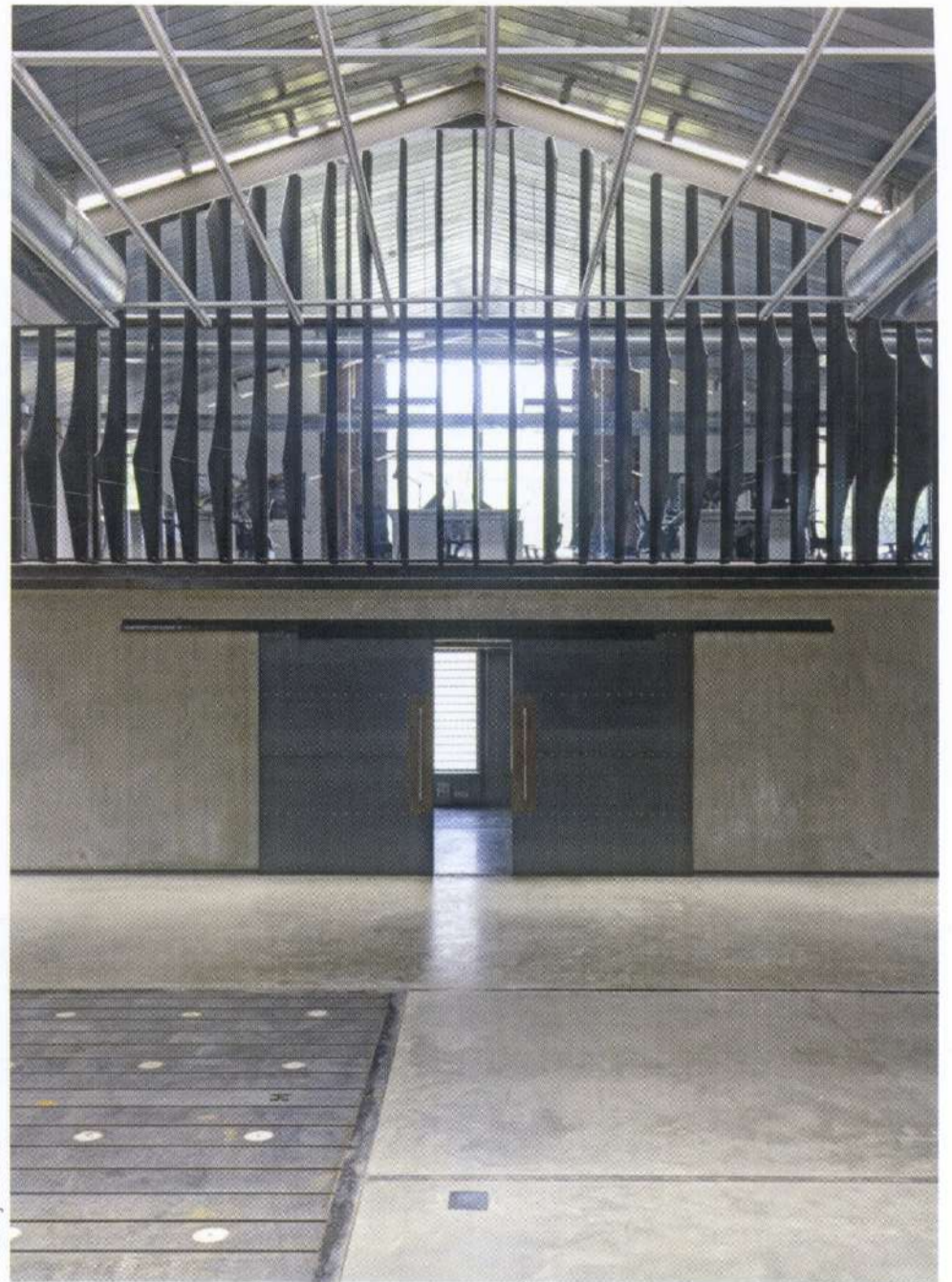
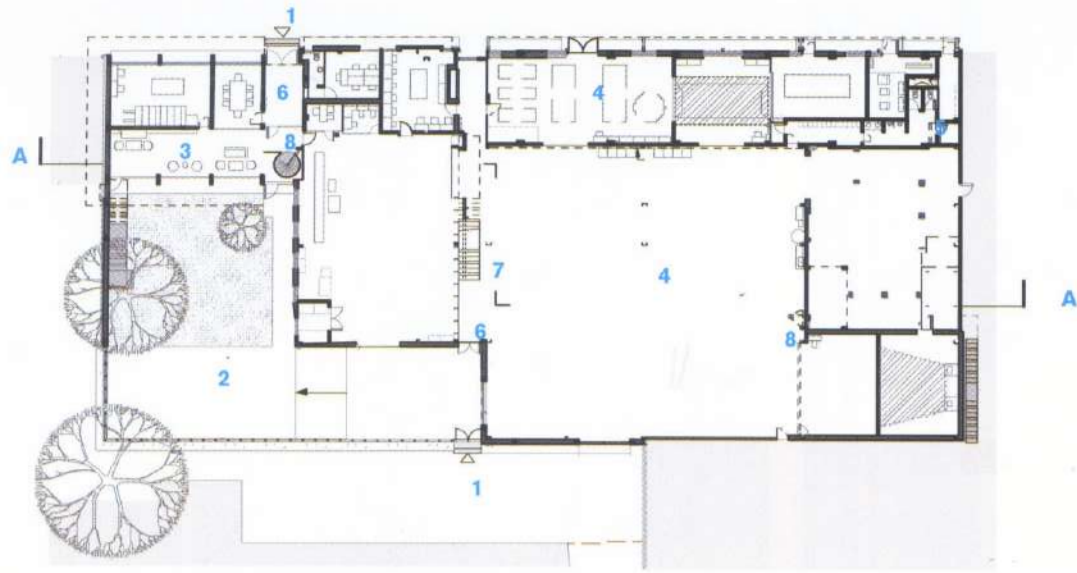
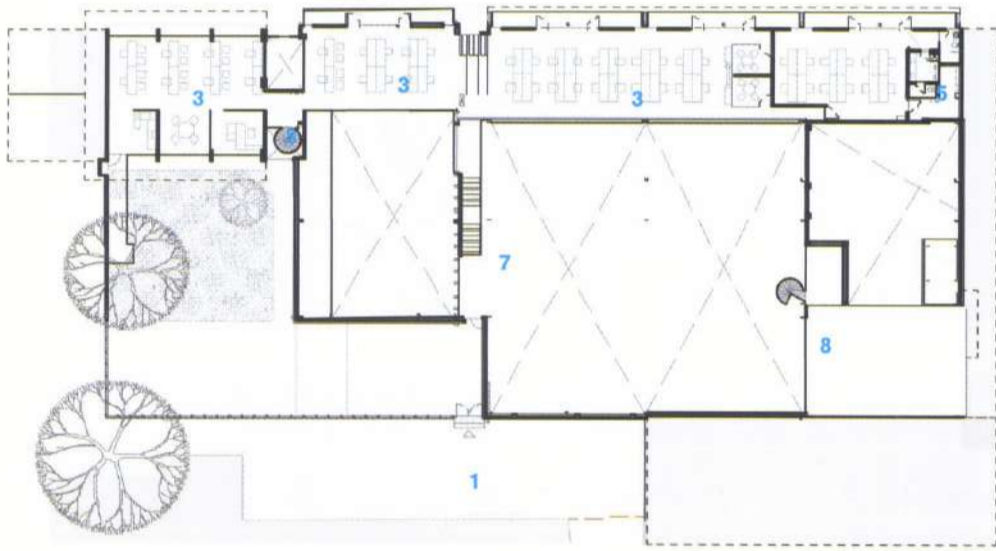


Photo Rajesh Vora



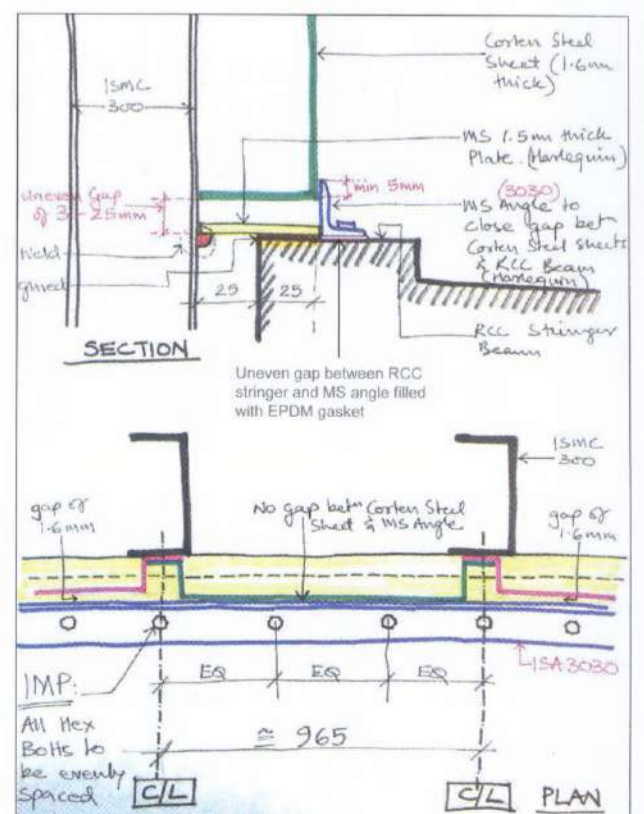
- 1 Main Entrance
- 2 Outdoor Area
- 3 Studio
- 4 Workshop
- 5 Toilet
- 6 Double Height Skylit Corridor
- 7 Grand Staircase
- 8 Spiral Staircase

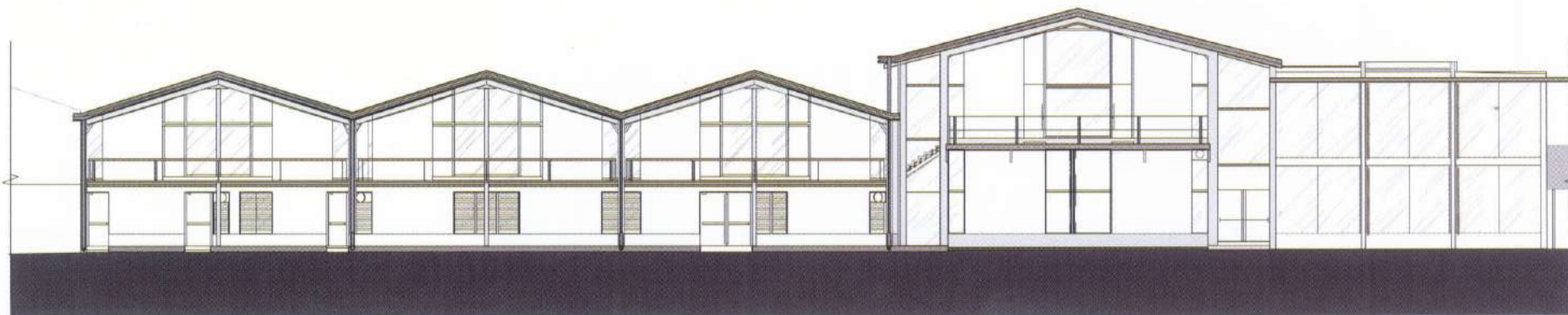
GROUND FLOOR PLAN



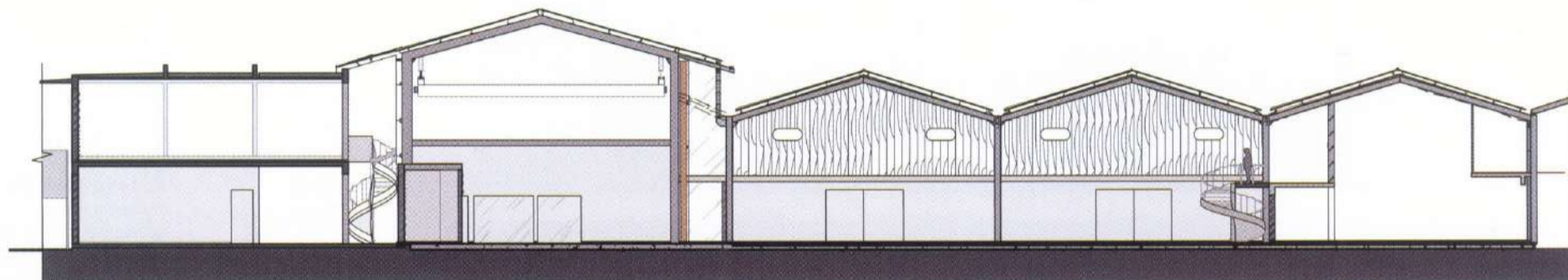
MEZZANINE PLAN

0 5M





NORTH ELEVATION

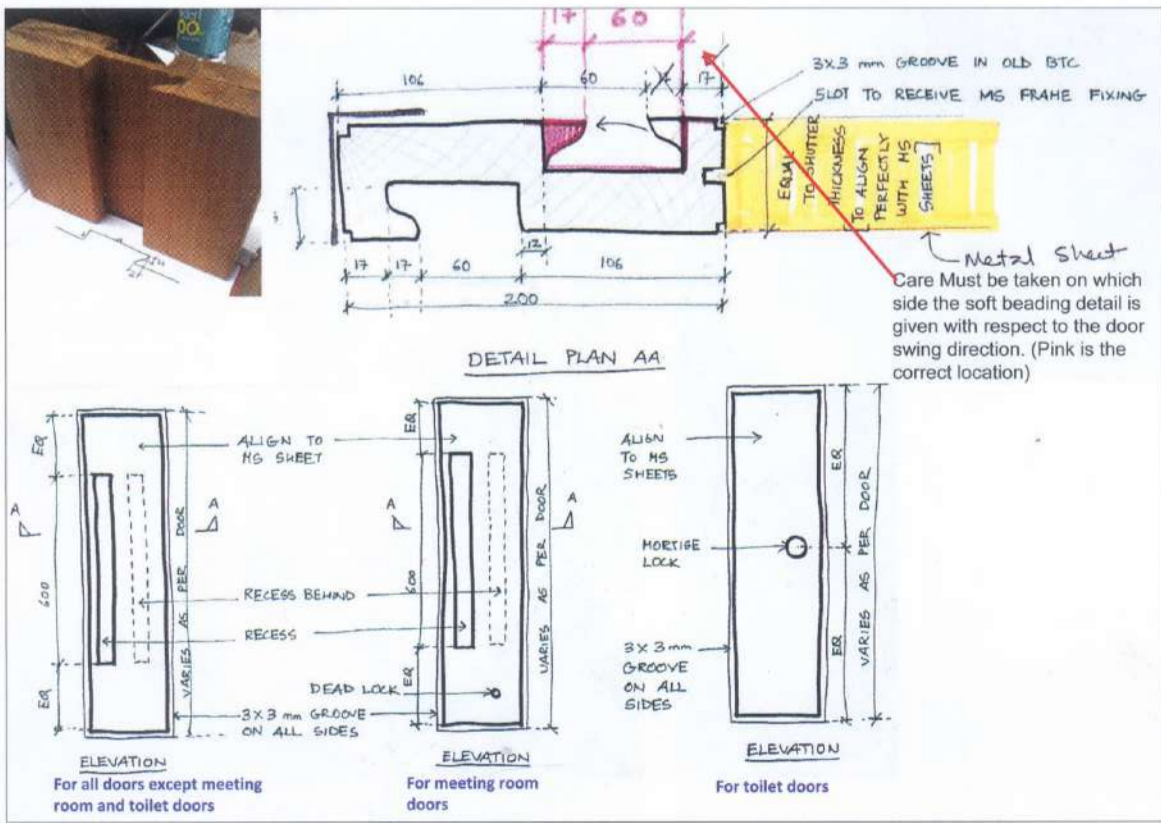


SECTION AA



SOUTH ELEVATION

0 5M



Far left: the interlocking pattern of the Corten steel. Their edges are bent and cut in order for the panels to fit snugly into each other, almost like Origami. Centre: process drawing; there was a varying gap between Corten steel residue pieces and stringer beam of staircase. An MS angle as skirting was introduced to finish the gap neatly. Left: drawing of metal door handle detail. As a design modification, a little bit of wood was introduced to add a touch of sophistication to the design

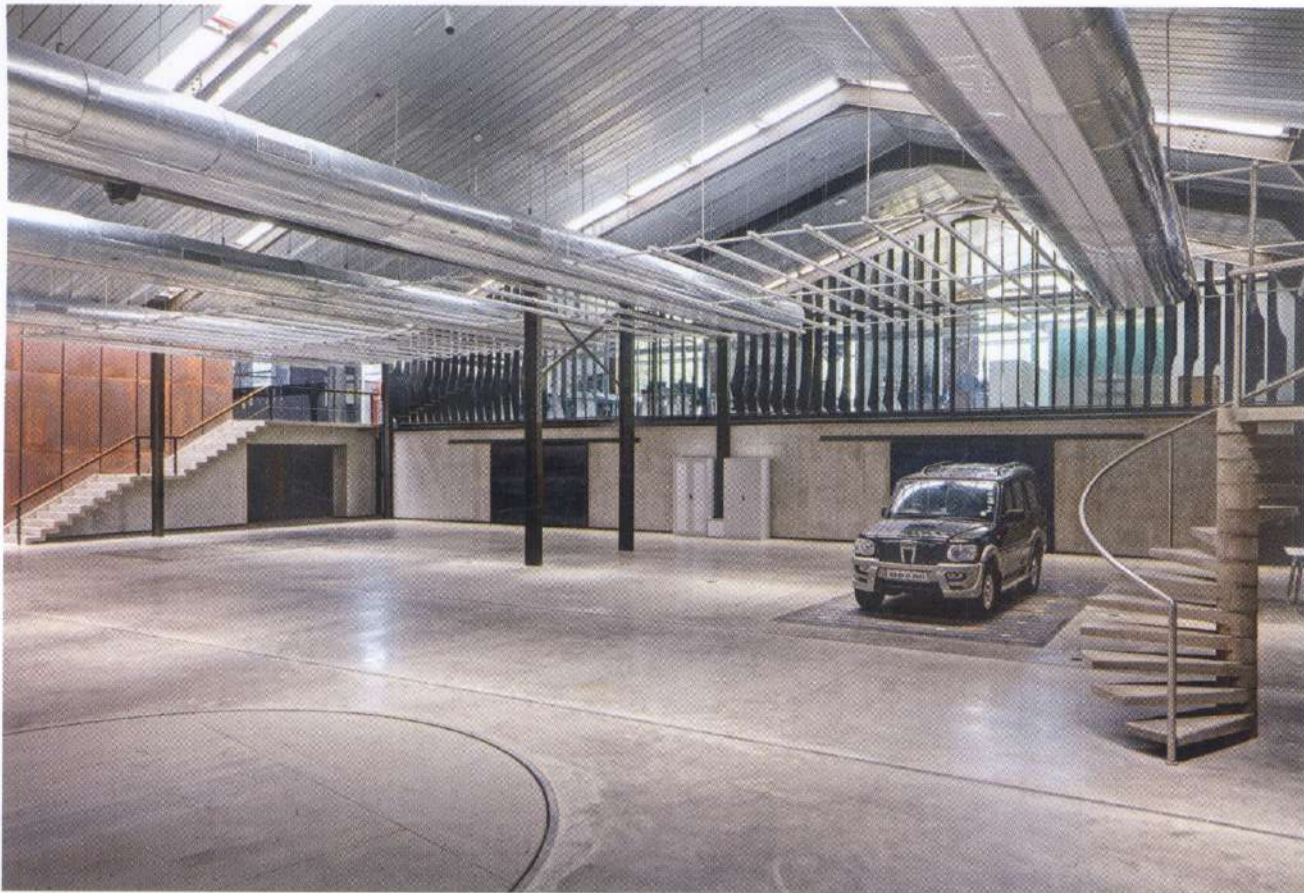


Photo Rajesh Vora

This page left and below: the display area at the ground level is designed 'neutral', simply as a backdrop, keeping in mind that cars and their styling would be the ultimate protagonists in the space. Far below, left: a mild steel door at the display area with the fin screen at the edge of the mezzanine. Centre and right: the staircases, straight and spiral, cast in concrete are reminiscent of the metal bracing that held the shuttering that created them but the metallic railings remain. Opposite page, top and centre: the library and 'free-thinking' space in the new block overlooks a small lush green garden. Far below: the design has a distinctly industrial and rugged feel, in tune with Mahindra and Mahindra's brand ideology, yet the space and volume reflect a professional outlook and represent the thinking (designing) core of the company and their brand's future – an expression of being contemporary and creative



Photo Rajesh Vora



Photo Rajesh Vora



Photo Roshni Kshirsagar

maintain a restraint and allow the space to host exhibitions without any object- or aesthetic-conflicts. It was the struggle between the space of industry, the space of working and workshop, and the space of a museum. The architects had to choose and take sides – and they did – the industrial logic of materials and structure, housed a space that allowed for the sensibility of a museum as well as a studio.

The ruggedness of the Corten steel wall sat along with the finesse of smooth concrete; the composition of different materials and their natural (manufacture-process-based) colours combined with systems of laying out services to develop not a colour and material palette but to understand space and architecture as a network of parts – where it is crucial to decide when one network will slide into the other. Light and volume were the key classical motifs around which the design got structured. An old shed was knocked off to make for a new frame structure with large glass openings, and the sets of sheds with varying spans were allowed to live separately but connected programmatically. The narrow lanes between the new building and the sets of sheds were developed as communication gullies, flush with light, elegant drama of elements like staircases and roof lights, and sharp material gestures. The complete set of buildings were enclosed within a very carefully designed compound wall – made of sheets bent to the logic of old railway yards.

The wall of Corten steel allowed for a sculptural punctuation in the space-volume assemblage – making references to industrial materiality, yet colourful, unlike the industrial grey of metal sheets. But the reference to grey metal sheets that could be seen widely along the industrial campus, often cut to tailor-like stencil shapes and precision, did come up in another crucial sculptural punctuation – the wall of slats that divided the studio and exhibition/display space. Cut and organised to a particular shape and form, these verticals of metal-flats allow for a transparent connection-disconnection between the studio and display space; their cuts and calibrated organisation of shapes bring a sculptural visual order and allows for the team of designers within the studio to choose when they wish to be connected with the display space, and when not. The play with wall-finishes, structure of industrial doors and organisation of different functions with different needs results in the break-up and make-up of the portal-framed sheds. The portal frames needed much structural attention and redrafting to allow for the new additions and development of the new design – resulting in approximately a new structure wombed within the old one. The new block with large glazed openings within a framed structure sits to mark a different aesthetic and structural identity/logic for itself – not only allowing for a relaxed lounge and reading and thinking space for the team, but also connecting with the exterior display space. Indeed, architecture is about measured building of calibrations; and this could be the first step towards a discussion on the ‘designed shed’ since this building sits heartily within a design and architectural practice one could see as emblematic of contemporary time in a cultural-economy such as India today! @

Kaiwan Mehta



Photo Rajesh Vora



Photo Rajesh Vora



Photo Rajesh Vora

conceptualised to behave like vernacular courtyards – designed to bring into the building some natural sunlight and a pause space for social interaction.

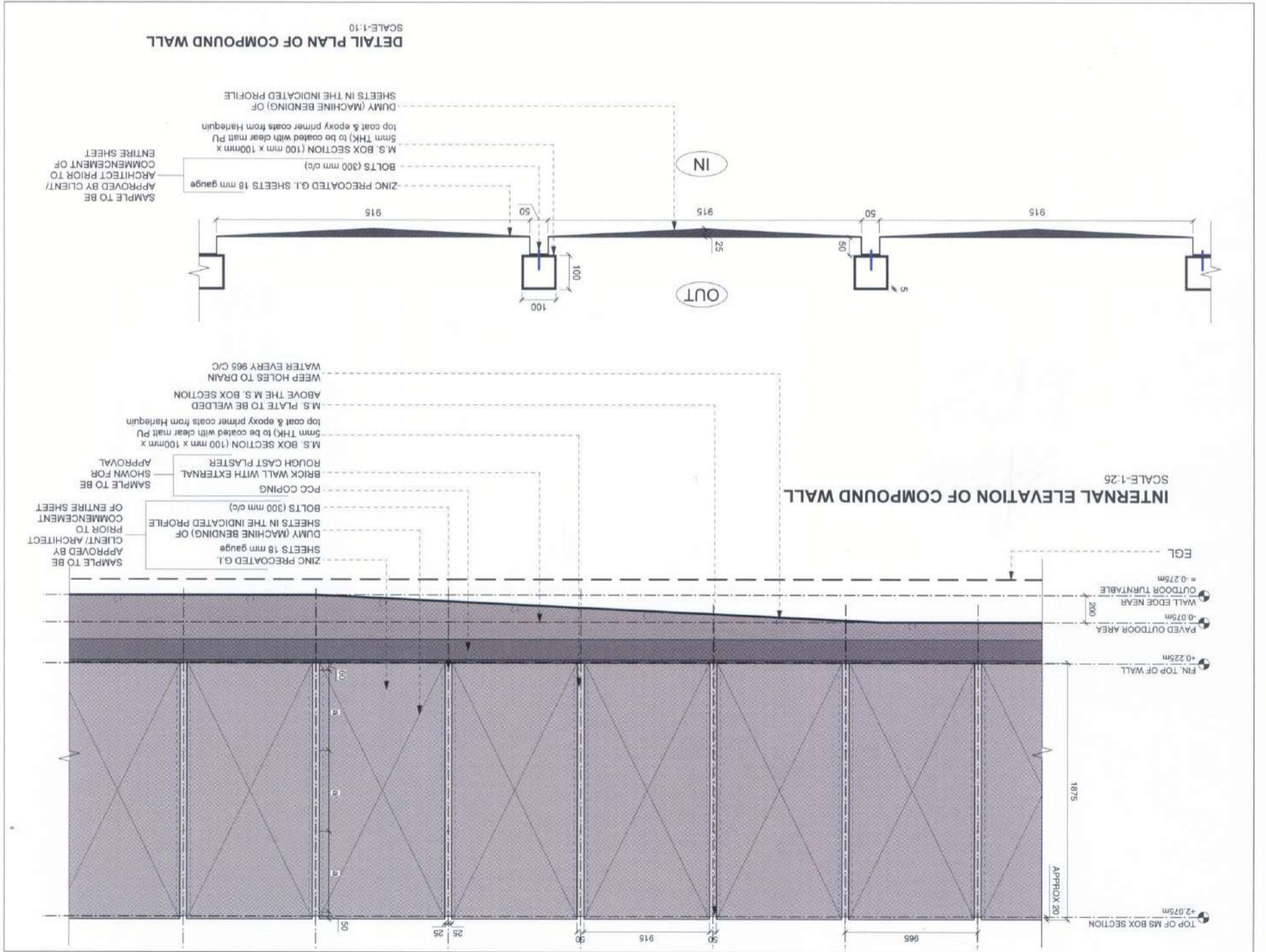
One of the sheds that was unworthy of being retained, was replaced with a contemporary new building, a ground-plus-one structure with flat slabs. The building was designed to be in exposed concrete, which allowed it to blend into the raw and industrial palette of the new studio. The library and 'tree-thinking' space in this new block overlook a small lush green garden – a welcome mezzanine was introduced. A new concrete mezzanine was introduced to accommodate the designer's studio. The mezzanine cuts across the north walls of all 4 sheds and the new building, connecting the entire project, and overlooking the model-making space below. The mezzanine communicates with the display space below through a metallic screen that balances the need for the designer's privacy as well as the need for connectivity to the space below.

As we stitched the old and new together, the need for the studio to 'evolve' and 'be true to its origins' influenced the treatment to material and detail of the project. We attempted to use all new materials, concrete, plaster for walls and metals 'raw' – in an honest, exposed and bare format. This proved to be challenging – every step had to be planned and rehearsed, for every scratch, dent or unsightly weld would be visible for all to see. Each metal that we used – Corten steel, mild steel, stainless steel and Galvalume – in its raw state holds its own and contributes to the story like an orchestra.

Corten steel, a weathered form of mild steel, forms an entire 9-metre-high wall as you enter the studio. While the sheets are imported from Europe or North America, the finishing, fabrication, bending and cutting was done in Gujarat, based on exact site dimensions. Sheets 1.6mm in thickness, are used to form panels approximately 1m x 2m in size, their edges bent and cut in order for the panels to fit snugly into each other, almost like Origami. The panels are bolted to a framework of steel columns and beams. Corten steel weathers constantly in the initial years of its being and the shades of orange-rust evolve constantly, forming ever-changing patterns, resplendent in the warm sunlight that pours in from the skylight and tall windows.

The screen at the edge of the mezzanine is made up of fins in raw mild steel with its factory-coated 'HR' film intact, hung from an I-beam at roof level with careful and neat arc welding done at site and finally coated with a clear lacquer to prevent rusting. The inspiration for the screen – the constant repetition of a single element – came from a typical automobile factory-line. Each fin is a 2.4m to 4.3m tall x 300mm wide mild steel sheet, cut to a unique profile of its own, but the continuous array of fins together form a 24-metre-long prominent internal facade of dramatic and elegant waves.

The staircases, spiral and straight, cast in concrete are reminiscent of the metal bracing that held the shuttering that created them but the metallic railings remain. The steel railings of the two spiral staircases swirls and



Opposite page: view of the staircases, and the entrance to the design studio. This page, left: detail of the compound wall. Below: 0.6mm-thick Galvalume sheet being used for the compound wall. The material can easily withstand being exposed to direct rain, adding to longevity





soar upwards in a single delicate sweep. The railings have been made of a hollow stainless steel pipe of 50mm diameter, bent to conform to the geometry of the staircase and fitted carefully to it.

The railings for the straight flight staircase are similarly open and light in feeling, but we chose a more industrial language for these – using C-sections bolted and welded to form the structure and softened only by the wooden handrail on top. All doors introduced in the project have a significant design presence. Slim and tall wooden doors in recycled Burma teak, frame the large glass facade on the north side of the mezzanine, lending warmth, softness and a great degree of sophistication to the external facade as well as the studio within.

These wooden doors are fitted with handles fabricated out of 25mm diameter raw mild steel pipes, bent to shape. A complete contrast to the shop floor and display area at ground level. These doors are in various formats – multiple folding shutters, single operable shutters, large sliding ones like industrial 'barn' doors similar to the ones seen within the M&M factory.

Here, again, we worked with raw mild steel sheets, of 1.65mm thickness, with their 'HR' coating intact. The most economical size of sheet was 1.2 metres x 2.4 metres and to keep wastage to a bare minimum, we worked out a pattern of horizontal panels stitched together and fitted to an internal framework of mild steel box sections using hex-screws to construct the shutters. The neat rows of hex screws on raw mild steel sheets have a distinctly industrial and rugged feel, but despite this, to ensure that the doors met with the best standards of efficient functioning, we used branded hardware – hinges, closers, sliding tracks, anchor fasteners etc. – for fitting the doors. This involved careful engineering on part of our contractor to keep the weight of the doors within required parameters and close coordination with hardware manufacturers to ensure compatibility. Wooden inserts help fit locks, handles and other hardware, but also bring together the metal and wooden doors of the project in designed synchronicity.

For the compound wall, 0.6mm thick Galvalume sheets have been used. The material is exactly the same as that of the roofing sheets – this ensured longevity despite being exposed to direct rain. But while the roofing sheets go through a factory process for the formation of trapezoidal decking sheets, these plain sheets were bent by the fabricator using a 'dummy' machine to create a form that lends the sheets stiffness as also an interesting pattern. Sunlight played a prominent role in shaping this project – while planning the studio, amongst several considerations was to ensure that much of the office space, the designers' workstations and meeting rooms, are placed on the north, drawing on natural light through large north-facing windows. The double-height model-making and display areas were provided

This page, top: during the construction phases, the sheds and their structural systems were retained, only strengthening parts that were worn out or to accommodate the new. Below: manufactured parts of the cars, and the way they are arranged, inspired the fin screen at the edge of the mezzanine (opposite page, below). Cut and organised to a particular shape and form, these verticals of metal-flats allow for a transparent connection-disconnection between the studio and display space

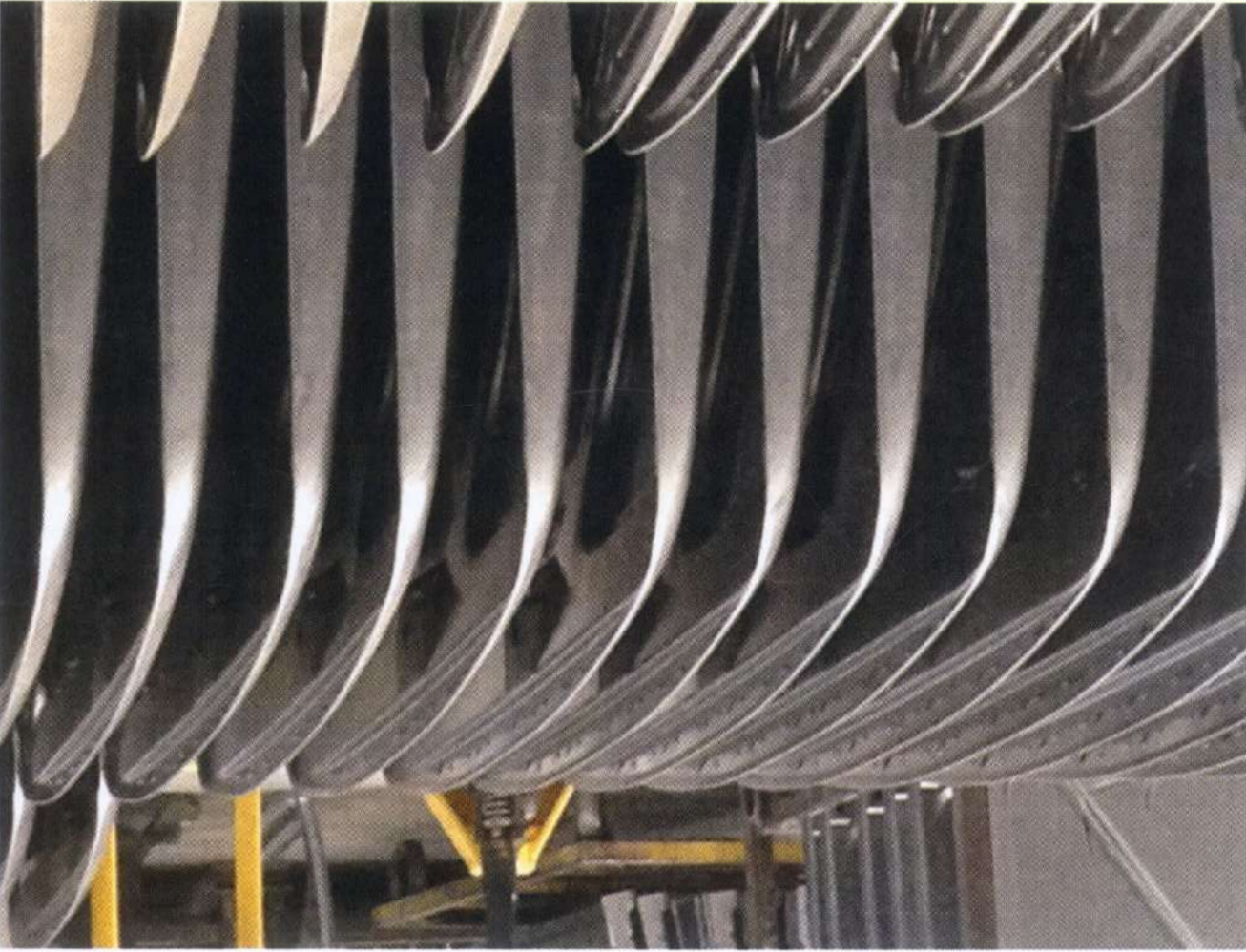




Photo Roshmi Kshirsagar



Photo Rajesh Vora

FROM THE ARCHITECTS' PROJECT DESCRIPTION

Mahindra and Mahindra has been a market leader in farm and utility vehicles in India for several decades and a household name more recently, ever since they launched commercial vehicles. From the Willys Jeep to the Scorpio and the more recent XUV500, they have delivered outstandingly popular vehicles that have given the brand a reputation for being robust, rugged, masculine, dependable and, in the recent few years, stylish.

Mahindra and Mahindra approached us to create a cutting-edge design studio, where they would style their newest vehicles. The studio would be the designer's domain, holding special status and pride of place in the company, and frequented by the company's top management as well as by their international collaborators. The brief described the need for the studio to have an 'overwhelming sense of design', an 'emotive' quality that could 'energise and inspire thoughts', 'evolve' with time and feel 'true to its origins'.

The site identified for the design studio was within their 64 acre M&M factory campus in Kandivali, with its low-lying sheds and lush greenery – an oasis, reminiscent of Mumbai of the bygone decades, amidst the concrete jungle surrounding it. It is perhaps the last of industrial campuses that occupied land on the highway of what was previously the outskirts of a fast growing city.

The site consisted of 5 existing sheds, totally 25,000 square-feet in size, nestled amongst other similar-looking contiguous sheds. The character of the site was, thus, distinctly 'industrial'; the buildings were not the latest, spit and polish, prefabricated steel types, but their older counterparts were made with hand-held tools using standard rolled steel sections that were fabricated, welded and bolted at site to create the buildings, identical for most part but with the anomalies and imperfections that arise out of being handmade.

We assimilated the influences of site, context and brand identity to conceptualise a rugged, raw space that used natural light, celebrates its industrial and metallic context and complements it with a neutral concrete backdrop. Neutrality was important, since the car and its styling are the ultimate protagonist in the space – the studio has to be the backdrop and not the competition! The use of metal sheets for doors, screens etc. was inspired by the extensive use of the material in the



Photo Rajesh Vora

automobile industry and further impelled by Mumbai's rich tradition of metal works. As Mumbai grew into a centre of trade and commerce, hinged on its docks, mills and railways, a slew of small and big metal dealers, suppliers and fabricators sprung up to form the supporting backbone of the building and industrial needs of the growing city. Even today, walking down Kumbharwada, in the heart of the 'ferrous and non-ferrous' market of Mumbai, is fascinating – one witnesses several suppliers, fabricators at work, skillfully bending, cutting, welding and crimping metal to form small and big parts of buildings and machines. These suppliers and fabricators would become our collaborators in crafting metal for the design studio. As we started work at site, the buildings were stripped down to bare the structural system which was retained with all its imperfections, and strengthened. The structural system had a rhythm, but it skipped a beat on a couple of occasions. These variations were transformed into the main 'public thoroughfares' and used for connectivity – each with an entrance from the outside, a grand staircase leading to the mezzanine level and a unique character of its own. The thoroughfares were

Project
Automobile Design Studio
 Location
Kandivali, Mumbai
 Client
Mahindra & Mahindra Ltd
 Architect
SJK Architects
 Design Team
Shimul Javeri Kadri, Vaishali Shankar, Roshni Kshirsagar, Nidhi Shah, Riddhi Shah, Amal Roowala, Vrinda Khaitan
 Site Area
29,500 sqft
 Project Area
25,000 sqft.
 Structural Engineers
Shilp Consulting Engineers
 Lighting Consultants
Lighting Ergonomics
 PMC
Sterling Lomax Project Services India Private Limited
 Model Maker
Vijay Sakpal (SJK Architects)
 Initiation of Project
 Commencement of Design
December 2012
 Commencement of Execution
May 2013
 Completion of Project
December 2014