COMPANY
Abraham John Architects

LOCATION
Mumbai, India

SOFTWARE
Autodesk® Revit®
Autodesk® Showcase®
Autodesk® 3ds Max® Design

Design with clarity
Abraham John Architects uses Autodesk Revit to realize their vision for a luxury development project in Khandala

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>
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>   Joint Principal Architect
>   Abraham John Architects

Master plan of the Discovery Villas at Khandala. Image courtesy of Abraham John Architects.

About Abraham John Architects

With a repertoire spanning over four decades, Abraham John Architects is an architecture and design studio that provides creative and innovative solutions across diverse genres ranging from niche residential developments, corporate and commercial projects to hospitality, retail, administrative and institutional buildings, along with master planning. The Mumbai-based practice brings together two generations of architects at its helm, Abraham John who established the firm in 1967 and Alan Abraham who is taking that vision forward; together combining the strength of experience with a contemporary perspective and a focused attention to detail. Passionately involved in all its projects, the Abraham John Architects team is committed to delivering high-end designs that balance sensitive contextual response with elegant functionality. The firm works at multiple scales and with various organizations right from private clients to Corporates and NGOs such as TCS, Glaxo, YMCA and Oxfam International amongst others. The work portfolio is diverse and varies from luxury villas, high end residences and unique offices, as well as hospitality & institutional projects. Its portfolio also comprises several charitable works across India, which includes earthquake and cyclone proof structures in Karaikal, Vijayawada, Latur and Rajkot.

Abraham John Architects was recently awarded with National Runner-Up for Residential Spaces and Regional Runner-Up for the Best Commercial Space by the Indian Institute of Indian Designers (IIID). Alan Abraham, its Joint Principal Architect, has been recognized as one of Architect & Interiors India's iGEN Top 50 – The New Generation of Innovators in Architecture. The studio has also been working on urban design solutions to improve Mumbai and make it a more livable, green, eco-friendly city through proactive initiatives such The Bombay Greenway Project, Winner of International Urban Planning & Design Competition, Velo-city 2013, Austria.

Transition to BIM

The evolution from hand drawing to designing in 3D with Building Information Modeling (BIM) was an obvious progression for Abraham John Architects, which continues to intuitively conceive the process of designing initially with sketches. Alan Abraham, Joint Principal Architect – Abraham John Architects, said, "From our point of view, working in 3D from the start works best because naturally you're working with the entire volume rather than just the planar area. So you're already aware of certain instances such as future fabrication details, clash detection and contractor issues etc. Also, when you work in 3D, the elevated clarity in presenting in-depth features allows the client to perceive the project better and thus augments their trust in your capabilities and responsibilities." The firm's transition into BIM was marked with the implementation of Autodesk® Revit® about two

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Autodesk BIM solutions provided the teams with tools to keep information coordinated, up-to-date, and accessible

years ago, which with its tools specifically built to support BIM workflows, facilitated Abraham John Architects to effectively capture and analyze concepts and maintain their vision throughout design, documentation and construction. This enabled faster decision-making, better documentation, and the ability to predict performance before ground is ever broken. To maximize the understanding and impact of their design concepts, Abraham John Architects also uses Autodesk® 3ds Max® Design and Autodesk® Showcase® for high-end renders and interactive presentations.

Project summary

Currently under construction, the Discovery Villas in Khandala are a luxurious residential development that Abraham John Architects is designing for an elite real estate firm based in Mumbai. The project, comprising 21 units along with necessary amenities, sprawls over seven acres and engages the practice comprehensively across its master planning, architecture, interiors and landscape design. The scheme harmonizes the buildings into its undulating terrain in an appropriate response to the site and opens up the bungalows to stunning views of the scenic surroundings. Exuding a suburban appeal of exclusivity, all of the typical 6,000 square feet residences consist of four bedrooms, a den, living spaces, each opening onto private gardens/terraces/ patios, a media room, a private pool around the dining "island" and ancillary areas. The carefully-chosen palette of materials is a deliberate reflection of its context and extends the design team's detailed ideation. The client

was so impressed with the final concept that it prompted him to expand the initial plan of building only seven bungalows to twenty one.

The challenge

The project presented a dual-pronged challenge for Abraham John Architects. Given the scale, genre and significance of the scheme for the developer client, they were intensively involved in the decision-making process and wanted to explore multiple design options before finalization. The program, thus, evolved constantly and required the entire workflow to track and reflect the done modifications and changes. The second and more pressing challenge was the need to foresee the hurdles and address the inaccuracies likely to occur with the many contractors and consultants engaged in its execution. A further challenge was to duly maintain the integrity of the design as visualized by Abraham John Architects and approved by the client – from drawing to site and foundation to finish. "Both challenges overlapped on the need to create more clarity in terms of perception, whether for taking a final call on the material being used through perspectives and renderings for the client or in creating a better understanding of a detail for the contractor or in ensuring smooth workflows," said Alan.

The solution

Autodesk BIM software solutions provided the teams with tools to keep information coordinated, up-to-date, and accessible in an integrated environment. Autodesk Revit, the BIM solution
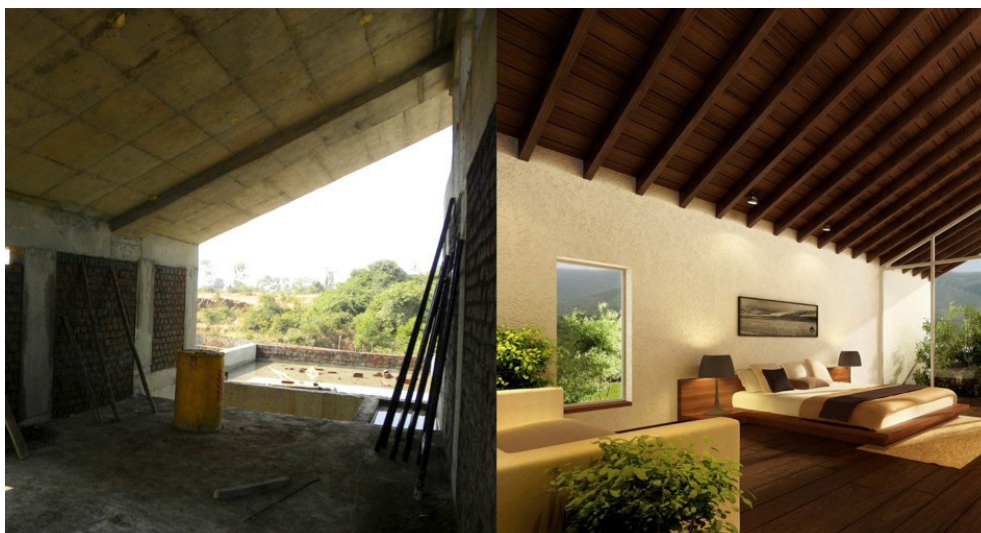
built for Architecture, MEP and Structural engineers helps them deliver higher-quality, more accurate model-based designs. Working the way designers think and using tools specifically built to support BIM workflows, Autodesk Revit software allowed them to capture and analyze concepts and maintain their vision throughout design, documentation and construction.

Comprehensive design visualization for informed decision making

The purpose of working in 3D and using BIM essentially revolves around the notion of leveraging the clear visualization of every aspect of the design so that everyone from the design team to the client to the consultant has a better idea and understanding of how things are going

> It definitely saved us a lot of time! Of course, now we are used to viewing drawings such as entire sections generate automatically but I remember the first time I saw that, I was awestruck! Our investment in Autodesk Revit software has allowed us a holistic approach where our team of architects is enabled to do the work of many more and thus, given us the potential to take on more projects in the future.
>
> **–Alan Abraham**
> Joint Principal Architect
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Comparative view of the master bedroom during Construction. Image courtesy of Abraham John Architects.

Autodesk Revit software helped maintain a high level of clarity, quality and consistency throughout

to look and work. The many tools of Autodesk Revit software helped Abraham John Architects ascertain and achieve comprehensive design visualization, which helped in assessing scenarios beforehand and accelerate decision making for project optimization.

With easy user interaction, high-quality output and faster render times, the mental ray® rendering engine enabled superior design presentation in a photorealistic state.

"While our client required many design options, because we worked in 3D, particularly views, from the start, we had more control over the project because it helped the client get a detailed preview of spaces and materials etc. to eventually finalize what he wanted before construction vis-à-vis speculating upon the same once it had begun and then changing it, "points out Alan. "Thereafter what we have been doing is – now that construction is on in full swing and already in the interior stages - we take photographs from the same angle as we have made our renders so that the client, contractor and end owner are all aware that what they have been shown is what they are going to get."

The precise comprehension of data in 3D, given the all-inclusive design visualization features of Autodesk Revit software, helped Abraham John Architects rectify the inaccuracies seen in the 2D drawings of consultants. The available clarity in 3D visualization also augurs well for the varied teams of local contractors, who either do not have access to the software or are unable to

Rendering of the bathroom with an outdoor area. Image courtesy of Abraham John Architects.

relate the details of 2D documents to the site. Alan elaborated, "All our construction drawings are supplemented with 3D details – a perspective of the building area where the detail is located and the particular detail itself for instance a roof framing joint or a clerestory window. It makes more sense for the contractor when they picture that detail in 3D so if they have a better suggestion, it can come along during the course of construction which makes a difference rather than post construction touch-up work. So while it is good from our point of view for design, it is also good from the construction point".

Bidirectional associativity and worksharing for efficient coordination and workflow

A change anywhere is a change everywhere! In Revit, all model information is stored in one place. As a result, any information that is changed is effectively changed throughout the Revit model. Alan said, "With the several changes that we were creating for the various design options, we never had to worry about checking each and every drawing because thanks to Revit, it was automatically updated all across. The inclusion of room schedules in all Revit

drawings also became really useful because whenever the client wanted alterations as a change in the number of rooms or the sizes of a room according to his program, we modified it within parameters to keep our overall design intent intact. Another supportive feature of Revit in maintaining efficient design coordination was worksharing, which allowed us to work and save in one central file instead of separate files."

The result

Alan said, "For a studio that focuses on detailed development of designs with options suited to the client's needs, it is imperative that we maintain a high level of clarity, quality and consistency throughout and Autodesk Revit software helps us achieve that intent." He recounts, "It definitely saved us a lot of time! Of course, now we are used to viewing drawings such as entire sections generate automatically but I remember the first time I saw that, I was awestruck! Our investment in Autodesk Revit software has allowed us a holistic approach where our team of architects is enabled to do the work of many more and thus, given us the potential to take on more projects in the future."

Rendering of the dining area. Image courtesy of Abraham John Architects.

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