MIT COLLEGE OF RAILWAY ENGINEERING AND RESEARCH

BARSHI-413401

DEPARTMENT OF CIVIL ENGINEERING		
AY : 2025-26	**Industrial Visit Report**	**Class: SY CE**
Semester: I		**Date: 06/11/25**

Course: BUILDING AND INFRASTRUCTURE DRAWING LAB

Industry: SAI DEVELOPERS, BARSHI

Address: CHHATRAPATI COLONY, BARSHI

Objective:

The objective of this visit was to provide students with practical exposure to real-time construction activities and working conditions, enabling them to relate theoretical concepts and technical drawings with actual field execution. By observing layout marking, foundation works, structural components, and finishing stages, students aimed to gain a deeper understanding of the sequence of construction operations and the interpretation of site drawings. During the visit, students also had the opportunity to learn about surveying instruments such as the total station, enhancing their understanding of site measurement, alignment, and setting-out procedures. Additionally, the visit sought to acquaint them with on-site management practices, safety measures, quality control procedures, and the collaborative roles of various professionals involved in a construction project. Overall, the visit intended to strengthen their practical knowledge and prepare them for future academic and professional responsibilities.

Report:

The industrial site visit was organized by MIT College of Railway Engineering and Research, Barshi, on 6th November 2025 for the Second-Year Civil Engineering students under the course Building and Infrastructure Drawing Lab. The visit was coordinated and accompanied by Prof. Kiran Naik and Prof. Amruta Mundhe. The students visited the ongoing construction projects at Sai Developers, Barshi, where they observed various building construction activities, structural components, and surveying practices relevant to their academic curriculum.

In the first part of the visit, students visited a residential building construction site located at Chhatrapati Colony, Sai Developers Construction Site, Barshi. At this site, they studied essential building planning parameters such as aspect, prospect, grouping, privacy, circulation, and

orientation, which are fundamental for designing functional and comfortable living spaces. The site engineer provided a detailed explanation of the overall layout and planning approach adopted for the project. Students learned how various rooms and service areas were arranged based on their functions, ventilation requirements, natural lighting, and accessibility. They also observed how factors such as cross-ventilation, daylight penetration, movement patterns, and room interrelationships were carefully considered to enhance user comfort and efficiency within the building. This exposure helped students clearly understand how theoretical building planning principles are practically applied during real field execution.

During the site walkthrough, students examined several ongoing structural and architectural works. They studied the use of AAC (Autoclaved Aerated Concrete) blocks, learning about their advantages such as lightweight construction, improved thermal insulation, and ease of handling compared to conventional bricks. Students also observed the construction of the sunken slab, typically used in bathroom and toilet areas to accommodate plumbing lines while maintaining proper floor levels. The septic tank under construction was explained in detail, allowing students to understand its components, working mechanism, and its importance in on-site sewage management for residential buildings.

In addition, the site engineer demonstrated the reinforcement detailing and execution of staircases, highlighting aspects such as riser–tread dimensions, landing levels, safety considerations, and structural support systems. The presence of shops on the ground floor enabled students to understand mixed-use development planning, including the structural implications of providing commercial spaces beneath residential units, load transfer considerations, and accessibility requirements. Overall, this segment of the visit enabled students to relate classroom knowledge of building planning, materials, and construction technology with actual on-site practices, helping them visualize how design decisions translate into real structures.

In the next part of the visit, students proceeded to another construction site where a Total Station surveying practical was being conducted. The surveying instructor demonstrated the complete procedure for setting up the Total Station, including tripod positioning, instrument mounting, precise leveling, and calibration. Students observed how the instrument is used to measure horizontal angles, vertical angles, distances, elevations, and coordinates with high accuracy. The instructor also explained the use of prisms, reflectors, and data collection units for capturing precise field measurements. Students learned how the recorded data is transferred, processed, and utilized for preparing site layouts, topographic maps, alignment plans, and contour maps, which are essential for engineering design and execution.

Along with the surveying practical, students examined several ongoing construction activities at the site. They observed the execution of PCC (Plain Cement Concrete) slabs, understanding their role in providing a uniform base for structural foundations. The construction of retaining walls was also shown, where students learned about earth pressure considerations,

reinforcement detailing, and drainage provisions. The site included underground parking construction, giving students exposure to excavation methods, waterproofing requirements, and structural framing techniques used in basement levels. The site engineer explained reinforcement scheduling, highlighting how bar bending schedules (BBS) are prepared and followed for columns, beams, slabs, and footings to ensure accurate steel placement.

Furthermore, students gained practical experience in reading building drawings, including architectural plans, structural drawings, footing details, and ramp drawings. They observed how dimensions, levels, section cuts, and reinforcement notations in drawings guide the actual execution on site. Emphasis was placed on accuracy, error minimization, proper instrument handling, and systematic data recording in both surveying and construction operations. This combined exposure significantly strengthened their understanding of modern surveying techniques, construction processes, and the critical role of precise measurements in construction planning, layout marking, structural safety, and overall infrastructure development.

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Photos:

Students of SY Civil Engineering with Prof. Kiran Naik and Prof. Amruta Mundhe at MIT College of Railway Engineering and Research, Barshi, marking the beginning of the industrial visit.

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Practical demonstration of Total Station operation as students engage in hands-on learning.

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Students gaining insights into different components of building planning and ongoing construction activities.

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Group photo of SY students, faculty, and Sai Developers staff with the Total Station surveying equipment.

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Stakeout of construction points using a Total Station, with basement excavation and footing placement underway.

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Students reading and analyzing construction drawings, reinforcement schedules, and related structural details.

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Group photograph of students, faculty, and Sai Developers team at the project site.

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Outcome:

The site visit to Sai Developers, Barshi, proved to be highly beneficial for the SY Civil Engineering students, offering them meaningful exposure to real-world construction practices and modern surveying techniques. Through direct observation of building planning concepts, structural components, Total Station operations, and various stages of construction, students were able to bridge the gap between theoretical learning and practical application. The visit enhanced their understanding of drawings, site execution processes, material usage, and the importance of accuracy in surveying and construction management. Overall, the visit significantly contributed to their technical growth and strengthened their readiness for future academic and professional challenges

Course Coordinator **Staff-Coordinator** **HOD**

Encl.

1. Circular
2. Permission Letter
3. Attendance
4. Undertaking