



G H Patel College of Engineering & Technology, V. V Nagar



Department of Civil Engineering

Report on

Visit to “Construction site (Swaminarayan Temple) of Stone Masonry, Piplag, Nadiad”

Department of Civil Engineering, GCET has organized one day (30/7/18) educational visit to “Construction site (Swaminarayan Temple) of Stone Masonry, Piplag, Nadiad”. 51 students and 2 faculty member participated in educational visit.

About the construction site: The site is located at Piplag, near Nadiad. The stone masonry work is under construction of Swaminarayan Temple. The area of construction site is 2500 ft². Total 1500 tonnes of stones will be used for the entire project. The site is constructed on Black cotton soil. The Raft foundation of 12 feet depth is used for the construction of massive structure. Ground floor is completed with stone masonry work. Currently, they are working on first floor. All the columns of first floor are fixed. Light pink colour sedimentary stones are used as they are soft. These stones, after carving bought from Rajasthan. For carving, designs are printed on butter paper and butter papers are then stick to the stones. Dressing of the stones is done and adjustment of the parts is done first. After that, the stones are sent for polishing. There are three stages of polishing. First and second stages include polishing the stones without any liquid and due to which white powder is produced. The third stage includes polishing stones with water. The tool used for polishing these stones is called “Embry”. We saw different sizes of embry i.e. 16, 18 and 20 micron size. Further, we were shown the parts of Beams and Ceiling. These parts are joined with the help of KEY JOINTS. There are female and male keys of these parts and are joined together. Beams are placed on slabs and then different parts of Jhummar are placed with the help of key joints. The width of the Slab for this temple was 250mm-300mm. We have observed the parts of one pillar, from bottom to top: Bhit-Kumbha-Pillar-Theki-Bharni-Bhetasar-Beam and prepared separated and then joined to make one column. There were some temporary brick masonry columns which help for supporting the building ceiling and after construction of ceiling these temporary structures will be removed. The site has concealed wires for electricity, water pipes, etc. Composite masonry is used for the construction of the temple. Two types of Scaffolding: Single Scaffolding and Double Scaffolding were observed. Single Scaffolding is used during the outer construction of building and is attached to the building. While Double Scaffolding is used during construction of inner structure and can be moved from one place to another. Along with this, we have observed the construction of Aaram gruh and kitchen next to the temple. Foundation work is finished and ground plinth beam is under construction. Plinth filling is done simultaneously. . Concrete M25 was used for footing. OPC cement OP53 grade was used. This temple is estimated have a life span of more than 100 years.

Aim of Visit:

The main aim of visit is to observe the construction of stone masonry work. The students learnt about the instruments used, various processes of carving, dressing, finishing etc. in stone masonry.