

***INDUSTRIAL
VISIT
REPORT***

Department of Civil Engineering

***ME Structural Engineering &
Construction Engineering and
Management***

29-04-2022

A site visit to Construction Site Of Pre-stressing at Pallavaram , Chennai



As the proverb goes “The Logic Can Take You From A To B , But Imagination Can Take You Anywhere” it perfectly corroborates to the magnificent creations of civil engineering which have been built by the admirers of Civil Engineering following their creative insight. No other branch of engineering is much more creative and ingenious as Civil Engineering is, so in order to cater the creative minds of civil engineering students and to make them abreast with the practical side of their coursework, a site visit to Construction Site of Pre-stressing at Chennai was organized by the Civil Engineering Department of Sona college of Technology, Salem on 29th April 2022. A group of 15 students got an opportunity to learn the basics of construction and Pre- stressing at the construction site

accompanied by faculty members Dr. M Soundararajan ,Asst Prof A. Meenachi of Civil Engineering Department.

AIM of Industrial Visit:

Industrial visit is considered as one of the tactical methods of teaching. The main reason behind this- it lets student to know things practically through interaction, working methods and employment practices. Moreover, it gives exposure from academic point of view. Main aim industrial visit is to provide an exposure to students about practical working environment.

They also provide students a good opportunity to gain full awareness about industrial practices. Through industrial visit students get awareness about new technologies. Technology development is a main factor, about which a students should have a good knowledge. Visiting different companies actually help students to build a good relationship with those companies. We know building relationship with companies always will always help to gain a good job in future. After visiting an industry students can gain a combined knowledge about both theory and practical. Students will be more concerned about earning a job after having an industrial visit.



Details of Industrial Visit are as below:

1) Site at Moongileri Pammal, Pallavaram, Chennai – 600075

Date of Visit: 29.04.2022

Faculty Name: Dr. M Soundararajan ,Asst Prof A. Meenachi Class during visit: 2nd Year,
Structural and construction engineering and management

Description of the Visit: Construction Site of Pre stressing at Pallavaram, Chennai



Group Photo: Students with Faculty, Civil Engineering Department



Shuttering work for Pre stressing Beam and Slab



Pammal

Pammal is a suburban neighbourhood of Chennai, Tamil Nadu, India. It is located 22 kilometers from Chennai Central Railway Station. It is located next to Pallavaram on the western side. It lies on the western side of the Grand Southern Trunk Road and close to Chennai International Airport. [Wikipedia](#)

PIN: 600075 (Pammal), 600044 (Nagalkeni)

Taluk: [Pallavaram](#)

Site Location

Introduction

The technically observed during site visit was learning about Large-scale construction requires collaboration across multiple disciplines. A project manager normally manages the budget on the job, and a construction manager, design engineer, construction engineer or architect supervises it. Those involved with the design and execution must consider zoning requirements, environmental impact of the job, scheduling, budgeting, construction-site safety, availability and transportation of building materials, logistics, inconvenience to the public caused by construction delays and bidding. Large construction projects are sometimes referred to as megaprojects.

Post-Tensioned Concrete

Post tensioning is a technique for reinforcing concrete. Post-tensioning tendons, which are prestressing steel cables inside plastic ducts or sleeves, are positioned in the forms before the concrete is placed. Afterwards, once the concrete has gained strength but before the service loads are applied, the cables are pulled tight, or tensioned, and anchored against the outer edges of the concrete.

It is a form of prestressing. Prestressing simply means that the steel is stressed (pulled or tensioned) before the concrete has to support the service loads. Most precast, prestressed concrete is actually pre-tensioned-the steel is pulled before the concrete is poured. Post-tensioned concrete means that the concrete is poured and then the tension is applied-but it is still stressed before the loads are applied so it is still prestressed.

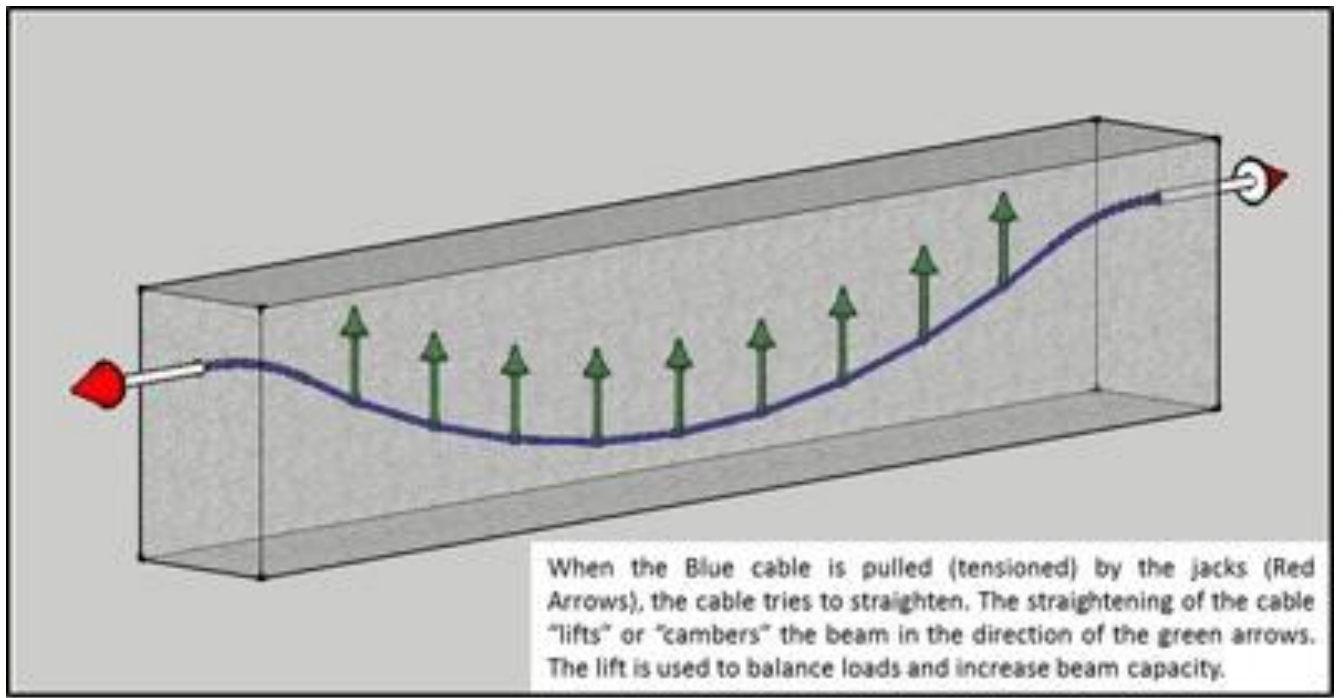
A post-tensioned concrete slab on grade will typically be 8 inches thick and use 3000 psi concrete. Once the concrete has gained strength to 2000 psi, typically within the 3 to 10 days recommended by PTI, the tendons are stressed.

Note (Fig): -

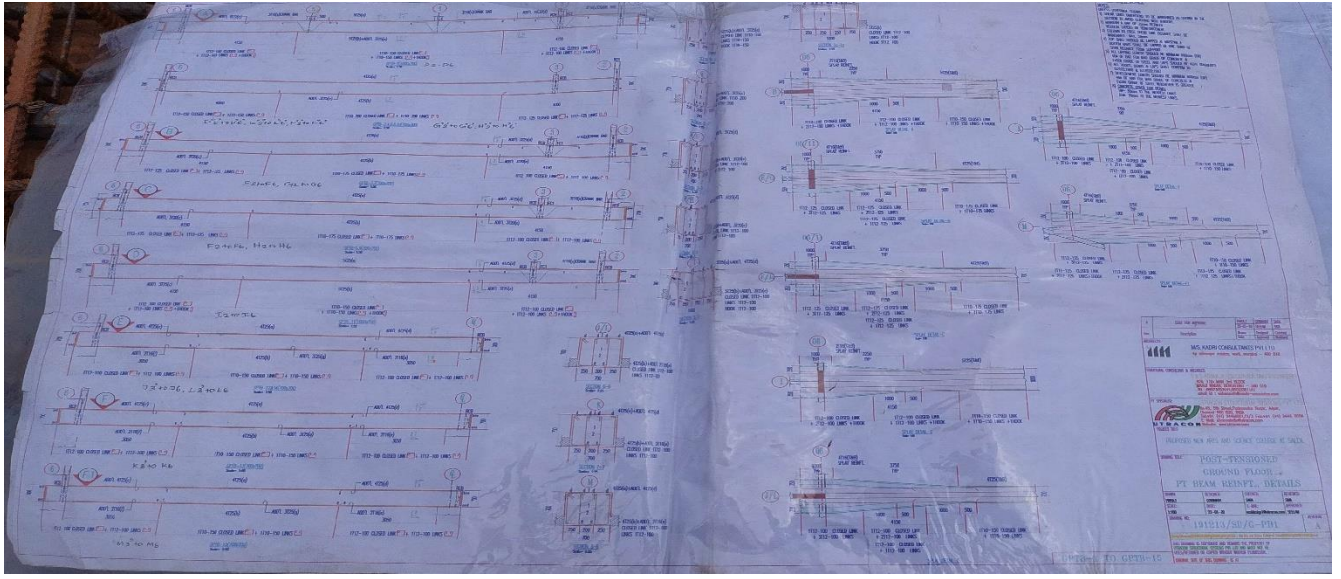
Tendon (cable) tails after tensioning. The cables are pulled to 33,000 pounds, resulting in 8 inches of elongation in a 100-foot cable.



Post-Tensioning



Post-Tensioning (Inside)



Post-Tensioning PT Beam Reinft. Details

Advantages & Applications of Post-Tensioning

- It reduces or eliminates shrinkage cracking-therefore no joints, or less joints needed.
- Cracks that do form are held tightly together.
- It allows slabs and other structural members to be thinner.
- It allows us to build slabs on expansive or soft soils.
- It lets us design longer spans in elevated members, like floors or beams.

Scaffolding

Scaffolding, also called scaffold or staging is a temporary structure used to support a work crew and materials to aid in the construction, maintenance and repair of buildings, bridges and all other man-made structures. They are widely used on site to get access to heights and areas that would be otherwise hard to get to. Unsafe scaffolding has the potential to result in death or serious injury. It is also used in adapted forms for formwork and shoring, grandstand seating, concert stages, access/viewing towers, exhibition stands, ski ramps, half pipes and art

project.



Scaffolding for post tensioning beam

Shuttering

Shuttering is a vertical temporary arrangement which is arranged to bring concrete in a desired shape. It includes all forms, moulds, sheeting, shuttering planks, walrus, poles, posts, standards, leizers, V-Heads, struts, and structure, ties, prights, walling steel rods, bolts, wedges, and all other temporary supports to the concrete during the process of sheeting. It helps the structural member to gain sufficient strength to carry its self-load and load from other members



Shuttering work for post tensioning beam