AARUPADI VEEDU INSTITUTE OF TECHNOLOGY
PAIYANOOR -603104

INDUSTRIAL VISIT REPORT
DEPARTMENT OF CIVIL ENGINEERING
ACADEMIC YEAR 2021-2022

INDUSTRIAL VISIT TO JSR INFRA DEVELOPERS PRIVATE LIMITED

CLIENT : PWD Highways Department, Government of Tamil Nadu.

CONSULTANT &

CONTRACTOR : JSR Infra Developers Private Limited.

Industrial Visit to ***M/s. JSR Infra Developers Private Limited; Near Sriperumbudur*** was organized by the Civil Engineering Department of Aarupadai Veedu Institute of Technology, Paiyanoor, on 04th May,2022. A group of 45 students got an opportunity to learn the basics of construction and highway project laying at the construction site accompanied by faculty members Mr.K.Naveenkumar - Assistant Professor, Mrs. S.Monisha - Assistant Professor and Mr.S.Srinivasan - Research Scholar of Civil Engineering Department. We were received by– Project Manager and– AQME.

Schedule of Industrial Visit

S.No	Program Schedule	Conducted By	Designation	Time
1	Safety Induction program	Mr. S. Arunachalam	Safety officer	11:30 to 12:00 pm
2	Project Brief	Mr. Kamaraj	Project Manager	12:00 to 12:30 pm
3	Site Visit	Mr. K. Arumugam	AQME	12:30 to 1:30 pm

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.

Safety Department

- Safety department was introduced in 1983.
- It is defined as no harm to person like ill health and injury.
- It helps us to gain security, quality ,productivity, time, cost, reputation, statutory requirements, avoid harm to people.
- Safety equipments:
- Color Code for Safety Helmets are mentioned below :

  - White helmet - Staff
  - Green helmet - Safety supervisor
  - Blue helmet - Site supervisor

- Red helmet - Electrician
- Yellow helmet - Workmen
- Grey helmet - Visitor
- Hand gloves
- Face shield
- Goggles
- Safety jacket
- Fall arrester
- Nose mask

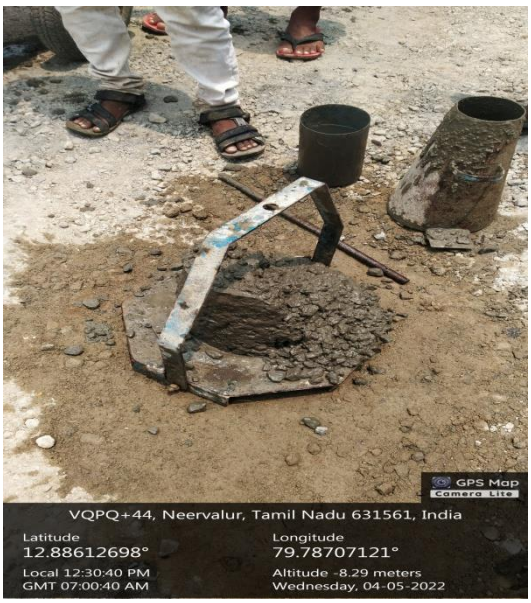
Ready-Mix Concrete Batching Pant (RMC):

Details about RMC Plant at Site:

- Capacity of plant - 30m^3/hr .
- Capacity of silos -100 metric ton/silo.
- Size of coarse aggregate:
  -12mm
  -20mm.
- Fine aggregate :
  -M.Sand
- Admixtures
- Batch mixing duration-25sec/batch.
- 12 batch=6m^3 of concrete.

- It is a fully computerized operating system.
- It contains 3 silos 2 of cement and 1 silo of fly ash.

Slump Cone Test:



- During the site visit our students learned how to do the Slump Cone Test in the construction site.

Steel Yard:

- Unloading of Steel Bars for Constructing a Culverts , Bridges , flyovers at Steel Yard.

Site Photos

- In the Construction Site Cubes are under curing for 7, 28 days for obtaining Characterstic strength (Laboratory Testing Purposes).

- Vehicles used for Road Constructions Like – Vibrators, Roller Machine, Dump Truk, Truck Mixer for RMC , Grader , Bulldozer etc.,

Fig 1: Project Engineer explain about pre fabricated structures used in the highway projects.

Fig 2: Image of Flyover Beam

Fig 3: Pre fabricated structures slabs used in the highway projects for bridges.

Fig 4 : Bridges – reinforced concrete beam

Purpose of Visit

Technical exposure of Asphalt Concrete, Manufacturing Processes and other Engineering aspects of Asphalt Concrete Subject. Students have learnt Process of making bituminous concrete, Material used in making of it. Test conducted on Bitumen and aggregates. With this kind of industrial visit, we gained more knowledge on Highway Material Technology application aside from the theoretical aspect learned from the classrooms and laboratory.

Bitumen plant (BT)

Bitumen is a black or dark-coloured (solid, semi-solid, viscous), amorphous, cementitious material that can be found in different forms, such us rock asphalt, natural bitumen, tar and bitumen derived from oil, which is referred to as petroleum bitumen. Currently most of the roads globally are paved with bitumen. Today the world's demand for bitumen accounts for more than 100 million tons per year which is approximately 700 million barrels of bitumen consumed annually. Petroleum bitumen is typically referred to as bitumen or asphalt.

Ready-mix concrete (RMC)

Ready-mix concrete is concrete that is manufactured in a factory or batching plant, according to a set recipe, and then delivered to a work site by truck mounted in–transit mixers.

This results in a precise mixture, allowing specialty concrete mixtures to be developed and implemented on construction sites. The first ready-mix factory was built in the 1930s, but the industry did not begin to expand significantly until the 1960s, and it has continued to grow since then. Ready-mix concrete is often preferred over on-site concrete mixing because of the precision of the mixture and reduced work site confusion. Ready-mix concrete, or RMC as it is popularly called, refers to concrete that is specifically manufactured for delivery to the customer's construction site in a freshly mixed and plastic or unhardened state. Concrete itself is a mixture of Portland cement, water and aggregates comprising sand and gravel or crushed stone. Ready-mix concrete is bought and sold by volume usually expressed in cubic meters.

The visit was planned to ***M/s. JSR Infra Developers Private Limited; Near Sriperumbudur*** so that the students all together could study about three plants i.e Bitumen Plant, RMC Plant and Jaw Crusher. Firstly in Bitumen Plant, students got to know the raw materials for the production of final bitumen, different units of bitumen plant and their working, control unit, transportation of raw materials to plant and of final product to market. Secondly in RMC Plant, students came to about how Ready Mix Concrete is prepared, different units of RMC Plant, transportation of raw materials to plant and of final product to market, advantages of using RMC. Thirdly at Crusher, students got to know about different types of crusher, different units of jaw crusher, its working as it was installed at the site.