



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

Accredited "A" Grade by NAAC | 12B Status by UGC | Approved by AICTE

www.sathyabama.ac.in

**SCHOOL OF BUILDING AND ENVIRONMENT
DEPARTMENT OF ARCHITECTURE
M. Arch (Building management)**

**PROFESSIONAL TRAINING (S84APT)
AUG 2022 - SEP 2022**

Name of the Student : Madhan. M

Semester : III

Reg No. : 40840008

Batch : 2021-2023



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VIVA-VOCE EXAMINATION

This is to certify that the Professional Training Report (S84APT) is the work of **MADHAN. M** who had undergone training in **EPMCR Pvt. Ltd.** and has been monitored by the continuous assessment during Aug 2022 to Sep 2022.

Dr.Devyani Gangopadhyay
HOD AND DEAN

Submitted for Viva voce Examination held on _____

Internal Examiner

External Examiner



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DECLARATION

I **MADHAN. M** hereby declare that this Professional Training Report for **30 Days (from August 16th to September 17th)** done by me under the guidance of **MR. KAVIN KUMAR** is submitted in partial fulfillment of the requirements for the completion of practical training session.

DATE :

PLACE : Chennai

SIGNATURE OF CANDIDATE

ACKNOWLEDGEMENT

I am pleased to acknowledge my sincere thanks to Board of Management of **SATHYABAMA INSTITUTE OF SCIENCE & TECHNOLOGY** for their kind encouragement in doing this project and for completing it successfully. I am grateful to them.

I convey my thanks to **Dr. Devyani Gangopadhyay, Dean, School of building and Environment** for providing me necessary support and details at the right time during the progressive reviews.

I would like to express my sincere and deep sense of gratitude to the director of EPMCR, **Mr. Kavin Kumar** for his valuable guidance, suggestions and constant encouragement paved way for the successful completion of my Training.

I would also like to express my sincere thanks to our Internal coordinator **Ar. Surya Rajkumar** for her valuable guidance, during the entire Professional Training period.

I wish to express my thanks to all Teaching and Non-teaching staff members of the Department of Architecture who were helpful in many ways for the completion of the project.

I would also like to express my gratitude to **Mr. Abul hasan , Mr. Vairav** for their guidance sharing and encouragement throughout the training period.

BONAFIDE CERTIFICATE



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Date: 03.08.2022

TO WHOMSOEVER IT MAY CONCERN

MADHAN M (Reg No. 40840008) is a bonafide student of our institution pursuing Masters in Architecture in Building Management (2020 batch). As part of the curriculum the students are required to undergo Professional training for a minimum period of 30 working days. Kindly grant permission for the same in your esteemed organization. We also assure that information collected about any projects will be used for academic purpose only.

Thanking You,

Dr. Devyani Gangopadhyay
Dean, School of Building & Environment

CONFIRMATION LETTER



CREATING VALUES FOR YOUR INVESTMENT
An IIT Madras Incubated
Construction Technology Company

Reference no. EPMCR/Internship/2022-23/08/012
Date: 18th August 2022

To

Mr. Madhan M
No. 16, Devadi Street
Mylapore
Chennai - 600 004
Email: madhanmanoharan2435@gmail.com
Mobile: 90032 17933

Subject: Confirmation of Internship in our organization - 2022-23 - reg.
Ref: Your Reg. No. 40840008 with Sathyabama University Campus, Chennai

Dear Mr. Madhan,

This is to confirm you that, you are selected for the Internship Program in our organization from 16.08.2022 to 17.09.2022.

The period of internship contains the subject of Advance Construction Management and Project Management Consultancy and others which relates.

- The internship period will be completed on submission of Report based on your learning through the internship. This report should submit to our Director and the completion certificate will be issued based on his approval.

Thanks & regards,

for Engineering Project Management Consultancy & Research Pvt. Ltd.,

(S Sekar Mahalingam)
HR & Admin.



Engineering Project Management Consultancy and Research Pvt. Ltd.



No. 28, 1st Floor, Balaji Nagar Main Road, Bharathi Avenue, New Perungalathur, Chennai - 600 063.

MONTHLY REPORT



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SCHOOL OF BUILDING & ENVIRONMENT, DEPARTMENT OF ARCHITECTURE
M. Arch (Building management) Batch 2020-2022
Continuous Assessment Report for Professional training

(Continuous progress report of the trainee architect/Project Manager for the period of 15 working days in the office to be submitted to HOD)

1. Name of the office / organization	: EPMCR Pvt.Ltd.
2. Address & Contact Number	: No.2B, 1 st Floor, Balaji Nagar Main Rd, Perungalathur, Tamil Nadu - 600063
3. Name of the student	: Madhan.M
4. Duration	: From __ 16/08/2022 To 17/09/2022
5. Total No. of days	: 15
6. Evaluation of Performance criteria shall be on	

* Note: Kindly grade the student as per his/her overall performance in the office during the assessment month;

Description of works	Excellent	Good	Fair	Poor	NA
Understanding of office culture					
Skillssets related to project management					
Design Management					
Understanding the Triple Constraints					
Observation during Site Visits					
Understanding of construction details					
Understanding of Construction sequences					
Site Supervision / Discussion with clients					
Adherence to Time schedule					
Quantitative aptitude					
Documentation skills					
Coordination with other consultants					

Overall Grading*

(A – 8.0, B – 7.0, C – 6.0, D – 5.5, E – 5.0, F - <5)

7. Any other Remarks :-----

8. Signature of the Head of the Office / Organization (With Seal) :



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7. Any other Remarks :-----

8. Signature of the Head of the Office / Organization (With Seal) :

COMPLETION CERTIFICATE



September 19, 2022
Ref: EPMCRPL/22-23/HR/INTERN/08-10

Involved project during the internship period :



INTERNSHIP CERTIFICATE

Mr. Madhan. M, pursuing his Master in Architecture in Building Management (RegNo: 40840008) at Sathyabama Institute of Science & Technology, Chennai has completed an internship training at our company, from 16.08.2022 to 17.09.2022.

Main Tasks accomplished:

- Learned the basics of Construction Project Management and Lean Management
- Observed how to communicate with vendors and contractors.
- Experience and Site knowledge in pile foundation
- Understood the co-ordination between civil work on site

Involved project during the Internship Period:

- SIST Convention center, proposed construction of Convention Centre at Sathyabama Institute of Science and Technology, Semmancheri, Chennai.

During the internship he was found to be Highly Logical, Inquisitive & Hard Working.

For ENGINEERING PROJECT MANAGEMENT CONSULTANCY & RESEARCH PVT LTD.,

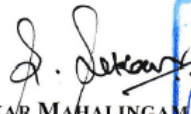

S SEKAR MAHALINGAM
HR&ADMN



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1. ABOUT THE FIRM



Engineering Project Management Consultancy and Research (EPMCR) is an IIT Madras incubated firm formed with a vision “to enable a quality Indian Infrastructure development within time and budget through our Engineering, Project Management, Research and Training Services.

EPMCR(P)LTD offers single point solution for planning, design and construction of all type of Building Infrastructure, Transportation Infrastructure and Water Infrastructure.

1.1 EPMCR VISION

- To become world class Engineering & Project Management consultants and professional trainers.
- Enabling high quality Indian infrastructure development within time and budget.
- Create innovation in construction technology and Management techniques through our continuous research.
- Strengthen Indian construction work force through our skill training.

1.2 EPMCR MISSION

Provide Value creation for our client’s Infrastructure Investment through our Engineering, Project Management Consultancy, Research and Training service

1.3 EPMCR OBJECTIVE

- To help our client to realize the optimum value & quality for their investment in infrastructure projects within the time and budget.
- Bring innovative & cost effective solution to improve productivity through waste reduction and other new technologies.
- Offer professional training to young engineers on construction management.

1.4 FIRMS PORTFOLIO

Completed projects	On going projects
Construction Management for Construction / Renovation of M.A Chidambaram Cricket Stadium, Chepauk, Chennai - 2010	Design and Construction management for SIST convention centre, Chennai
Plumbing Design for IIT Madras Hostel Building, 2011	Construction Management for GT Electronics Pvt Ltd, Pondichery
Design & Detailed estimate of Competitive 8- lane swimming pool (50 m x 21 m x 1.8 m) – 2010	Design and PMC solution for Ather Energy, Hosur

1. ABOUT THE FIRM

1.5 AWARD



EPMCR received Quality Mark Award in 2016 .

1.6 REASON FOR CHOOSING THE FIRM

- The service motto of the firm is **"Create Values for your investment"**. **Value For Money, Value For Time, Value For Work and Customer Satisfaction** are the real benefits that our clients enjoy with our humble service.
- EPMCR provides various services from architectural design to construction management and consultation for contractors.
- Since they have all the services under one roof it will be easy to grasp the full process of a construction project from start till end
- The firm does all kind of projects like residential, Industrial, Institutional and Hospitality, so we will be exposed to different typology of projects which will be helpful in the future.

2. LEAN CONSTRUCTION MANAGEMENT

The word “*lean*” means **efficiency, avoiding waste, minimizing costs, maximizing value, collaboration, and continuous improvement.**



From its history in production and manufacturing, Lean construction applies the same principles to improve productivity. Key differences derived from Lean construction include:

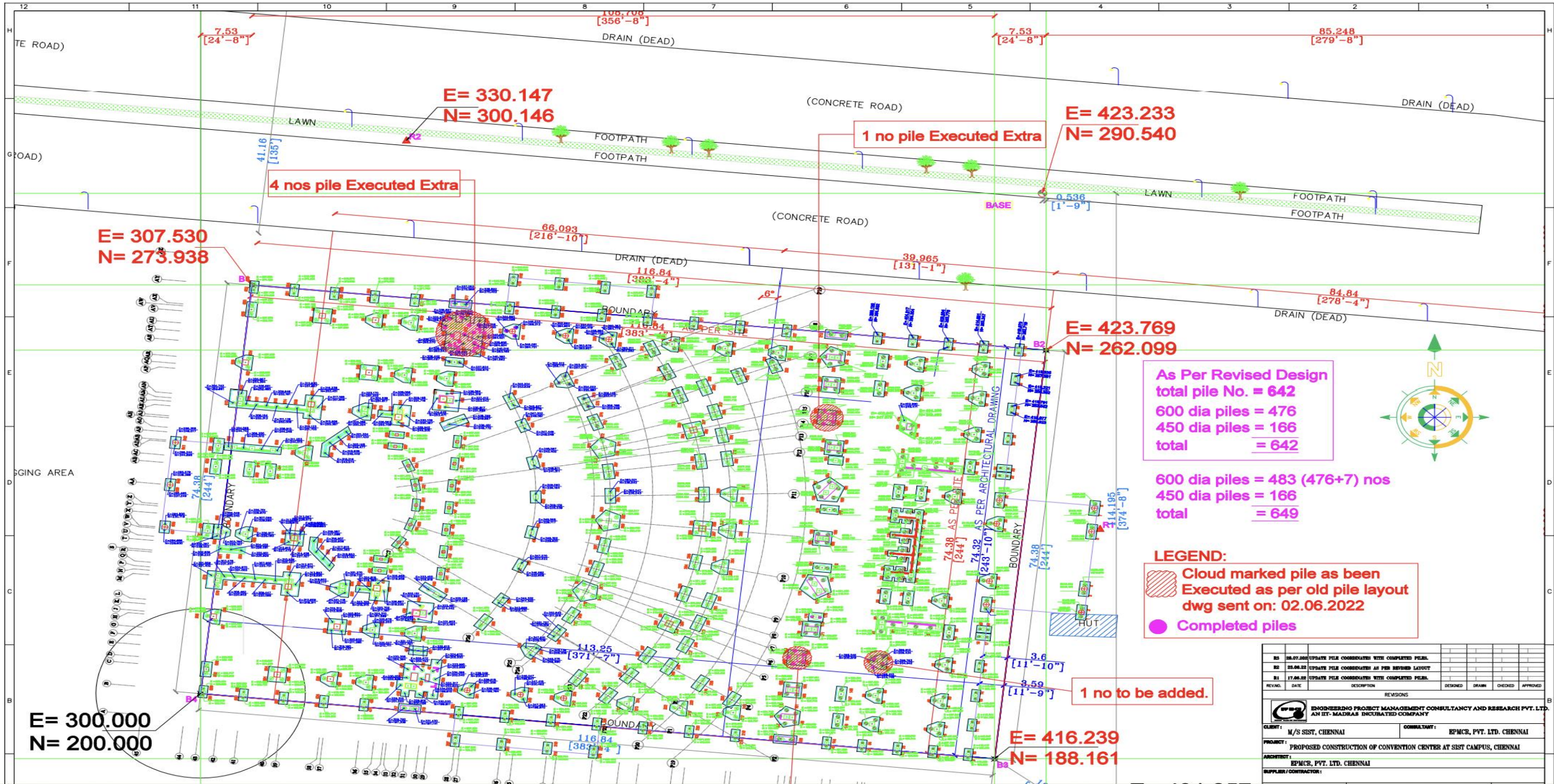
- **Control** is redefined from “monitoring results” to “making things happen.” Planning system performance is measured and improved to assure reliable workflow and predictable project outcomes.
- **Performance** is maximizing value and minimizing waste at the project level.
- **Project delivery** is the simultaneous design of the facility and its production process, or concurrent engineering.
- **Value** to the customer is defined, created and delivered throughout the life of the project. In current practice, the owner is expected to completely define requirements at the outset for delivery at the end, despite changing markets, technology and business practices.
- **Coordinating action through pulling and continuous flow** as opposed to traditional schedule-driven push with its over-reliance on central authority and project schedules to manage resources and coordinate work.
- **Decentralizing** decision-making through transparency and empowerment. This means providing project participants with information about the state of the production systems and empowering them to act.

PULL VS. PUSH

- Traditionally, in construction as well as most other industries, direction for a project **comes from the top** (think: an owner, GC, or developer), and everyone else adjusts to meet with the requirements. This is what’s referred to as a “**push**” scenario.
- Lean construction takes the **opposite approach** and “**pulls.**” A **pull approach starts at the finished project and works backwards.** It’s sort of like mentally reverse-engineering the project. To complete X, Y, and Z portions of the project, jobs 1, 2, and 3 must first be complete. Using this process, a more efficient schedule can be created rather than tackling obstacles as they come up.
- Example : Last planner, Fortnight plan.

3. CONVENTION CENTER, SIST, CHENNAI

3.1 ABOUT THE PROJECT



CLIENT	Sathyabama Institute of science and Technology
ARCHITECTS	EPMCR Pvt Ltd, Chennai, India
PMC	EPMCR Pvt Ltd, Chennai, India
STAKEHOLDERS	SIST, EPMCR, Sri Thillai Kaliyamman Pile Foundation

LOCATION	Chennai, Tamil Nadu
DURATION	2 years approx.
PROJECT STATUS	On going (pile foundation work)
TPOLOGY	Institutional Building Convention Center with 3500 seating (approx.)

3.CONVENTION CENTER, SIST, CHENNAI

3.2 PILE MARKING

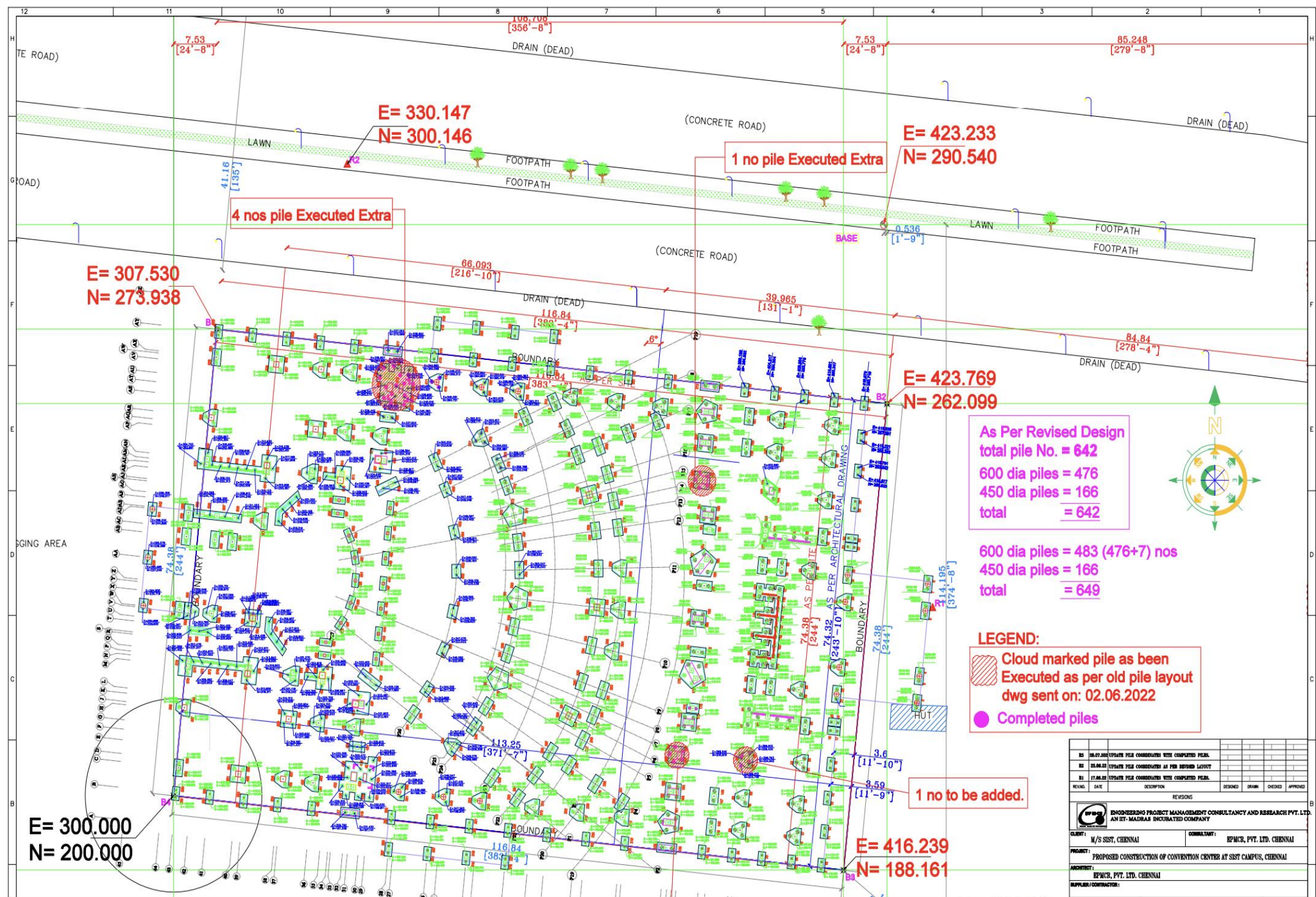


Pile coordinates is been marked at site using **TOTAL STATION**

3.CONVENTION CENTER, SIST, CHENNAI

3.3 Total No of pile : **642**

There are two types of piles : **450 diameter**
600 diameter



3.CONVENTION CENTER, SIST, CHENNAI

3.4 PILE BORING

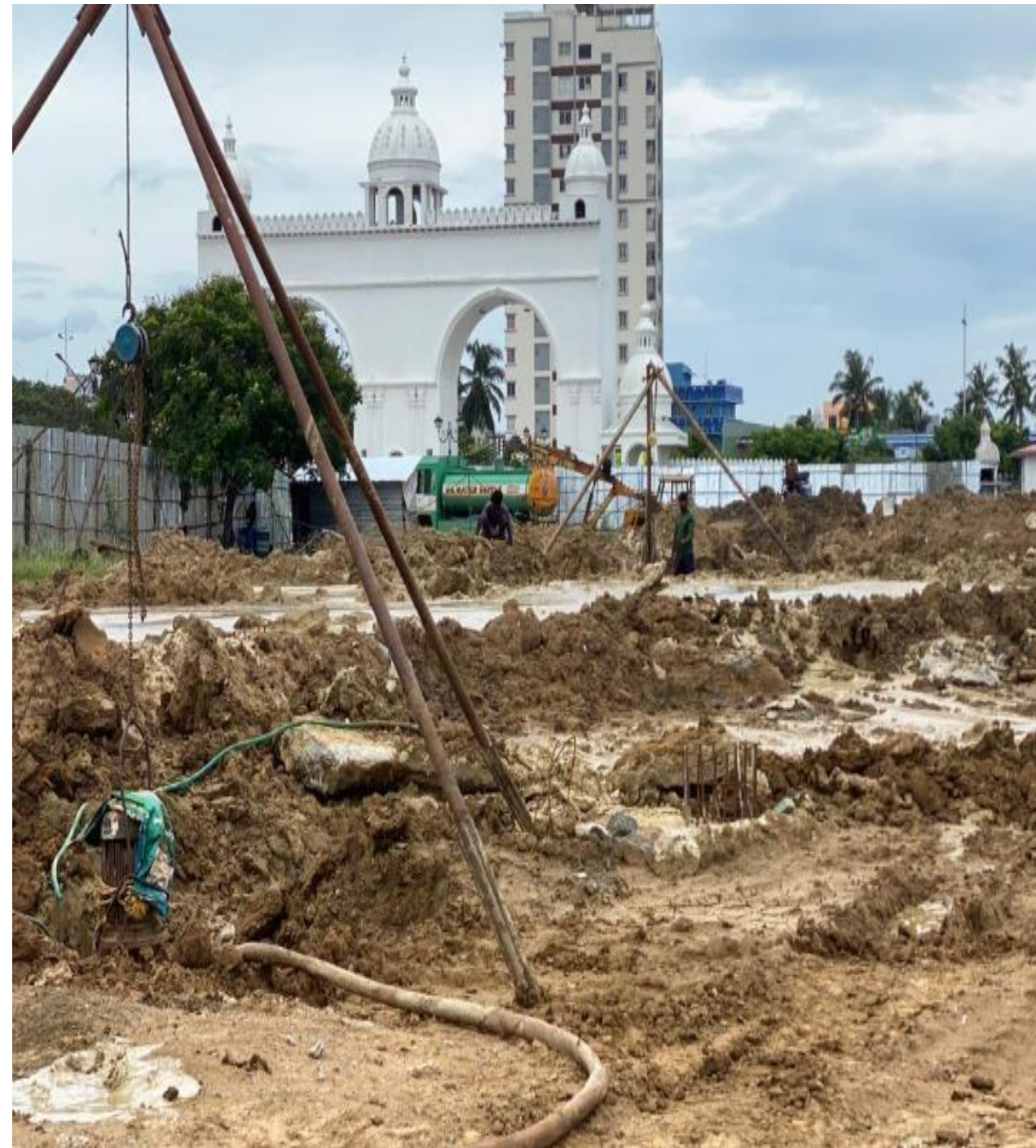
At marked area the **BORING** process is been done for pile



3.CONVENTION CENTER, SIST, CHENNAI

3.5 BENTONITE SOLUTION PROCESS

While boring the **BENTONITE** is been added , since the soil is very loose and clay. **And SLURRY WASHING** is been done for max 15 minutes



3.CONVENTION CENTER, SIST, CHENNAI

3.6 RIGGING PROCESS

The rigging is been done till the search of **HARDROCK** LOCK set at HARD ROCK (**3times of diameter**)



3.CONVENTION CENTER, SIST, CHENNAI

3.7 Reinforcement

The **REINFORCEMENT WORK** is been done side by side while boring is happening, after bar bending the reinforcement is been **welded** and **cover block** is been placed.



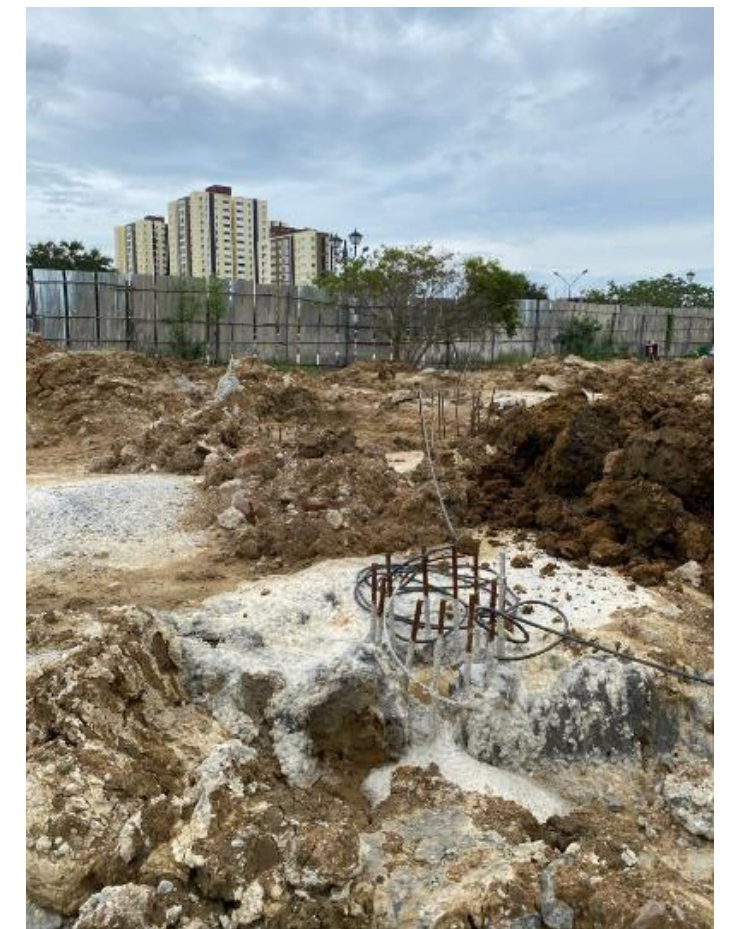
Using **BACKHOE HOLDER MACHINE** the reinforcement is been taken and placed at the marked area.



3.8 Concreting is been done

0.22M3 for 450mm

0.45 M3 for 600mm



3.9 LOAD Test is been done using **KENTLEDGE** method

Initial load test 2.5 times of design load and **Routine load test 1.5 times** of design load



4. CONCLUSION

4.1 INFERENCE FROM TRAINING

- Learned the basics of Construction Project Management and Lean Management
- Observed how to communicate with vendors and contractors.
- Learned how to execute pile foundation work
- Understood the co-ordination between civil work on site