



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)
JUL 2022 - AUG 2022

Name of the Student : BRUTHI V

Reg No. : 41840016

Semester : III

Batch : 2021-2023



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SCHOOL OF BUILDING AND ENVIRONMENT

DEPARTMENT OF ARCHITECTURE

M. Arch (Building management)

VIVA-VOCE EXAMINATION

This is to certify that the Professional Training Report (S84APT) is the work of **Sruthi V** who had undergone training in **Eversendai Construction Private Limited** and has been monitored by the continuous assessment during Jul 2022 to Aug 2022.

Dr. Devyani Gangopadhyay
HOD AND DEAN

Submitted for Viva voce Examination held on 20-10-2022

Internal Examiner

External Examiner



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DECLARATION

I **Sruthi V** hereby declare that this Professional Training Report for **Thirty working days (Jul 2022-Aug 2022)** done by me under the guidance of **Mr. Kannan** is submitted in partial fulfillment of the requirements for the completion of practical training session.

DATE : 20-08-2022
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 **Mr. Paramasivan** (Senior HR) and **Mr. Kannan** (Project Director) for providing me the opportunity and guiding me throughout my training period.

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

I would like to thank **Mr. Senthilmaran** (Project Manager), **Mr. Dhanaraj** (Design Manager), **Mr. Saravanan** (Manager-Planning), **Ms. Divya Maruthi**, **Mr. Bala**, **Mr. Santhosh**, **Mr. Sridher** (Manager – Commercial), **Mr. Thangaraj**, **Ms. Naduva Mujeeb**, **Mr. Manikandan** for helping me everyday in acknowledging me.



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Date: 11.05.2022

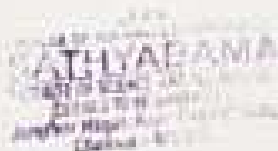
TO WHOMSOEVER IT MAY CONCERN

SRUTHI V / Reg.No- 41840018 is a bonafide student of our institution pursuing Masters in Architecture in Building Management (Batch 2021-2022). 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 project will be used for academic purpose only.

Thanking You,

Dr. Devyani Gangopadhyay

Dean, School of Building & Environment



EVERSENDAI

EVERSENDAI CONSTRUCTION PRIVATE LIMITED

Plot No. 1 & 2, THE LORDS, Block 1, 5th Floor, Thiruvallur Industrial Estate,
Jawahar Road, Rajahmundry, Guntur District, Andhra Pradesh - 526 002, India.
Tel: +91 44 4070 1234 / 1235, Email: everseandai.in@everseandai.com www.everseandai.com
CIN: U45209TG2005PT1 C072572

Date: 07th July 2022

Dr. Devyani Gangopadhyay
Dean, School of Building & Environment
Sathyabama Institute of Science & Technology
Chennai - 600 119

Dear Dr. Devyani Gangopadhyay,

Subject: Permission for Internship.

We are pleased to inform you that we are extending our permission to undergo professional training from 11th July 2022 to 19th August 2022 for the following Final year students from Masters in Architecture.

Name	Reg No:
1. Ms. Sruthi V	41840018
2. Ms. Prathima	41840011

He will undergo this internship in Project Department at our DLF Downtown Site in Taramani, Chennai under the supervision of Mr V Kannan - Project Director

Their training timing will be from 08.00 am to 05.30 pm, as per our working days. Regularity is expected from interns during their training. Upon completion of training, they need to submit their report copy to us.

Please note that, no internship fee will be paid for interns. All other cost such as transport, food, etc. will be taking care by the Students.

Thanking you,

Yours Faithfully,
For Everseandai Construction Private Ltd

P. Paramasivan
Head - HR & Admin



Joining Letter

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 Semester

(Continuous progress report of the trainee architect/Project Manager for the period of 10 working days in the office to be submitted to NAAC)

1. Name of the office / organization	ENVIRONMENTAL CONSULTANTS PRIVATE LIMITED
2. Address & Contact Number	1, BUNNY, CHENNAI - 600 074
3. Name of the student	SELVI V
4. Duration	From 10.01.2020 To 29.01.2020
5. Total No. of days	10 DAYS
6. Evaluation of Performance criteria shall be as	

* Note: Kindly grade the student as per teacher's overall performance in the office during the assessment month.

Description of works	Excellent	Good	Fair	Poor	NA
Understanding of office culture		✓			
Skills 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*	B
------------------	---

(A - 8.0, B - 7.0, C - 6.0, D - 5.5, E - 5.0, F - 4.0)

7. Any other Remarks: Good

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

[Signature]
20.01.20
Official Seal



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Documentation skills	✓				
Coordination with other consultants					✓

Overall Grading*	B
------------------	---

(A - 8.0, B - 7.0, C - 6.0, D - 5.5, E - 5.0, F - 4.0)

7. Any other Remarks: Good

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

[Signature]
20.01.20
Official Seal

Consolidated Certificate (Experience)

EVERSENDAL

EVERSENDAL CONSTRUCTION PRIVATE LIMITED

Plot No. 1 & 2, THE LORDS, Block 1, 5th Floor, Thyruvaka Industrial Estate,
Jeevaaharal Nafra Road, Ekkachallanagar, Guindy, Chennai - 600 032, India.
Tel: +91 44 4070 1234 / 1235, Email: everSENDAL.india@everSENDAL.com www.everSENDAL.com
CIN: U45206TN2009PTC072573

Date: 19th August 2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Ms Sruthi V (Registration Number 41849016) Final Year Masters in Architecture Student of Sathyabama Institute of Science & Technology has successfully completed her internship training in our Project department from 11th July 2022 to 19th August 2022. During the internship period, she found to be good and sincere.

We wish her success for all her future Endeavours.

For EverSENDAL Construction Private Ltd


P. Paramasivan
Head - HR & Admin

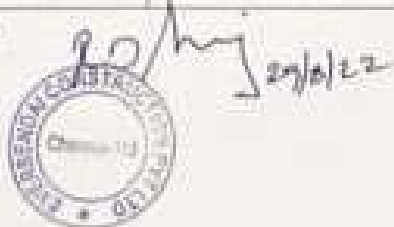


WORK DIARY

DAY	PROJECT NAME	WORK DONE	DAY	PROJECT NAME	WORK DONE
1 11.07.2022	DLF DOWNTOWN	Orientation Program, Safety Induction	16 30.07.2022	DLF DOWNTOWN	Planning Department - Resource study, Quantity survey, Scheduling
2 12.07.2022	DLF DOWNTOWN	Orientation Program, Safety Induction	17 01.08.2022	DLF DOWNTOWN	Planning Department - Resource study, Quantity survey, Scheduling and Site Visit
3 13.07.2022	DLF DOWNTOWN	Drawings and details study - Architectural, Structural, MEP and Site Visit	18 02.08.2022	DLF DOWNTOWN	Commercial Department - Sub contract bill checking, Quantity take off for Basement
4 14.07.2022	DLF DOWNTOWN	Drawings and details study - Architectural, Structural, MEP and Site Visit	19 03.08.2022	DLF DOWNTOWN	Commercial Department - Sub contract bill checking
5 15.07.2022	DLF DOWNTOWN	Drawings and details study - Architectural, Structural, MEP	20 04.08.2022	DLF DOWNTOWN	Commercial Department - Sub contract bill checking, Quantity take off for Plastering - 1st floor, 1 & 2
6 16.07.2022	DLF DOWNTOWN	Drawings and details study - Architectural, Structural, MEP	21 05.08.2022	DLF DOWNTOWN	Commercial Department - Quantity take off for Plastering - 2nd & 3rd floors
7 20.07.2022	DLF DOWNTOWN	Drawings and details study - Architectural, Structural, MEP and Site Visit	22 10.08.2022	DLF DOWNTOWN	Commercial Department - Quantity take off for Plastering - 4th & 5th floors
8 21.07.2022	DLF DOWNTOWN	Planning Department - Introduction for Scheduling, Breaking down of basement activities	23 11.08.2022	DLF DOWNTOWN	Commercial Department - Quantity take off for Plastering - 2nd & 3rd floors
9 22.07.2022	DLF DOWNTOWN	Class - Site Logistics	24 12.08.2022	DLF DOWNTOWN	Quality Analysis & Quality Check department - Material Testing, Quality Check, Concrete Technology
10 23.07.2022	DLF DOWNTOWN	Planning Department - Resource study, Quantity survey, Scheduling activities	25 13.08.2022	DLF DOWNTOWN	Quality Analysis & Quality Check department - Material Testing, Quality Check, Concrete Technology
11 25.07.2022	DLF DOWNTOWN	Planning Department - Resource study, Quantity survey, Scheduling activities	26 14.08.2022	DLF DOWNTOWN	Commercial Department - Quantity survey and Scheduling for STP (ongoing)
12 26.07.2022	DLF DOWNTOWN	Planning Department - Resource study, Quantity survey, Scheduling activities and Site Visit	27 17.08.2022	DLF DOWNTOWN	Commercial Department - Quantity survey and Scheduling for STP (ongoing) and Site Visit
13 27.07.2022	DLF DOWNTOWN	Class - Introduction for Concrete	28 18.08.2022	DLF DOWNTOWN	Commercial Department - Quantity survey and Scheduling for STP (ongoing) Visiting Material Management Store, Site Visit
14 28.07.2022	DLF DOWNTOWN	Planning Department - Resource study, Quantity survey, Scheduling activities	29 19.08.2022	DLF DOWNTOWN	Commercial Department - Quantity survey and Scheduling for STP (ongoing) and Site Visit
15 29.07.2022	DLF DOWNTOWN	Planning Department - Resource study, Quantity survey, Scheduling	30 20.08.2022	DLF DOWNTOWN	Commercial Department - Quantity survey and Scheduling for STP (ongoing) and Site Visit

Chief Architect Signature:

Office seal:



SRUTHI V

41840016

TRAINING PERIOD :
11TH JULY' 2022 - 20TH AUGUST' 2022

INTERNSHIP - PORTFOLIO

DLF 
DOWNTOWN
TARAMANI, CHENNAI

Internship @

EVERSEND AI

Towering - Powering - Energising - Innovating

ABOUT EVERSEND AI

The history of **Eversendai** goes back to 1984 and after three decades of unparalleled experience, technical expertise and a strong network across various countries, Eversendai is recognised as a leading global organisation in undertaking turnkey contracts; delivering projects for high rise buildings, power plants, Oil & Gas upstream and downstream including process and industrial plants as well as infrastructure and composite structures in the Asian and Middle Eastern regions.

VISION

To be a global leader by innovating, excelling and sustaining with our core values in new frontiers.

MISSION

- We aim to deliver sustainable value to our stakeholders by fulfilling our commitment to our clients while strengthening and forging new ties.
- We endeavour to maintain and enhance consistent performance, work culture and standards.
- We strongly believe in maximising the value of human capital and aligning it with company initiatives as a fundamental element of our business objectives.



ABOUT DOWNTOWN

NAME OF THE PROJECT : DLF DownTown 1&2
Taramani, Chennai

PROJECT VALUE : 478 Cr

SCOPE : Design and Build

EMPLOYER : DLF Info Park Developers
Chennai Pvt Ltd

CONTRACT TYPE : Lump sum

TOTAL AREA : 27 Acres

BUILT-UP AREA : 2.5L Sq.M

BASEMENT AREA : 24,000 Sq.M

TYPICAL FLOORS AREA : 11,000 Sq.M

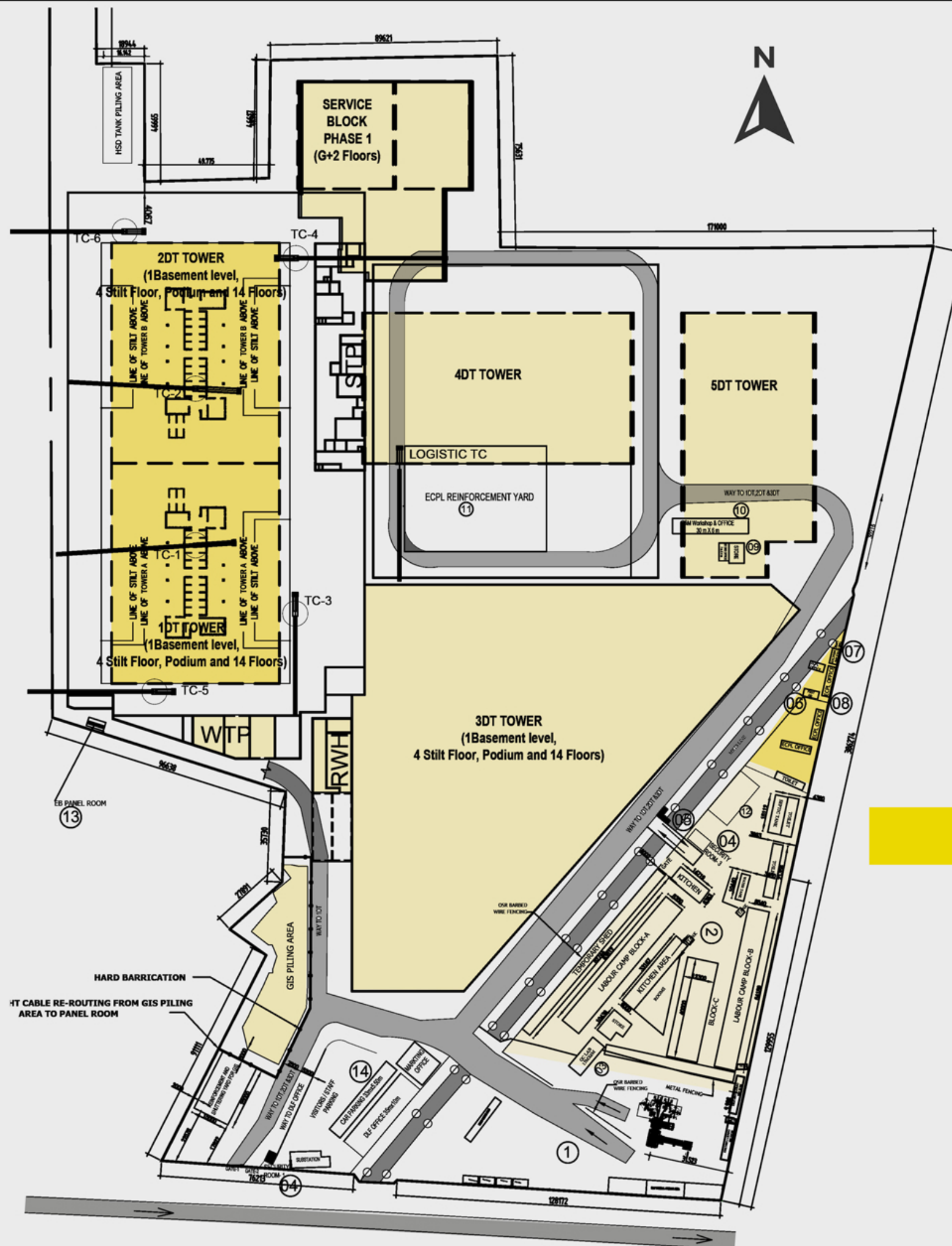
NO.OF FLOORS : 4 Stilt + Podium +
14 Floors + Terrace

TYPE OF STRUCTURE : Composite
Structure

SUB STRUCTURE : Pile foundation
with RCC raft

SUPER STRUCTURE : RCC Core
Wall, Composite Columns and Deck
Slabs

SITE PLAN



LEGENDS

1. Batching plant
2. Labor camp
3. QC Lab
4. Security rooms
5. Safety park
6. First aid room & doctor room
7. Time office & HSE induction

8. Eversendai site office - 1
9. Store room
10. P & M Workshop
11. Shuttering yard
(Structural steel yard
Reinforcement yard)
12. Labors quarantine room
13. EB Panel room
14. DLF Office

RESOURCES USED IN THE SITE

TOWER CRANE

1. Hammer head tower crane - 2 nos



- They are especially reliable for precise, accurate handling of a wide variety of heavy materials.
- The way they can be adapted to work well for any job site and any type or volume of material being transported is what makes a hammerhead tower crane such a versatile workhorse.
- A hammerhead crane also allows you to "rack" the crane.
- This is moving the trolley in and out along the job with its load suspended but not altering the level of the load.

2. Luffing tower crane - 4 nos



A luffing tower crane is also known as a luffing-jib crane. Its design is similar to a hammerhead tower crane, with the exception that the jib is latticed and can be raised and lowered—a motion called "luffing."

With additional jib mobility, these cranes can:

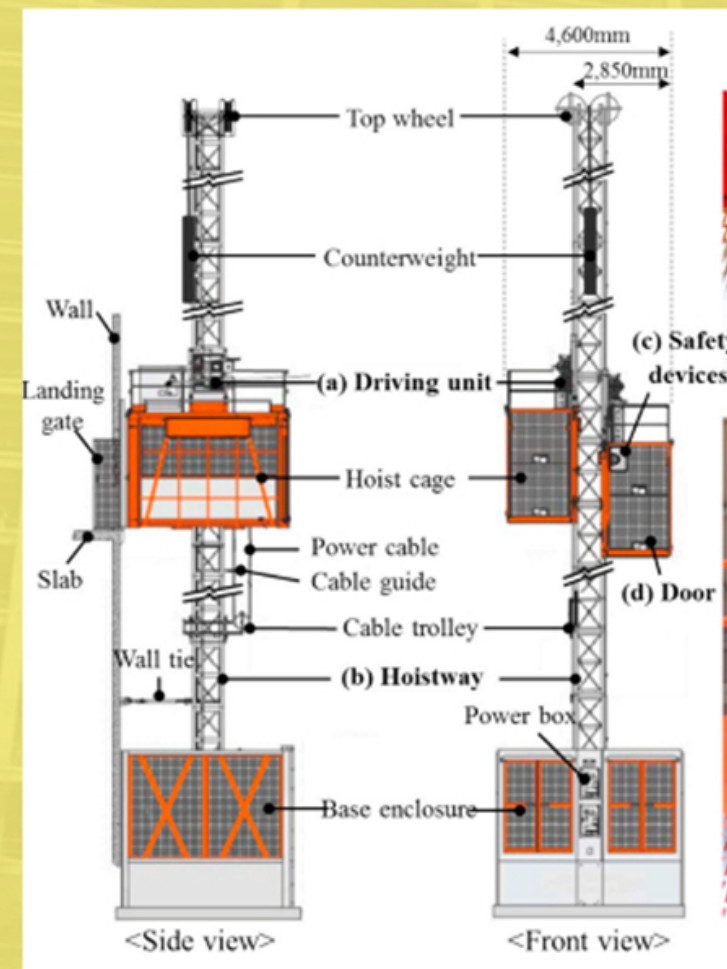
- Lift heavier capacities than hammerhead cranes
- Are more expensive
- Are especially applicable for work in congested areas and/or with multiple cranes because of their reduced slewing radius

3. Mobile crane



- Mobile Tower Cranes are used for civil construction and erection jobs, these are self-erecting / self-folding machines.
- These have provisions for built-in generators to provide electricity needed to operate the machines.
- The Company currently manufactures Mobile Tower Cranes, which can work on 6 to 12 storeyed buildings.
- A mobile crane is used to lift the initial tower crane components into place.
- The mobile crane attaches several sections of the tower until it reaches a certain height.
- After that, the mobile crane loads key components into place, like the jib, counterjib, cab, turntable and motor.

HOIST



- These are designed to lift passengers, although they can also be used for materials as long as the weight is kept within the loading capacity.
- The type of hoist can vary from a single cage with rope suspension to twin cages with rack and pinion operation mounted on two sides of a static tower.
- They are usually controlled from within the cage, and there must be additional safety devices to prevent over-run or free-fall.

- A typical passenger hoist cage is 2.7 m high and capable of carrying 12 passengers at a total weight of 1,000 kg.
- Typical speeds are 40-100 m/min.
- The hoist tower is generally assembled from 1.5 m-long sections and tied at 12 m centres to the face of the structure.



RESOURCES USED IN THE SITE

PILE DRIVING MACHINE



A pile driver is a heavy-duty tool used to drive piles into soil to build piers, bridges, cofferdams, and other "pole" supported structures, and patterns of pilings as part of permanent deep foundations for buildings or other structures. Pilings may be made of wood, solid steel, or tubular steel (often later filled with concrete), and may be driven entirely underwater/underground, or remain partially aboveground as elements of a finished structure.

The term "pile driver" is also used to describe members of the construction crew associated with the task, also colloquially known as "pile bucks".

BACK HOE



- The backhoe is the main tool of the backhoe loader. It's used to dig up hard, compact material, usually earth, or to lift heavy loads, such as a sewer box.
- It can lift this material and drop it in a pile to the side of the hole.
- The backhoe is a big, extremely powerful version of your arm or finger.
- It has three segments- The boom, The dipstick and The bucket.
- This arrangement is very similar to your arm. Your arm has three segments — your upper arm, forearm and hand.

EXCAVATOR



- Excavators are heavy construction equipment consisting of a boom, arm, bucket, and cab on a rotating superstructure atop an undercarriage with tracks or wheels.
- These machines are used mainly for digging purposes as well as various lifting and carrying tasks in various applications.
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BOB CAT



- Skid steer loaders, commonly known as Bobcats, are some of the most widely used pieces of equipment on the market.
- Bobcats have different attachments that allow them to perform a variety of tasks, including everything from excavation to demolition and debris removal.
- The smallest Bobcats on the market weigh under 1,750 pounds and have under 50 horsepower.
- These units are great for landscaping, site development or other residential outdoor projects.

HYDRA

- A hydra machine basically consists of a number of tubes that are fitted within one another.
- This is called a boom.
- To increase or decrease the total length of the boom, a hydraulic cylinder is extended that retraces the tubes, thus altering its length.
- These are ideal for rescue jobs, lifting objects in and out of the water and other short-term construction projects.
- However, some of these are truck mounted, they are also suitable for mobile applications.
- A hydra machine is prone to accidents more than a crane.



RESOURCES USED IN THE SITE

CONCRETE BATCHING PLANT



M1 Plant - 60 cu.m / hr
CP 30 Plant - 30 cu.m / hr

- A Concrete Batching Plant is a machine to make Concrete from its fixings viz Cement, Crushed Stone, Sand, Water and Admixture Chemicals.
- At times added substances like GGBS (Ground granulated impact Furnace Slag), Fly Ash or Micro-silica are added to change the qualities of the finished result.
- Batching is the process in which the quantity or proportion of materials like cement, aggregates, water, etc. are measured on the basis of either weigh or volume to prepare the concrete mix.

RMC (READY MIX CONCRETE)



- Ready mixed refers to concrete that is batched for delivery from a central plant instead of being mixed on the job site.
 - Each batch of ready-mixed concrete is tailor-made according to the specifics of the contractor and is delivered to the contractor in a plastic condition, usually in the cylindrical trucks often known as "cement mixers."
 - Ready-mixed concrete is particularly advantageous when small quantities of concrete or intermittent placing of concrete are required.
 - Ready-mixed concrete is also ideal for large jobs where space is limited and there is little room for a mixing plant and aggregate stockpiles.
- Ready-mix concrete (RMC) is concrete that is manufactured in a batch plant, according to each specific job requirement.

CONCRETE PUMP



-Simply put, a concrete pump is used in transferring/conveying liquid mixed concrete from the containers to where it needs to be filled at the construction site and thus, it is an important part of any construction project.

- There are two basic types of concrete pumps.
- One is known as a Boom or Truck-mounted Pump which is bigger in size and used on larger sites and for huge road and highway projects.

SITE PHOTOS



INTRODUCTION TO PLANNING

ENGINEERING PROCUREMENT CONSTRUCTION



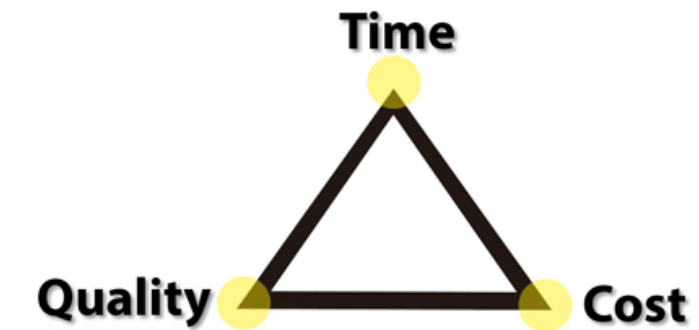
EPC is the form of contracting arrangement used by Eversendai Construction Pvt Ltd.

- L1** ● — Start and Finish dates are fixed by the Client
- L2** ● — Segregation of activities into different packages based on the engineering and procurement decisions
- L3** ● — Planners role come into the scene
Vendors will be chosen based on the data received by the Planners
L2 could be changed based on L3
Splitting up of larger areas into smaller portions to work (pours/zones)
- L4** ● — Done with the help of Construction team
Discussions are required with the execution team
By what time, which part of the activity to be started shall be decided in this level
eg - day wise program for columns
- L4** ● — Site Engineers and Foremen come into the scene
Based on each task, the type of labours will be allocated
Right person - Right job (much accurate)
L4 could be judged based on L5



WHY A PLANNING COULDN'T BE ACHIEVED PROPERLY ?

1. Mistakes in the predecessor activities will create impacts in the successors activities.
eg - reworks
2. The **iron-triangle** is not maintained properly.



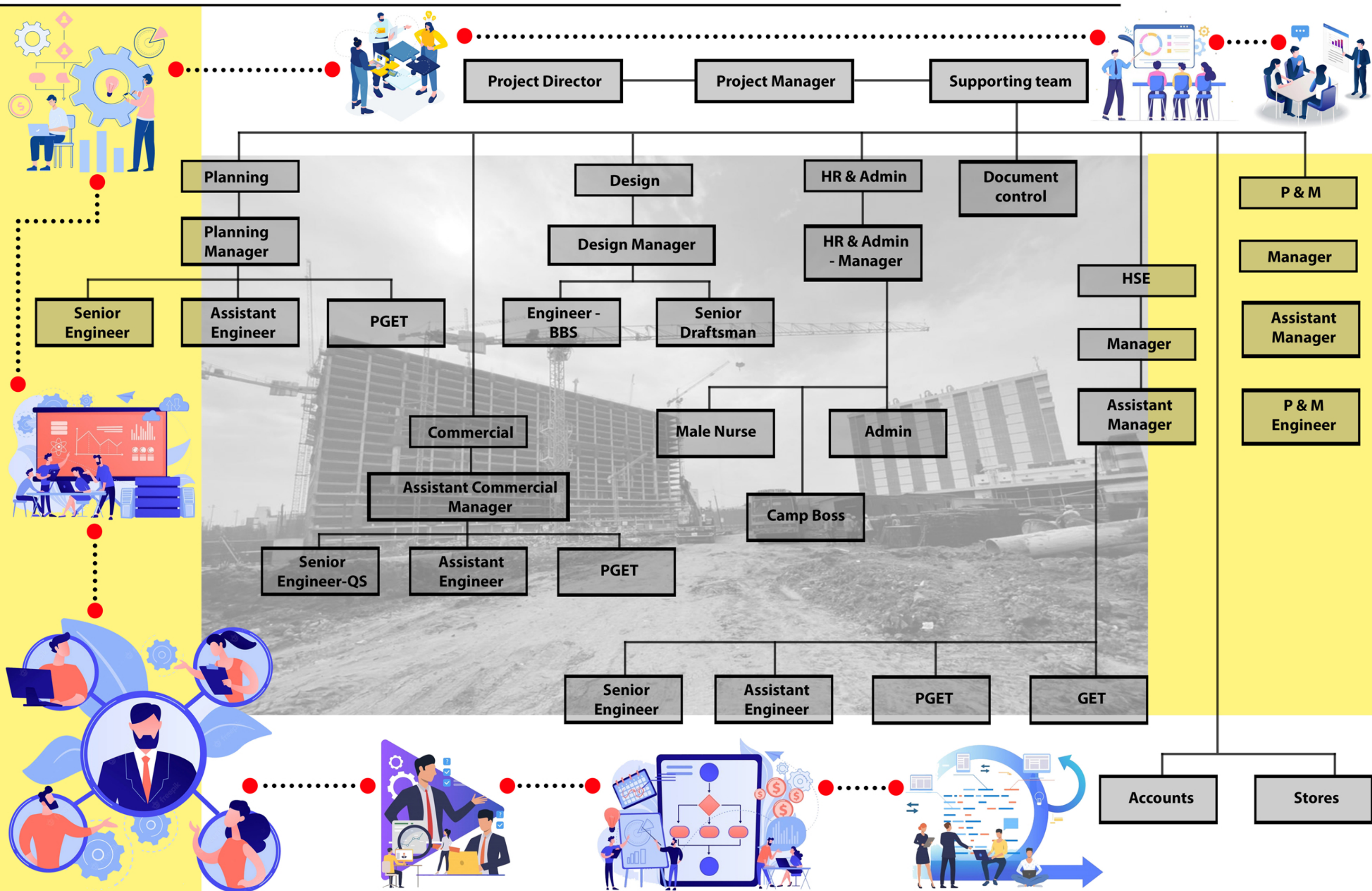
3. No proper



PLANNING —●— MONITORING —●— CO-ORDINATION

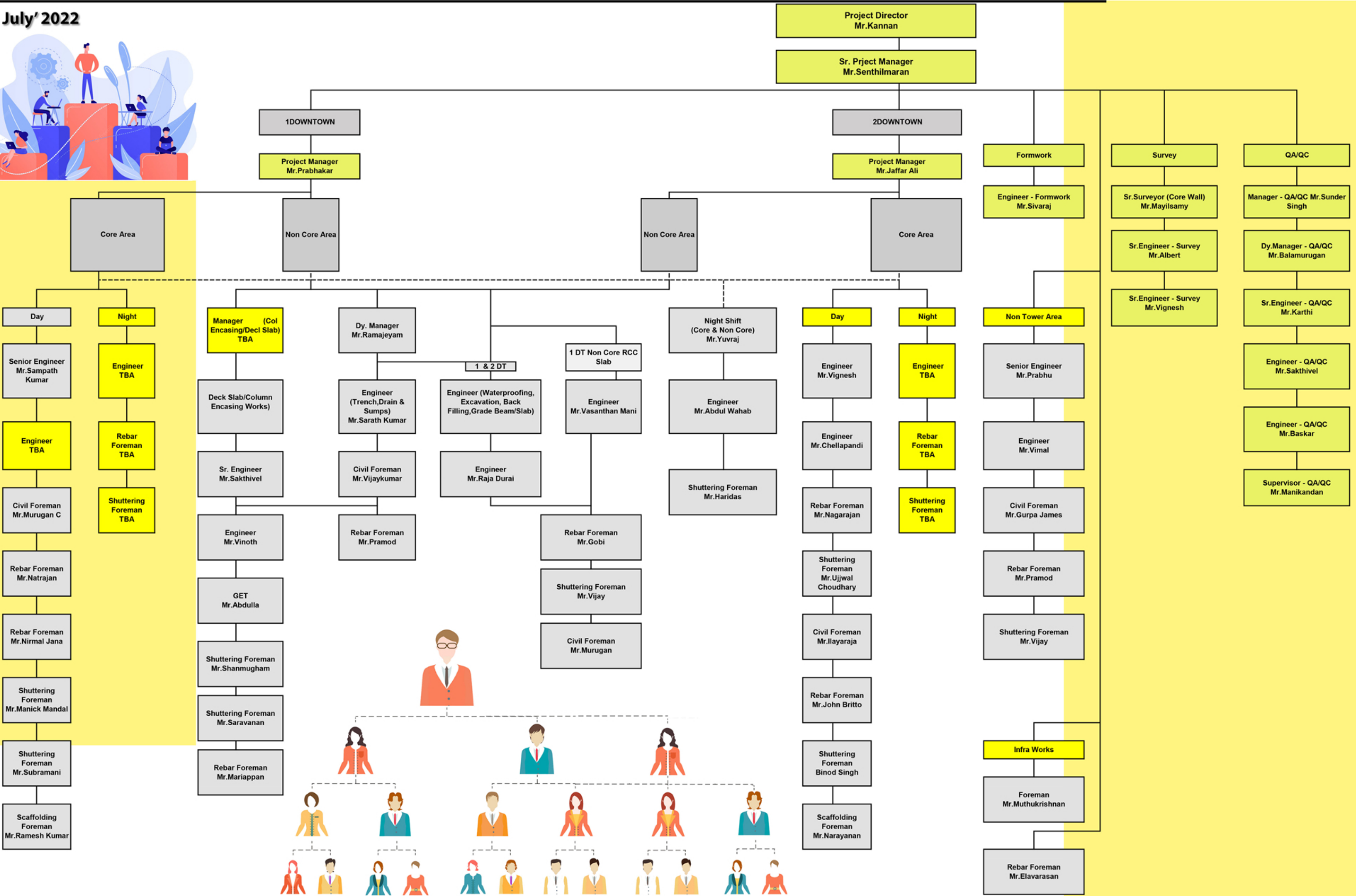
4. Tensions in the organisation.
5. Resources assigned to the project are not enough.
6. Failure to communication.
7. Continuous expansion or changes to the project's initial scope beyond what was initially intended.

ORGANIZATION FLOW

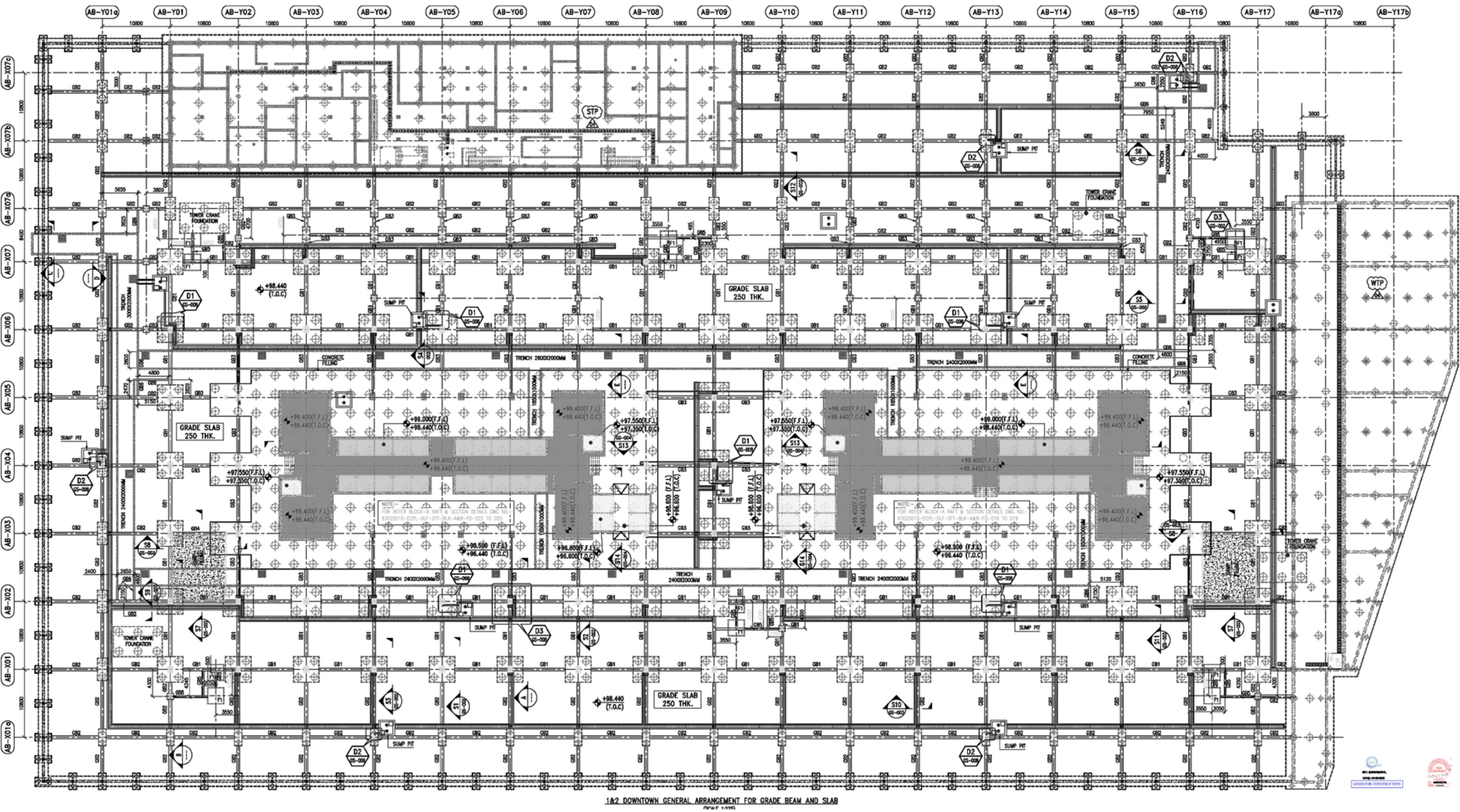


ORGANIZATION FLOW

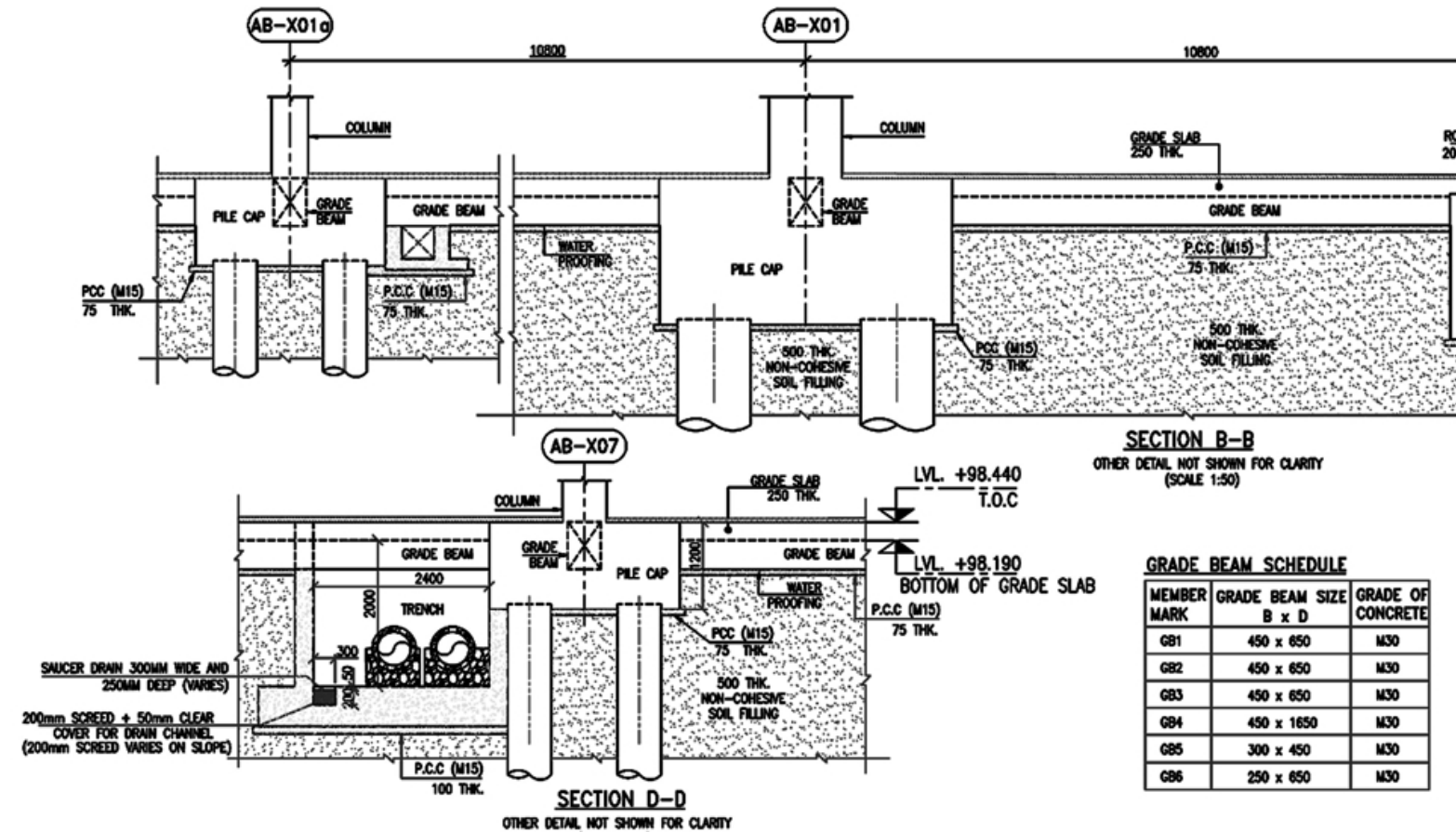
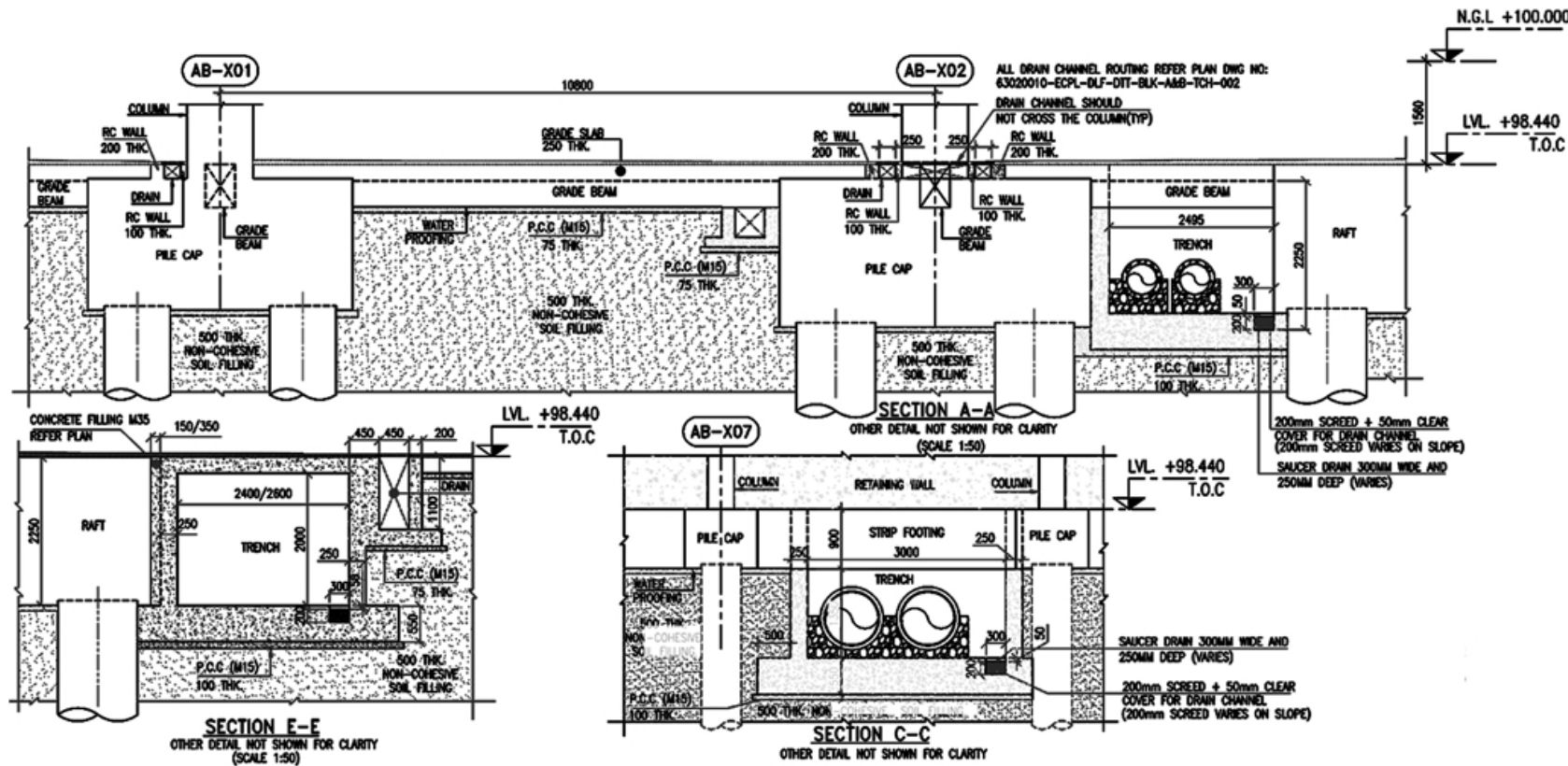
July' 2022



BASEMENT PLAN - PILE, GRADE BEAM & GRADE SLAB



BASEMENT SECTIONS - PILE, GRADE BEAM & GRADE SLAB



GRADE BEAM SCHEDULE

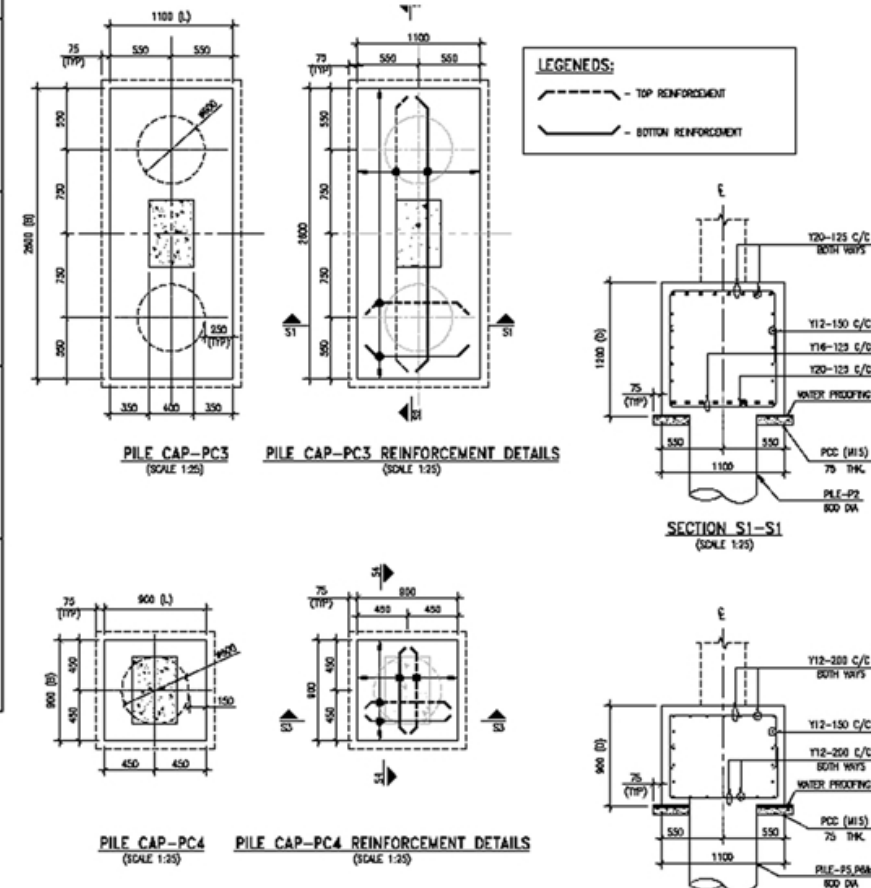
MEMBER MARK	GRADE BEAM SIZE B x D	GRADE OF CONCRETE
GB1	450 x 650	M30
GB2	450 x 650	M30
GB3	450 x 650	M30
GB4	450 x 1650	M30
GB5	300 x 450	M30
GB6	250 x 650	M30

PILE REINFORCEMENT DETAIL

S/N/O	PILE NAME	PILE DETAIL
1.	PILE-P2	Y8-75 C/C Fe 500 SPRAL TIES Y16-1500 C/C-Fe 500 LIFTING STRAPUPS 8-Y25 Fe 500
2.	PILE-P5	Y8-75 C/C Fe 500 SPRAL TIES Y16-1500 C/C-Fe 500 LIFTING STRAPUPS 10-Y16 Fe 500
3.	PILE-P6	Y8-75 C/C Fe 500 SPRAL TIES Y16-1500 C/C-Fe 500 LIFTING STRAPUPS 8-Y25 Fe 500
4.	PILE-P7	Y8-75 C/C Fe 500 SPRAL TIES Y16-1500 C/C-Fe 500 LIFTING STRAPUPS 7-Y20 Fe 500

PILE CAP DETAILS

TYPE	SIZE OF PILE CAP			TYPE & DIA. OF PILE
	L	B	D	
PC3	1100	2800	1200	P2 600
PC4	900	900	900	P5,P6&P7 600



NOTE:-

1. BASEMENT FILLING, TRENCH & DRAIN DEVIATING FROM THE TENDER DRAWING NO(DTN-TD-AR-301 TO 302) DATED ON (25/11/2019)

REFER DWG:

1. NON-TOWER PILE CAP DETAIL REFER DWG NO: 63020010-ECPL-DLF-DTT-BLK-AB-FD-031
2. PILE CAP INSERT DRAIN WATER PIPE TYPICAL DETAIL REFER DWG. NO: 63020010-ECPL-DLF-DTT-BLK-AB-GS-001 & 008
3. FOOTING-F1 REINFORCEMENT TYPICAL DETAIL REFER DWG. NO: 63020010-ECPL-DLF-DTT-BLK-AB-GS-010
4. FOR THE PILE CAP, GRADE SLAB & GRADE BEAMS EXISTING 500mm SOIL TO BE REPLACED WITH NON-COHESIVE SOIL
5. 80% OF PROCTOR COMPACTION TO BE ACHIEVED IN 500mm DEPTH SOIL WITH 3 LAYERS.

DRAWING SHALL BE READ IN CONJUNCTION WITH:-

1. FOR WIP LAYOUT REFER DWG NO: 63020010-ECPL-DLF-DTT-BLK-AB-WIP-001 TO 017
2. FOR STP LAYOUT REFER DWG NO: 63020010-ECPL-DLF-DTT-BLK-AB-STP-001 TO 024

LEGEND

- 910 THK. FILLING R.C.C M20.
- 560 THK. FILLING R.C.C M20.
- 200 THK. FILLING R.C.C M20.

NOTE : R.C.C M20 FILLING REINFORCEMENT REFER DWG. NO:63020010-ECPL-DLF-DTT-BLK-AB-GS-007

PILING

Area for the Pile to be drilled in Core Area – DownTown 1 & 2

No. of piles in Down Town 1 (core) = 254

No. of piles in Down Town 2 (core) = 254

Total no. of piles = 508

Diameter of 1 pile = 13.5 cu.m

Total area to be drilled = $508 \times 13.5 = 6858$ cu. m

Productivity

1 Rig can drill 1.5 – 2 piles/day

No. of piles working/day = 6

Efficiency = 1.5 piles

No. of days taken = $6 \times 1.5 = 9.75$ days

No. of days taken to drill 254 piles = $254/9.75 = 26$ days

EXCAVATION

Removal of earth – Above Pile

Area of each core = 2380 sq.m

Thickness off PCC = 0.075 m

Thickness of Raft = 2.25 m

Total Height = $0.075 + 2.25 = 2.325$ m

Volume to be excavated in each core = $2380 \times 2.325 = 5320$ cu. m

Volume to be excavated in both the cores = $5320 \times 2 = 10,640$ cu. m

Productivity

1 Excavator can excavate 200 – 250 cu. m/day

Volume to be excavated in 1 core = 5320 cu. m

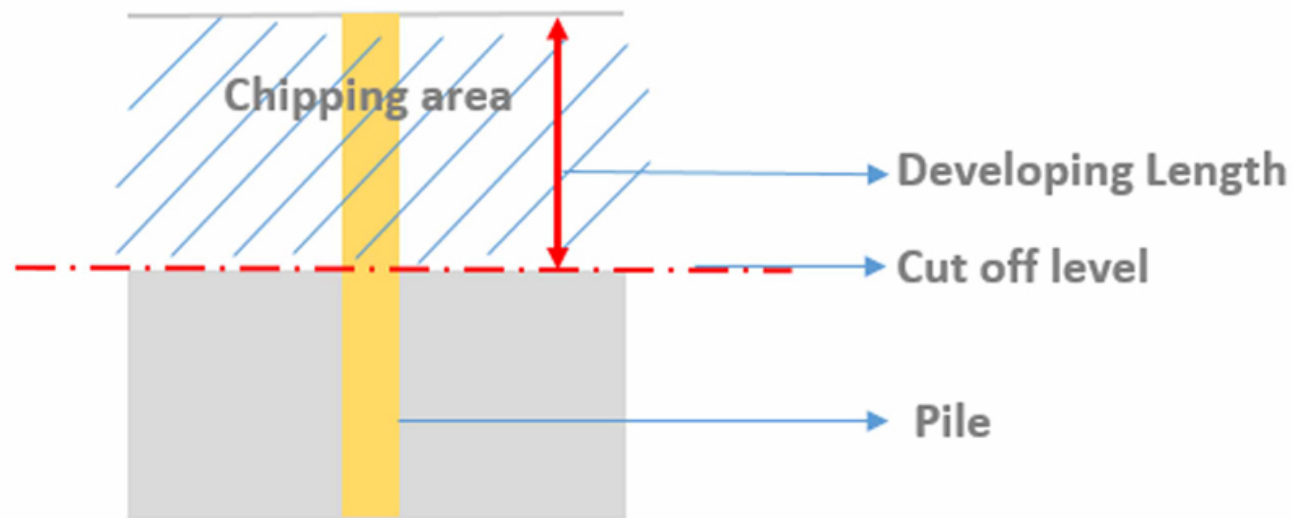
Using 2 excavators/day,

$2 \times 250 = 500$ cu. m/day

Total no. of days = $\frac{\text{Area to be excavated}}{\text{Volume to be excavated/day}}$

**Total no. of days taken for excavation of 1 core = $5320/500 = 9.5$
= 10 days**

PILE CHIPPING



Developing Length = $46d$ (where, d – diameter of the main bar)
 (Generally $DL=50d$, varies according to the project)
 Diameter of the main bar = Y25

$46d = 46 \times 25 = 1150\text{mm}$ 1.15m (height of the chipping area)
 Volume of chipping single pile = $\frac{22}{7} \times 0.6 \times 0.6 \times 1.15$
 = 1.3 cu.m

Total volume for chipping 508 piles = 508×1.3
 = 660 cu.m

Productivity

Volume to be chipped for core 1 = 330 cu.m

1 chipper could chip piles/day by 1 person

Using 10 pile chipper = 15 piles/day
 No. of days taken to chip 254 piles = $254/15 = 17$ days

P. C. C

Area of PCC (each core) = 2165 sq. m
 Thickness of PCC = 0.075 m
 Total volume of PCC/core = $2165 \times 0.075 = 160$ cu. m
 Volume of PCC to be laid for core 1 & 2 = $160 \times 2 = 320$ cu. m

Productivity

Per day 300 sq. m of PCC could be laid

Area of PCC to be laid = 2165 sq. m
 No. of days taken = $2165/250 = 8.66$ days
 = 10 days

RAFT

Area of Raft (each core) = 2145 sq. m
 Thickness of Raft = 2.25 m
 Volume of Raft/core = $2145 \times 2.25 = 4825$ cu. m
 Volume of Raft to be laid for core 1 & 2 = $4825 \times 2 = 9650$ cu. m

WATER PROOFING - P.C.C & RAFT

Area of PCC (each core) = 2165 sq. m

Area of Raft – Horizontal = 2145 sq. m

- Vertical = $230 \times 2.25 = 517$ sq. m (perimeter x height)

Area of water proofing for 1 core = $2145 + 517.5 = 2662.5$ sq. m

Total area of water proofing for core 1 & 2 = $2662.5 \times 2 = 5325$ sq. m

Productivity

1 Person = 15 sq. m

SHUTTERING

Area of Raft = 230×2.25 sq. m = 517.5 sq. m(perimeter x height)

Total area of shuttering for core 1 & 2 = $517.5 \times 2 = 1035$ sq. m

Productivity

1 Carpenter + 1 Helper = 4.5 sq. m/day

BACK FILING

Volume of each core = 5320 cu. m

Volume of PCC + Raft = 160 + 4825

= 4985 cu. m

Total volume for back filling = Volume of Core - Volume of PCC + Raft

= $5320 - 4985 = 335$ cu. m

Total volume for back filling (core 1 & 2) = $335 \times 2 = 670$ cu. m

R.C.C SHUTTERING

RUNNING LENGTH X HEIGHT = AREA

Nos	Running Length	Height	Area (sq.m)
1	65	4.3	280
2	65	4.3	265
3	64	4.3	275
4	58	4.3	250
5	32	4.3	140
6	60	4.3	258
7	7	4.3	30
8	63	4.3	270
9	45	4.3	195
10	90	4.3	390
Total			2335

Total quantity for shuttering = 2335 sq.m

Productivity

1 Carpenter + 1 Helper = 4.5 sq. m

Taking 50 carpenters and 50 helpers/ day = $50 \times 4.5 = 225$ sq. m

No. of days = $2355 / 225 = 10.4 = 10$ days

QUANTITY SURVEY - CORE WALL

BAR BENDING

HYSD – High Yielded Strength Deformed Steel

WEIGHT OF REBAR PER CU. M OF CONCRETE

- Residence - 85 kg/cu m
- Institutional - 90 kg/cu m
- **Commercial** - **100 kg/cu m**
- Industrial - 130 kg/ cu m

AREA OF THE WALL X HEIGHT = VOLUME

Nos	Area	Height	Volume (cu. m)
1	15.04	4.3	65
2	10.28	4.3	44
3	10.64	4.3	46
4	0.54	4.3	45
5	4.43	4.3	19
6	10.27	4.3	44
7	0.12	4.3	0.5
8	10.28	4.3	44
9	25.2	4.3	110
Total			420

Productivity

1 Carpenter + 1 Helper = 4.5 sq. m

Taking 50 carpenters and 50 helpers/ day = 50 x 4.5 = 225 sq. m

No. of days = 2355 / 225 = 10.4 = 10 days

SLAB CONCRETE

SLAB CONCRETE						
CORE A - SLAB 1 QUANTITY						
Sl. No	Description	Unit	Nos	Area	Depth	Quantity (In volume)
1	Slab 1	cu.m	1	13	0.15	1.95
2	Slab 2	cu.m	1	4.48	0.15	0.672
3	Slab 3	cu.m	1	13.51	0.15	2.0265
4	Slab 4	cu.m	1	13.36	0.15	2.004
5	Slab 5	cu.m	1	0.38	0.15	0.057
6	Slab 6	cu.m	1	0.1	0.15	0.015
7	Slab 7	cu.m	1	20.72	0.15	3.108
8	Slab 8	cu.m	1	0.53	0.15	0.0795
9	Slab 9	cu.m	1	18.48	0.15	2.772
10	Slab 10	cu.m	1	19.49	0.15	2.9235
11	Slab 11	cu.m	1	22.53	0.15	3.3795
12	Slab 12	cu.m	1	1.21	0.15	0.1815
13	Slab 13	cu.m	1	6.05	0.15	0.9075
14	Slab 14	cu.m	1	7.96	0.15	1.194
15	Slab 15	cu.m	1	9.6	0.15	1.44
16	Slab 16	cu.m	1	2.87	0.15	0.4305
17	Slab 17	cu.m	1	2.66	0.15	0.399
18	Slab 18	cu.m	1	8.03	0.15	1.2045
19	Slab 19	cu.m	1	0.82	0.15	0.123
20	Slab 20	cu.m	1	41.76	0.15	6.264
21	Slab 21	cu.m	1	8.4	0.15	1.26
22	Slab 22	cu.m	1	10.5	0.15	1.575
23	Slab 23	cu.m	1	8.4	0.15	1.26
24	Slab 24	cu.m	1	41.76	0.15	6.264
25	Slab 25	cu.m	1	25.42	0.15	3.813
26	Slab 26	cu.m	1	8.3	0.15	1.245
27	Slab 27	cu.m	1	2.8	0.15	0.42
28	Slab 28	cu.m	1	3.32	0.15	0.498
29	Slab 29	cu.m	1	0.28	0.15	0.042
30	Slab 30	cu.m	1	11.93	0.15	1.7895
31	Slab 31	cu.m	1	13.36	0.15	2.004
32	Slab 32	cu.m	1	0.13	0.15	0.0195
33	Slab 33	cu.m	1	20.72	0.15	3.108
34	Slab 34	cu.m	1	0.53	0.15	0.0795
35	Slab 35	cu.m	1	18.48	0.15	2.772
36	Slab 36	cu.m	1	20.18	0.15	3.027
37	Slab 37	cu.m	1	22.53	0.15	3.3795
38	Slab 38	cu.m	1	15.75	0.15	2.3625
39	Slab 39	cu.m	1	0.4	0.15	0.06
40	Slab 40	cu.m	1	13.44	0.15	2.016
41	Slab 41	cu.m	1	35.64	0.15	5.346
42	Slab 42	cu.m	1	1.62	0.15	0.243
Total quantity of concrete for SLAB -1						73.7145

SLAB CONCRETE

CORE A - SLAB 2 QUANTITY						
Si. No	Description	Unit	Nos	Area	Depth	Quantity (In volume)
1	Slab 1	cu.m	1	36.18	0.175	6.3315
2	Slab 2	cu.m	1	36.18	0.175	6.3315
3	Slab 3	cu.m	1	28.74	0.175	5.0295
Total quantity of concrete for SLAB -1						17.6925
CORE A - Total Quantity for SLAB 1 AND 2						
1	Slab-1					73.7145
2	Slab-2					17.6925
						91.407
CORE A AND B						182.814

SLAB SHUTTERING

CORE A - SLAB 2 QUANTITY						
Si. No	Description	Unit	Nos	Area	Depth	Quantity (In volume)
1	Slab 1	sq.m	1	36.18		36.18
2	Slab 2	sq.m	1	36.18		36.18
3	Slab 3	sq.m	1	28.74		28.74
Total quantity of shuttering for SLAB -1						101.1
CORE A - Total Quantity for SLAB 1 AND 2						
1	Slab-1					491.43
2	Slab-2					101.1
						592.53
CORE A AND B						1185.06

SLAB SHUTTERING						
CORE A - SLAB 1 QUANTITY						
Si. No	Description	Unit	Nos	Area	Depth	Quantity (In area)
1	Slab 1	sq.m	1	13		13
2	Slab 2	sq.m	1	4.48		4.48
3	Slab 3	sq.m	1	13.51		13.51
4	Slab 4	sq.m	1	13.36		13.36
5	Slab 5	sq.m	1	0.38		0.38
6	Slab 6	sq.m	1	0.1		0.1
7	Slab 7	sq.m	1	20.72		20.72
8	Slab 8	sq.m	1	0.53		0.53
9	Slab 9	sq.m	1	18.48		18.48
10	Slab 10	sq.m	1	19.49		19.49
11	Slab 11	sq.m	1	22.53		22.53
12	Slab 12	sq.m	1	1.21		1.21
13	Slab 13	sq.m	1	6.05		6.05
14	Slab 14	sq.m	1	7.96		7.96
15	Slab 15	sq.m	1	9.6		9.6
16	Slab 16	sq.m	1	2.87		2.87
17	Slab 17	sq.m	1	2.66		2.66
18	Slab 18	sq.m	1	8.03		8.03
19	Slab 19	sq.m	1	0.82		0.82
20	Slab 20	sq.m	1	41.76		41.76
21	Slab 21	sq.m	1	8.4		8.4
22	Slab 22	sq.m	1	10.5		10.5
23	Slab 23	sq.m	1	8.4		8.4
24	Slab 24	sq.m	1	41.76		41.76
25	Slab 25	sq.m	1	25.42		25.42
26	Slab 26	sq.m	1	8.3		8.3
27	Slab 27	sq.m	1	2.8		2.8
28	Slab 28	sq.m	1	3.32		3.32
29	Slab 29	sq.m	1	0.28		0.28
30	Slab 30	sq.m	1	11.93		11.93
31	Slab 31	sq.m	1	13.36		13.36
32	Slab 32	sq.m	1	0.13		0.13
33	Slab 33	sq.m	1	20.72		20.72
34	Slab 34	sq.m	1	0.53		0.53
35	Slab 35	sq.m	1	18.48		18.48
36	Slab 36	sq.m	1	20.18		20.18
37	Slab 37	sq.m	1	22.53		22.53
38	Slab 38	sq.m	1	15.75		15.75
39	Slab 39	sq.m	1	0.4		0.4
40	Slab 40	sq.m	1	13.44		13.44
41	Slab 41	sq.m	1	35.64		35.64
42	Slab 42	sq.m	1	1.62		1.62
Total quantity of shuttering for SLAB -1						491.43

CONCRETE QUANTITY - STAIRCASE-2

STEPS

○ Flight – 1 & 3

Area for 1 step = 0.95 sq.m

Thickness = 0.15 m

Volume = $0.95 \times 0.15 = 0.119$ cu.m (volume of 1 step)

Total no. of steps in flight 1 & 3 = 8 (nos)

Volume of concrete for 8 steps = $0.119 \times 8 = 0.95$ cu.mTotal volume of concrete for flight-1 & 3 = $0.95 + 0.95 = 1.45$ cu.m○ Flight – 2

Area = 0.795 sq.m

Thickness = 0.15 m

Volume = $0.795 \times 0.15 = 0.119$ cu.m (volume of 1 step)

Total no. of steps in flight 2 = 4 (nos)

Volume of concrete for 4 steps = $0.119 \times 4 = 0.476$ cu.mTotal volume of concrete for flight 1, 2 & 3 = $0.95 + 0.476 + 0.95 = 2.376$ cu.m

MID –LANDING

○ Mid landing – 1 & 2

Area = 7 sq.m

Thickness = 0.15 m

Volume = $7 \times 0.15 = 1.05$ cu.m

Total no. Of mid-landing = 2 (nos)

Volume of concrete for mid-landing 1 & 2 = $1.05 \times 2 = 2.1$ cu.m

LANDING

○ Landing - 1

Area = 7.02 sq.m

Thickness = 0.15 m

Volume = $7.02 \times 0.15 = 1.053$ cu.m○ Landing – 2

Area = 9.67 sq.m

Thickness = 0.15 m

Volume = $9.67 \times 0.15 = 1.45$ cu.mTotal volume of concrete for landing 1 & 2 = $1.053 + 1.45 = 2.503$ cu.m

WAIST SLAB

○ Waist slab – 1 & 3

Length = 2.4 m

Width = 2.65 m

Thickness = 0.225 m

Volume = $2.4 \times 2.65 \times 0.225 = 1.43$ cu.m (waist slab – 1 & 3)○ Waist slab - 2

Length = 1.68 m

Width = 2.65 m

Thickness = 0.225 m

Volume = $1.68 \times 2.65 \times 0.225 = 1$ cu.m (waist slab – 2)Total volume of concrete for waist slab 1, 2 & 3 = $1.43 + 1.43 + 1 = 3.76$ cu.m

QUANTITY SURVEY - CORE WALL

BEAM CONCRETE

BEAM CONCRETE						
CORE A - RB1						
Si. No	Description	Unit	Nos	Area	Depth	Quantity (In volume)
1	RB1-1	cu.m	1	0.25	0.45	0.1125
2	RB1-2	cu.m	1	0.12	0.45	0.054
3	RB1-3	cu.m	1	0.12	0.45	0.054
4	RB1-4	cu.m	1	0.12	0.45	0.054
5	RB1-5	cu.m	1	0.19	0.45	0.0855
6	RB1-6	cu.m	1	0.19	0.45	0.0855
7	RB1-7	cu.m	1	0.17	0.45	0.0765
8	RB1-8	cu.m	1	0.17	0.45	0.0765
9	RB1-9	cu.m	1	0.25	0.45	0.1125
10	RB1-10	cu.m	1	0.12	0.45	0.054
11	RB1-11	cu.m	1	0.12	0.45	0.054
12	RB1-12	cu.m	1	0.08	0.45	0.036
13	RB1-13	cu.m	1	0.08	0.45	0.036
14	RB1-14	cu.m	1	0.22	0.45	0.099
15	RB1-15	cu.m	1	0.22	0.45	0.099
16	RB1-16	cu.m	1	0.19	0.45	0.0855
17	RB1-17	cu.m	1	0.19	0.45	0.0855
Total Quantity for RB1						1.26
CORE A - RB2						
Si. No	Description	Unit	Nos	Area	Depth	Quantity (In volume)
1	RB2-1	cu.m	1	0.72	0.45	0.324
2	RB2-2	cu.m	1	0.35	0.45	0.1575
3	RB2-3	cu.m	1	0.61	0.45	0.2745
4	RB2-4	cu.m	1	0.19	0.45	0.0855
5	RB2-5	cu.m	1	0.26	0.45	0.117
6	RB2-6	cu.m	1	0.74	0.45	0.333
7	RB2-7	cu.m	1	0.13	0.45	0.0585
8	RB2-8	cu.m	1	0.13	0.45	0.0585
9	RB2-9	cu.m	1	0.35	0.45	0.1575
10	RB2-10	cu.m	1	0.75	0.45	0.3375
11	RB2-11	cu.m	1	0.61	0.45	0.2745
12	RB2-12	cu.m	1	0.2	0.45	0.09
13	RB2-13	cu.m	1	0.12	0.45	0.054
14	RB2-14	cu.m	1	0.87	0.45	0.3915
15	RB2-15	cu.m	1	0.87	0.45	0.3915
16	RB2-16	cu.m	1	0.22	0.45	0.099
Total Quantity for RB2						3.204

CORE A - RB2a						
Si. No	Description	Unit	Nos	Area	Depth	Quantity (In volume)
1	RB2a-1	cu.m	1	1.04	0.45	0.468
2	RB2a-2	cu.m	1	0.99	0.45	0.4455
3	RB2a-3	cu.m	1	1.11	0.45	0.4995
4	RB2a-4	cu.m	1	0.68	0.45	0.306
5	RB2a-5	cu.m	1	0.76	0.45	0.342
6	RB2a-6	cu.m	1	1.11	0.45	0.4995
7	RB2a-7	cu.m	1	0.99	0.45	0.4455
8	RB2a-8	cu.m	1	1.04	0.45	0.468
9	RB2a-9	cu.m	1	0.89	0.45	0.4005
Total Quantity for RB2a						3.8745
CORE A - RB3						
Si. No	Description	Unit	Nos	Area	Depth	Quantity (In volume)
1	RB3-1	cu.m	1	0.54	0.65	0.351
2	RB3-2	cu.m	1	1.28	0.65	0.832
3	RB3-3	cu.m	1	0.65	0.65	0.4225
4	RB3-4	cu.m	1	0.65	0.65	0.4225
5	RB3-5	cu.m	1	0.65	0.65	0.4225
6	RB3-6	cu.m	1	0.65	0.65	0.4225
7	RB3-7	cu.m	1	0.65	0.65	0.4225
8	RB3-8	cu.m	1	0.65	0.65	0.4225
9	RB3-9	cu.m	1	0.65	0.65	0.4225
10	RB3-10	cu.m	1	0.65	0.65	0.4225
11	RB3-11	cu.m	1	0.65	0.65	0.4225
12	RB3-12	cu.m	1	0.65	0.65	0.4225
13	RB3-13	cu.m	1	0.65	0.65	0.4225
14	RB3-14	cu.m	1	0.65	0.65	0.4225
15	RB3-15	cu.m	1	0.65	0.65	0.4225
16	RB3-16	cu.m	1	0.65	0.65	0.4225
17	RB3-17	cu.m	1	0.56	0.65	0.364
18	RB3-18	cu.m	1	1.28	0.65	0.832
19	RB3-19	cu.m	1	0.65	0.65	0.4225
20	RB3-20	cu.m	1	0.65	0.65	0.4225
21	RB3-21	cu.m	1	0.65	0.65	0.4225
22	RB3-22	cu.m	1	0.65	0.65	0.4225
23	RB3-23	cu.m	1	0.65	0.65	0.4225
24	RB3-24	cu.m	1	0.65	0.65	0.4225
25	RB3-25	cu.m	1	0.65	0.65	0.4225
26	RB3-26	cu.m	1	0.65	0.65	0.4225
27	RB3-27	cu.m	1	0.65	0.65	0.4225
28	RB3-28	cu.m	1	0.65	0.65	0.4225
Total Quantity for RB3						12.519

QUANTITY SURVEY - CORE WALL

BEAM CONCRETE

CORE A - RB5						
Si. No	Description	Unit	Nos	Area	Depth	Quantity (In volume)
1	RB5-1	cu.m	1	0.71	0.65	0.4615
2	RB5-2	cu.m	1	1.92	0.65	1.248
3	RB5-3	cu.m	1	1.51	0.65	0.9815
4	RB5-4	cu.m	1	1.55	0.65	1.0075
5	RB5-5	cu.m	1	1.92	0.65	1.248
6	RB5-6	cu.m	1	1.92	0.65	1.248
7	RB5-7	cu.m	1	1.55	0.65	1.0075
8	RB5-8	cu.m	1	1.51	0.65	0.9815
9	RB5-9	cu.m	1	1.92	0.65	1.248
10	RB5-10	cu.m	1	0.82	0.65	0.533
11	RB5-11	cu.m	1	0.73	0.65	0.4745
12	RB5-12	cu.m	1	0.73	0.65	0.4745
13	RB5-13	cu.m	1	0.7	0.65	0.455
14	RB5-14	cu.m	1	1.92	0.65	1.248
15	RB5-15	cu.m	1	1.92	0.65	1.248
16	RB5-16	cu.m	1	1.92	0.65	1.248
17	RB5-17	cu.m	1	1.92	0.65	1.248
18	RB5-18	cu.m	1	1.92	0.65	1.248
19	RB5-19	cu.m	1	1.92	0.65	1.248
20	RB5-20	cu.m	1	0.87	0.65	0.5655
Total Quantity for RB5						19.422
CORE A - RB10						
Si. No	Description	Unit	Nos	Area	Depth	Quantity (In volume)
1	RB10-1	cu.m	1	2.95	0.65	1.9175
2	RB10-2	cu.m	1	2.95	0.65	1.9175
3	RB10-3	cu.m	1	3.65	0.65	2.3725
4	RB10-4	cu.m	1	2.95	0.65	1.9175
5	RB10-5	cu.m	1	2.55	0.65	1.6575
6	RB10-6	cu.m	1	2.95	0.65	1.9175
7	RB10-7	cu.m	1	3.65	0.65	2.3725
8	RB10-8	cu.m	1	2.95	0.65	1.9175
9	RB10-9	cu.m	1	3.05	0.65	1.9825
10	RB10-10	cu.m	1	3.05	0.65	1.9825
11	RB10-11	cu.m	1	2.95	0.65	1.9175
12	RB10-12	cu.m	1	3.65	0.65	2.3725
13	RB10-13	cu.m	1	2.95	0.65	1.9175
14	RB10-14	cu.m	1	2.55	0.65	1.6575
15	RB10-15	cu.m	1	2.95	0.65	1.9175
16	RB10-16	cu.m	1	3.65	0.65	2.3725
17	RB10-17	cu.m	1	2.95	0.65	1.9175
18	RB10-18	cu.m	1	2.95	0.65	1.9175
Total Quantity for RB10						35.945

CORE A - RB11						
Si. No	Description	Unit	Nos	Area	Depth	Quantity (In volume)
1	RB11-1	cu.m	1	3.64	0.65	2.366
2	RB11-2	cu.m	1	2.16	0.65	1.404
3	RB11-3	cu.m	1	2.03	0.65	1.3195
Total Quantity for RB11						5.0895

CORE A - LB1						
Si. No	Description	Unit	Nos	Area	Depth	Quantity (In volume)
1	LB1	cu.m	1	1.83	0.65	1.1895
Total Quantity for LB1						1.1895

CORE A - LB2						
Si. No	Description	Unit	Nos	Area	Depth	Quantity (In volume)
1	LB2-1	cu.m	1	2	0.65	1.3
2	LB2-2	cu.m	1	2	0.65	1.3
3	LB2-3	cu.m	1	2	0.65	1.3
4	LB2-4	cu.m	1	2	0.65	1.3
5	LB2-5	cu.m	1	1.4	0.65	0.91
6	LB2-6	cu.m	1	1.4	0.65	0.91
Total Quantity for LB2						7.02

Total quantity required for Beam Concrete in Core A						89.5235
---	--	--	--	--	--	---------

CONCRETE QUANTITY - STAIRCASE-1

STEPS

○ Flight - 1 & 2

Length of 1 step = 2.9 m

Width of 1 step = 0.30 m

Thickness = 0.15 m

Volume = $0.87 \times 0.15 = \frac{0.130}{2} = 0.065 \text{ cu.m (volume of 1 step)}$

Total no. of steps in flight 1 = 11

Volume of concrete for 11 steps = $0.065 \times 11 = 0.715 \text{ cu.m}$

Total volume of concrete for flight-1 & 2 = $0.715 + 0.715 = 1.45 \text{ cu.m}$

LANDING

○ Landing -1 & 2

Area = 8.40 sq.m

Thickness = 0.15 m

Volume = $1.26 \text{ cu.m (landing-1)}$

Total volume of concrete for landing 1 & 2 = $1.26 + 1.26 = 3.52 \text{ cu.m}$

MID -LANDING

Area = 17.69 sq.m

Thickness = 0.15 m

Volume of concrete for mid-landing = $17.69 \times 0.15 = 2.65 \text{ cu.m}$

WAIST SLAB

○ Waist slab 1 & 2

Length = 3.45 m

Width = 2.9 m

Thickness = 0.225 m

Volume of 1 waist slab = $3.45 \times 0.225 = 2.25 \text{ cu.m}$

Total volume of concrete for waist slab 1 & 2 = $2.25 + 2.25 = 4.5 \text{ cu.m}$

TOTAL VOLUME OF CONCRETE FOR STAIRCASE - 1 = 11.12 CU.M

CONCRETE QUANTITY - STAIRCASE-2

STEPS

○ Flight – 1 & 3

Area for 1 step = 0.95 sq.m

Thickness = 0.15 m

Volume = $0.95 \times 0.15 = 0.119$ cu.m (volume of 1 step)

Total no. of steps in flight 1 & 3 = 8 (nos)

Volume of concrete for 8 steps = $0.119 \times 8 = 0.95$ cu.m

Total volume of concrete for flight-1 & 3 = $0.95 + 0.95 = 1.45$ cu.m

○ Flight – 2

Area = 0.795 sq.m

Thickness = 0.15 m

Volume = $0.795 \times 0.15 = 0.119$ cu.m (volume of 1 step)

Total no. of steps in flight 2 = 4 (nos)

Volume of concrete for 4 steps = $0.119 \times 4 = 0.476$ cu.m

Total volume of concrete for flight 1, 2 & 3 = $0.95 + 0.476 + 0.95 = 2.376$ cu.m

MID –LANDING

○ Mid landing – 1 & 2

Area = 7 sq.m

Thickness = 0.15 m

Volume = $7 \times 0.15 = 1.05$ cu.m

Total no. Of mid-landing = 2 (nos)

Volume of concrete for mid-landing 1 & 2 = $1.05 \times 2 = 2.1$ cu.m

LANDING

○ Landing - 1

Area = 7.02 sq.m

Thickness = 0.15 m

Volume = $7.02 \times 0.15 = 1.053$ cu.m

○ Landing – 2

Area = 9.67 sq.m

Thickness = 0.15 m

Volume = $9.67 \times 0.15 = 1.45$ cu.m

Total volume of concrete for landing 1 & 2 = $1.053 + 1.45 = 2.503$ cu.m

WAIST SLAB

○ Waist slab – 1 & 3

Length = 2.4 m

Width = 2.65 m

Thickness = 0.225 m

Volume = $2.4 \times 2.65 \times 0.225 = 1.43$ cu.m (waist slab – 1 & 3)

○ Waist slab - 2

Length = 1.68 m

Width = 2.65 m

Thickness = 0.225 m

Volume = $1.68 \times 2.65 \times 0.225 = 1$ cu.m (waist slab – 2)

Total volume of concrete for waist slab 1, 2 & 3 = $1.43 + 1.43 + 1 = 3.76$ cu.m

SCHEDULE FOR BASEMENT

Basement Activities		Classic Schedule Layout				17-Aug-22 12:30		
Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Schedule % Complete	Total Float	Q
								M
1.00 Basement Activities		130	130	23-Jul-22	21-Dec-22	0%	0	
1.00.1 Milestone		4	4	23-Jul-22	27-Jul-22	0%	126	
A1000	LOI Issuance	1	1	23-Jul-22	23-Jul-22	0%	129	
A1010	Completion of core raft	4	4	23-Jul-22	27-Jul-22	0%	126	
A1020	Completion of non-core area	4	4	23-Jul-22	27-Jul-22	0%	126	
1.00.2 Pre Construction Stage		18	18	23-Jul-22	12-Aug-22	0%	0	
A1030	Site handing over date	1	1	23-Jul-22	23-Jul-22	0%	0	
A1040	Site survey, testing and approval	15	15	26-Jul-22	11-Aug-22	0%	0	
A1050	Preparation, submission and approval of drawings	15	15	27-Jul-22	12-Aug-22	0%	0	
A1060	DBR Approval	7	7	29-Jul-22	05-Aug-22	0%	0	
1.00.3 Inputs		15	15	06-Aug-22	23-Aug-22	0%	0	
A1070	Final architectural drawings	1	1	06-Aug-22	06-Aug-22	0%	0	
A1080	Submission of structural drawings	7	7	08-Aug-22	15-Aug-22	0%	0	
A1090	Approval GFC drawings	7	7	16-Aug-22	23-Aug-22	0%	0	
1.00.4 Construction Stage		103	103	24-Aug-22	21-Dec-22	0%	0	
1.00.4.1 Downtown-1 7 2		103	103	24-Aug-22	21-Dec-22	0%	0	
1.00.4.1.1 Zone - A & B		103	103	24-Aug-22	21-Dec-22	0%	0	
1.00.4.1.1.1 Core - A & B		103	103	24-Aug-22	21-Dec-22	0%	0	
A1110	Piling	25	25	24-Aug-22	21-Sep-22	0%	0	
A1120	Excavation	25	25	01-Sep-22	29-Sep-22	0%	0	
A1130	Pile chipping	25	25	05-Sep-22	03-Oct-22	0%	0	
A1140	PCC	22	22	10-Sep-22	05-Oct-22	0%	0	
A1150	Water Proofing - Horizontal	22	22	13-Sep-22	07-Oct-22	0%	0	
1.00.4.1.1.1.1 Raft-Pour 1		34	34	21-Sep-22	29-Oct-22	0%	45	
A1160	Rebar	12	12	21-Sep-22	04-Oct-22	0%	45	
A1170	Shuttering	5	5	05-Oct-22	10-Oct-22	0%	45	
A1180	Base plate fixing	1	1	05-Oct-22	05-Oct-22	0%	49	
A1190	Concrete	5	5	11-Oct-22	15-Oct-22	0%	45	
A1360	Water Proofing - Vertical	5	5	25-Oct-22	29-Oct-22	0%	45	
1.00.4.1.1.1.4 Raft-Pour 2		27	27	17-Oct-22	16-Nov-22	0%	30	
A2730	Rebar	12	12	17-Oct-22	29-Oct-22	0%	0	
A2740	Shuttering	5	5	31-Oct-22	04-Nov-22	0%	0	
A2750	Base plate fixing	1	1	31-Oct-22	31-Oct-22	0%	4	

Actual Level of Effort

Actual Work

Remaining Work

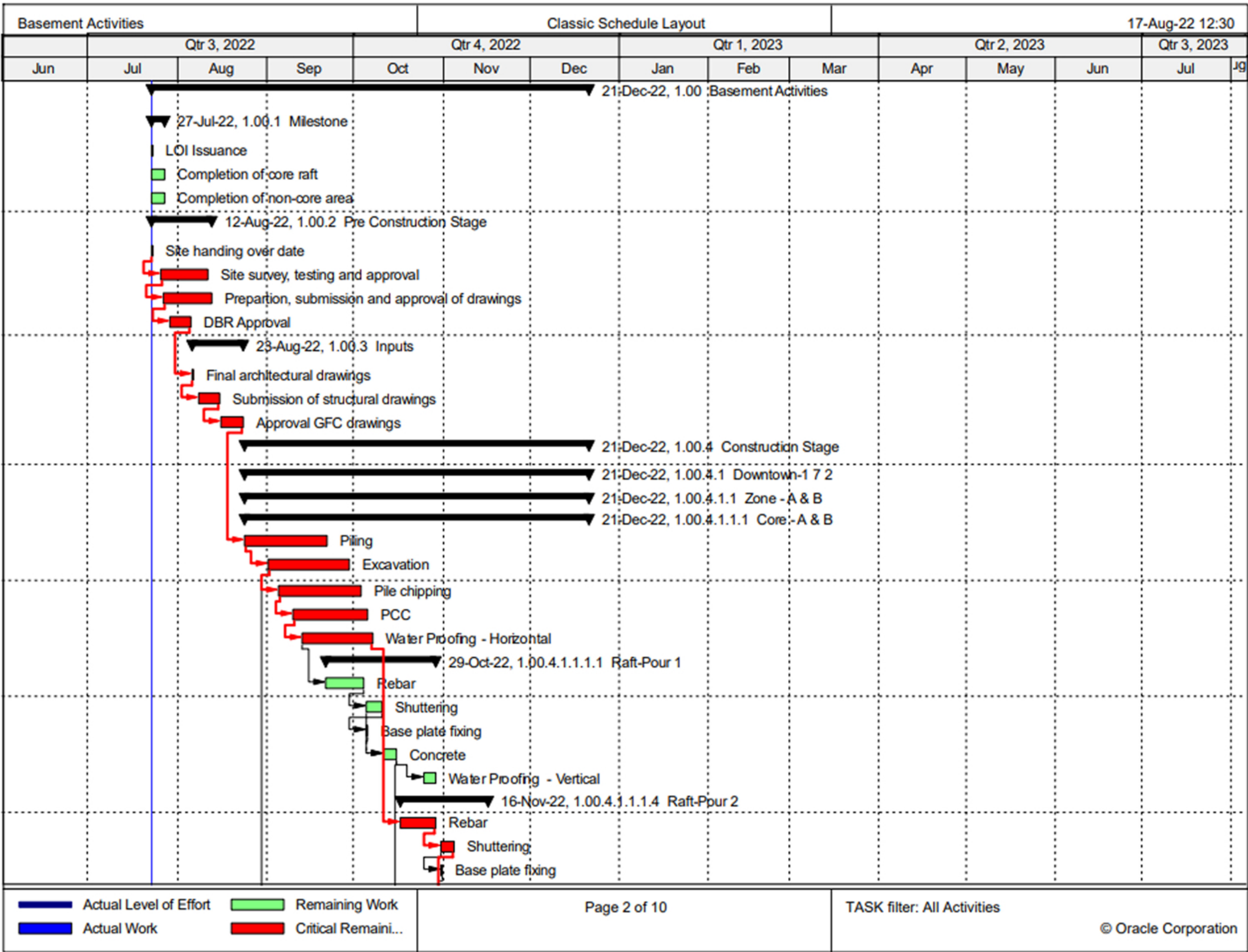
Critical Remaini...

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SCHEDULE FOR BASEMENT



SCHEDULE FOR BASEMENT

Basement Activities		Classic Schedule Layout			17-Aug-22 12:30			
Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Schedule % Complete	Total Float	Q
								M
	■ A2760 Concrete	5	5	05-Nov-22	10-Nov-22	0%	0	
	■ A2770 Water Proofing - Vertical	5	5	11-Nov-22	16-Nov-22	0%	30	
	■ 1.00.4.1.1.2 Core wall - RCC-Pour 1	44	44	21-Oct-22	10-Dec-22	0%	9	
	■ A1200 Rebar - Vertical	12	12	14-Nov-22	26-Nov-22	0%	0	
	■ A1210 Embed plate fixing	1	1	22-Nov-22	22-Nov-22	0%	25	
	■ A1220 Shuttering	10	10	18-Nov-22	29-Nov-22	0%	9	
	■ A1230 Column erection	2	2	21-Oct-22	22-Oct-22	0%	51	
	■ A1240 Beam, slab and staircase - Shuttering	10	10	23-Nov-22	03-Dec-22	0%	9	
	■ A1250 Rebar - Horizontal	7	7	29-Nov-22	06-Dec-22	0%	9	
	■ A1260 Check for MEP	1	1	08-Dec-22	08-Dec-22	0%	9	
	■ A1270 Concrete	2	2	09-Dec-22	10-Dec-22	0%	9	
	■ 1.00.4.1.1.5 Core wall - RCC-Pour 2	31	31	16-Nov-22	21-Dec-22	0%	0	
	■ A2780 Rebar - Vertical	12	12	22-Nov-22	05-Dec-22	0%	0	
	■ A2790 Embed plate fixing	1	1	30-Nov-22	30-Nov-22	0%	18	
	■ A2800 Shuttering	10	10	26-Nov-22	07-Dec-22	0%	0	
	■ A2810 Column erection	2	2	16-Nov-22	17-Nov-22	0%	29	
	■ A2820 Beam, slab and staircase - Shuttering	10	10	01-Dec-22	12-Dec-22	0%	0	
	■ A2830 Rebar - Horizontal	7	7	07-Dec-22	14-Dec-22	0%	0	
	■ A2840 Check for MEP	1	1	15-Dec-22	15-Dec-22	0%	0	
	■ A2850 Concrete	5	5	16-Dec-22	21-Dec-22	0%	0	
	■ 1.00.4.1.1.4 Non core area:Pour - A1	53	53	05-Sep-22	04-Nov-22	0%	40	
	■ A1370 Piling	9	9	05-Sep-22	14-Sep-22	0%	15	
	■ A1380 Excavation	9	9	10-Sep-22	20-Sep-22	0%	15	
	■ A1390 Pile chipping	4	4	21-Sep-22	24-Sep-22	0%	15	
	■ 1.00.4.1.1.4.1 Pile cap	23	23	24-Sep-22	20-Oct-22	0%	43	
	■ A1400 PCC	2	2	24-Sep-22	26-Sep-22	0%	15	
	■ A1410 Water proofing - Horizontal	2	2	26-Sep-22	27-Sep-22	0%	40	
	■ A1420 Rebar	6	6	28-Sep-22	04-Oct-22	0%	40	
	■ A1430 Shuttering	10	10	03-Oct-22	13-Oct-22	0%	40	
	■ A1440 Base plate fixing	1	1	04-Oct-22	04-Oct-22	0%	40	
	■ A1450 Concrete	5	5	07-Oct-22	12-Oct-22	0%	40	
	■ A1460 Water proofing - Vertical	4	4	13-Oct-22	17-Oct-22	0%	43	
	■ A1470 Backfilling	3	3	18-Oct-22	20-Oct-22	0%	43	
	■ 1.00.4.1.1.4.2 Grade beam and slab	12	12	19-Oct-22	01-Nov-22	0%	43	

■ Actual Level of Effort

■ Actual Work

■ Remaining Work

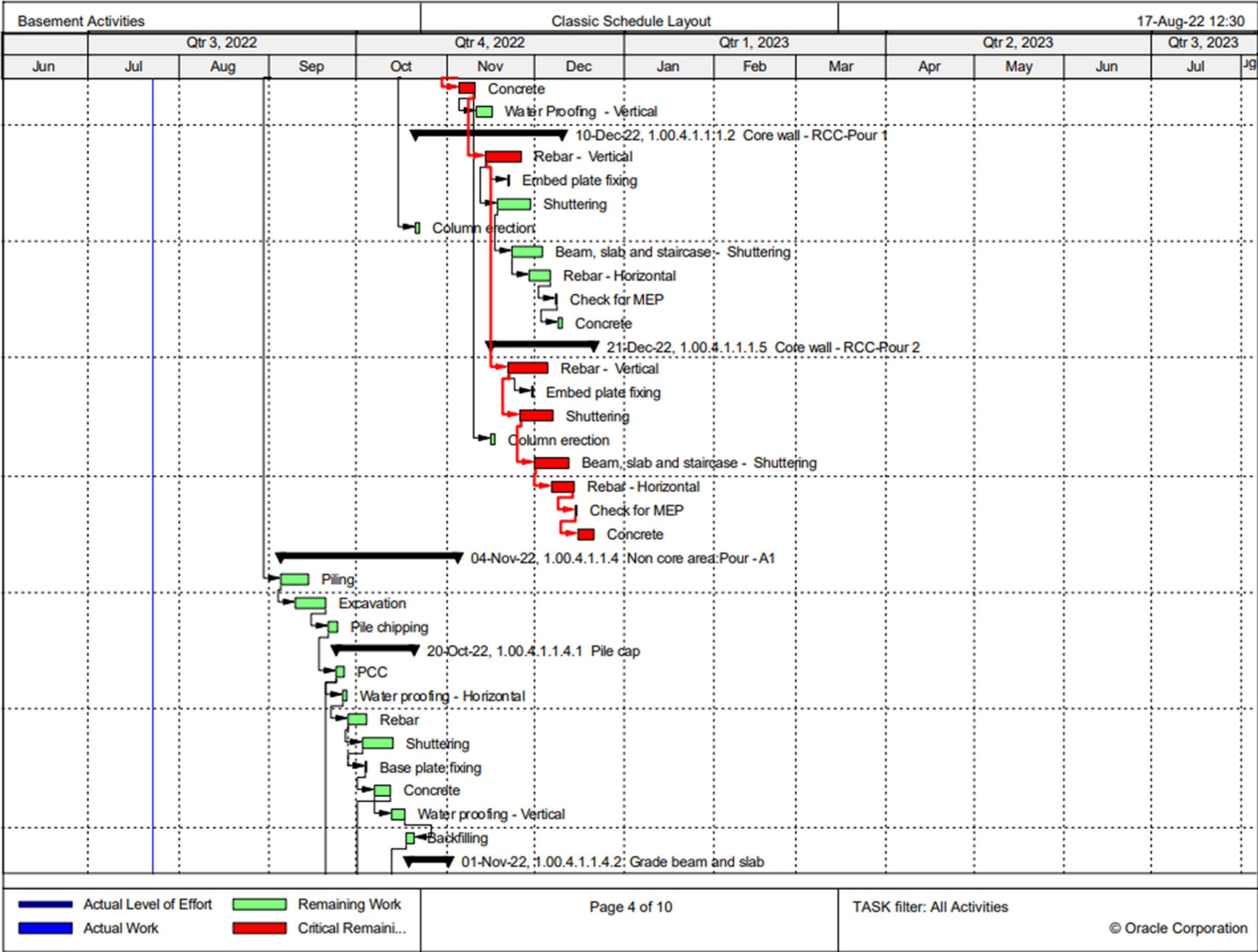
■ Critical Remaini...

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SCHEDULE FOR BASEMENT



SCHEDULE FOR BASEMENT

Basement Activities		Classic Schedule Layout			17-Aug-22 12:30			
Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Schedule % Complete	Total Float	Q
								M
A1480	PCC	7	7	19-Oct-22	26-Oct-22	0%	43	
A1490	Water proofing - Horizontal	7	7	21-Oct-22	28-Oct-22	0%	43	
A1500	Rebar	7	7	22-Oct-22	29-Oct-22	0%	43	
A1510	Shuttering	5	5	26-Oct-22	31-Oct-22	0%	43	
A1520	Concrete	4	4	28-Oct-22	01-Nov-22	0%	43	
1.00.4.1.1.4.3 Column and beam		25	25	07-Oct-22	04-Nov-22	0%	40	
A1280	Fabrication	2	2	07-Oct-22	08-Oct-22	0%	40	
A1290	Column and beam erection	10	10	12-Oct-22	22-Oct-22	0%	40	
A1300	Rebar	10	10	13-Oct-22	24-Oct-22	0%	44	
A1310	Shuttering	10	10	17-Oct-22	27-Oct-22	0%	44	
A1320	Decksheet laying	10	10	18-Oct-22	28-Oct-22	0%	40	
A1330	Column concrete	10	10	20-Oct-22	31-Oct-22	0%	44	
A1340	Deck slab rebar	10	10	21-Oct-22	01-Nov-22	0%	40	
A1350	Deck slab concrete	3	3	02-Nov-22	04-Nov-22	0%	40	
1.00.4.1.1.3 Non core area:Pour - A2		33	33	26-Sep-22	02-Nov-22	0%	42	
1.00.4.1.1.3.1 Pile cap		25	25	26-Sep-22	24-Oct-22	0%	42	
A1530	PCC	2	2	26-Sep-22	27-Sep-22	0%	15	
A1540	Water proofing - Horizontal	2	2	29-Sep-22	30-Sep-22	0%	42	
A1550	Rebar	6	6	01-Oct-22	07-Oct-22	0%	42	
A1560	Shuttering	10	10	06-Oct-22	17-Oct-22	0%	42	
A1570	Base plate fixing	1	1	07-Oct-22	07-Oct-22	0%	42	
A1580	Concrete	5	5	11-Oct-22	15-Oct-22	0%	42	
A1590	Water proofing - Vertical	4	4	17-Oct-22	20-Oct-22	0%	42	
A1600	Backfilling	3	3	20-Oct-22	24-Oct-22	0%	42	
1.00.4.1.1.3.2 Grade beam and slab		10	10	21-Oct-22	02-Nov-22	0%	42	
A1610	PCC	7	7	21-Oct-22	29-Oct-22	0%	42	
A1620	Water proofing - Horizontal	7	7	24-Oct-22	01-Nov-22	0%	42	
A1630	Rebar	7	7	25-Oct-22	02-Nov-22	0%	42	
A1640	Shuttering	5	5	27-Oct-22	02-Nov-22	0%	42	
A1650	Concrete	4	4	28-Oct-22	02-Nov-22	0%	43	
1.00.4.1.1.3.3 Column and beam		20	20	11-Oct-22	02-Nov-22	0%	42	
A2860	Fabrication	2	2	11-Oct-22	12-Oct-22	0%	45	
A2870	Column and beam erection	10	10	11-Oct-22	21-Oct-22	0%	45	
A2880	Rebar	10	10	12-Oct-22	22-Oct-22	0%	45	

Actual Level of Effort

Actual Work

Remaining Work

Critical Remaini...

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TASK filter: All Activities

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SCHEDULE FOR BASEMENT

Basement Activities		Classic Schedule Layout			17-Aug-22 12:30			
Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Schedule % Complete	Total Float	Q
								M
A2890	Shuttering	10	10	15-Oct-22	26-Oct-22	0%	45	
A2900	Decksheet laying	10	10	14-Oct-22	25-Oct-22	0%	46	
A2910	Column concrete	10	10	19-Oct-22	29-Oct-22	0%	45	
A2920	Deck slab rebar	10	10	18-Oct-22	28-Oct-22	0%	46	
A2930	Deck slab concrete	3	3	31-Oct-22	02-Nov-22	0%	42	
1.00.4.1.1.2 Non core area :Pour - A3		34	34	27-Sep-22	05-Nov-22	0%	40	
1.00.4.1.1.2.1 Pile cap		25	25	27-Sep-22	25-Oct-22	0%	15	
A1660	PCC	2	2	27-Sep-22	28-Sep-22	0%	15	
A1670	Water proofing - Horizontal	2	2	30-Sep-22	01-Oct-22	0%	15	
A1680	Rebar	6	6	03-Oct-22	08-Oct-22	0%	15	
A1690	Shuttering	10	10	07-Oct-22	18-Oct-22	0%	15	
A1700	Base plate fixing	1	1	08-Oct-22	08-Oct-22	0%	15	
A1710	Concrete	5	5	12-Oct-22	17-Oct-22	0%	15	
A1720	Water proofing - Vertical	4	4	18-Oct-22	21-Oct-22	0%	15	
A1730	Backfilling	3	3	21-Oct-22	25-Oct-22	0%	15	
1.00.4.1.1.2.2 Grade beam and slab		12	12	22-Oct-22	05-Nov-22	0%	40	
A1740	PCC	7	7	22-Oct-22	31-Oct-22	0%	15	
A1750	Water proofing - Horizontal	7	7	25-Oct-22	02-Nov-22	0%	40	
A1760	Rebar	7	7	27-Oct-22	04-Nov-22	0%	40	
A1770	Shuttering	5	5	29-Oct-22	04-Nov-22	0%	40	
A1780	Concrete	4	4	01-Nov-22	05-Nov-22	0%	40	
1.00.4.1.1.2.3 Column and beam		19	19	12-Oct-22	02-Nov-22	0%	42	
A2940	Fabrication	4	4	12-Oct-22	15-Oct-22	0%	42	
A2950	Column and beam erection	10	10	12-Oct-22	22-Oct-22	0%	42	
A2960	Rebar	10	10	13-Oct-22	24-Oct-22	0%	44	
A2970	Shuttering	10	10	17-Oct-22	27-Oct-22	0%	44	
A2980	Decksheet laying	10	10	15-Oct-22	26-Oct-22	0%	42	
A2990	Column concrete	10	10	20-Oct-22	31-Oct-22	0%	44	
A3000	Deck slab rebar	10	10	19-Oct-22	29-Oct-22	0%	42	
A3010	Deck slab concrete	3	3	31-Oct-22	02-Nov-22	0%	42	
1.00.4.1.1.5 Non core area:Pour - A4		36	36	24-Oct-22	05-Dec-22	0%	15	
1.00.4.1.1.5.1 Pile cap		25	25	24-Oct-22	22-Nov-22	0%	15	
A1790	PCC	2	2	24-Oct-22	26-Oct-22	0%	15	
A1800	Water proofing - Horizontal	2	2	27-Oct-22	29-Oct-22	0%	15	

Actual Level of Effort

Actual Work

Remaining Work

Critical Remaini...

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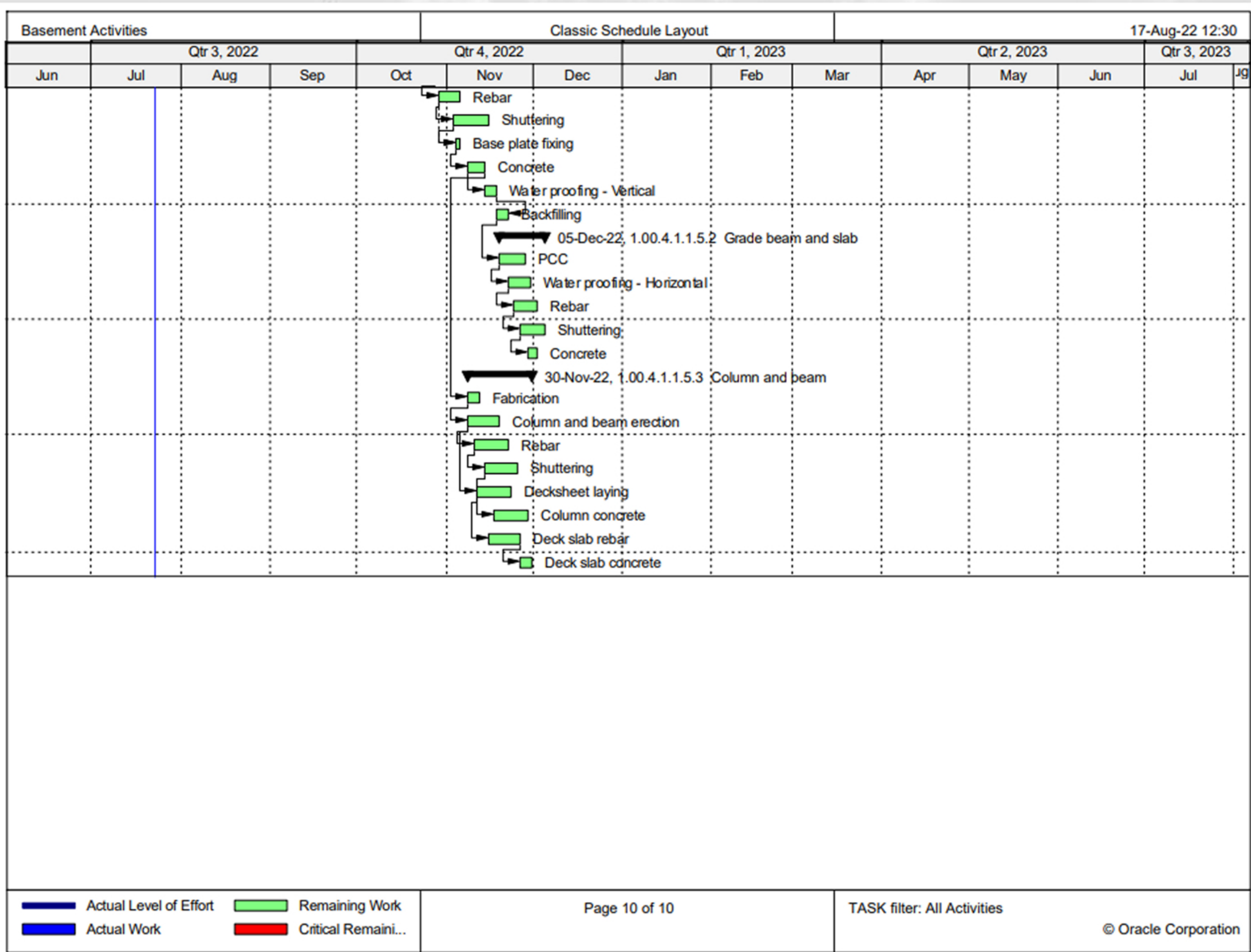
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SCHEDULE FOR BASEMENT

Basement Activities		Classic Schedule Layout				17-Aug-22 12:30			
Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Schedule % Complete	Total Float	Q	
								M	
	 A1810	Rebar	6	6	29-Oct-22	05-Nov-22	0%	15	
	 A1820	Shuttering	10	10	03-Nov-22	15-Nov-22	0%	15	
	 A1830	Base plate fixing	1	1	04-Nov-22	05-Nov-22	0%	15	
	 A1840	Concrete	5	5	08-Nov-22	14-Nov-22	0%	15	
	 A1850	Water proofing - Vertical	4	4	14-Nov-22	18-Nov-22	0%	15	
	 A1860	Backfilling	3	3	18-Nov-22	22-Nov-22	0%	15	
	 1.00.4.1.1.5.2	Grade beam and slab	13	13	19-Nov-22	05-Dec-22	0%	15	
	 A1870	PCC	7	7	19-Nov-22	28-Nov-22	0%	15	
	 A1880	Water proofing - Horizontal	7	7	22-Nov-22	30-Nov-22	0%	15	
	 A1890	Rebar	7	7	24-Nov-22	02-Dec-22	0%	15	
	 A1900	Shuttering	7	7	26-Nov-22	05-Dec-22	0%	15	
	 A1910	Concrete	4	4	29-Nov-22	02-Dec-22	0%	16	
	 1.00.4.1.1.5.3	Column and beam	19	19	08-Nov-22	30-Nov-22	0%	18	
	 A3020	Fabrication	4	4	08-Nov-22	12-Nov-22	0%	18	
	 A3030	Column and beam erection	10	10	08-Nov-22	19-Nov-22	0%	18	
	 A3040	Rebar	10	10	10-Nov-22	22-Nov-22	0%	19	
	 A3050	Shuttering	10	10	14-Nov-22	25-Nov-22	0%	19	
	 A3060	Decksheet laying	10	10	11-Nov-22	23-Nov-22	0%	18	
	 A3070	Column concrete	10	10	17-Nov-22	29-Nov-22	0%	19	
	 A3080	Deck slab rebar	10	10	15-Nov-22	26-Nov-22	0%	18	
	 A3090	Deck slab concrete	3	3	26-Nov-22	30-Nov-22	0%	18	

SCHEDULE FOR BASEMENT



CONSTRUCTION TECHNIQUES

MIVAN TECHNOLOGY



- This innovative form of work is actually suitable for constructing houses in large quantities at a faster speed.
- The speed of construction needs to be given greater importance, especially for large housing projects or township project.
- In order to respond to these unusual challenges in terms of time, cost and quality, the real estate industry has come up with a smart method of construction known as the "MIVAN formwork system".
- There are a number of buildings in Mumbai that are being constructed with the help of the Mivan technology, which has been declared economical as well as satisfying for the overall Indian real estate market.



- The wall reinforcing steel is used to give a structure to the building and support the concrete until they gain half of the required strength.
- The aluminium formworks are cast around the steel mesh, which is factory made and directly erected on the construction site.
- Along the wall reinforcing steel, prefabricated room sized walls and floor slabs are erected.
- These aluminium alloy slabs are accurately made and are easy to handle. Spaces for windows, ducts, doors and other features such as staircases, façade panels and chajjas are also integrated in these structures. The forms are joint together using the pin and wedge system, which can be dismantled quickly after the concrete structure is made.

EMBED PLATE

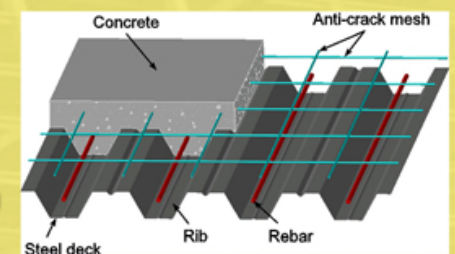


- Embedplates are metal components which are essentially set-in foundation elements such as concrete floors, piers, etc.
- They provide an attachment point for welding support components in position or for the addition of sliding plate elements to permit movement along the surface of the embed plates.
- An embed plate is cast in the concrete during the pour phase and then a coupling nut or threaded rod is welded to the plate later.
- It is the placement of the coupler or threaded rod that gives some flexibility because it can be welded to any location on the surface of the embed plate.
- Angle Embeds are pre-fabricated steel plates with lugs that are cast into the panel to attach it to the footing, other panels, roof system, or building accessories after the shell is completed.

DECK SLAB



- A slab deck is one where the deck is analyzed as a plate.
- If the slab has a stiffness that is different in two directions (at right angles), then the deck is known and analyzed as an orthotropic deck.
- Slabs made with steel decking have high structural strength compared to traditional concrete slabs.
- This creates a high strength-to-weight ratio which allows for a massive weight reduction.
- Concrete slabs are widely-used in construction to provide flat surfaces when building floors, roofs, or other structures.
- But not all slabs are the same, and there are sixteen main types of slabs that are frequently used to build a concrete deck.
- The specifications require that the minimum thickness of a concrete deck, excluding any provisions for grinding, grooving and sacrificial surface, should not be less than 7 in.

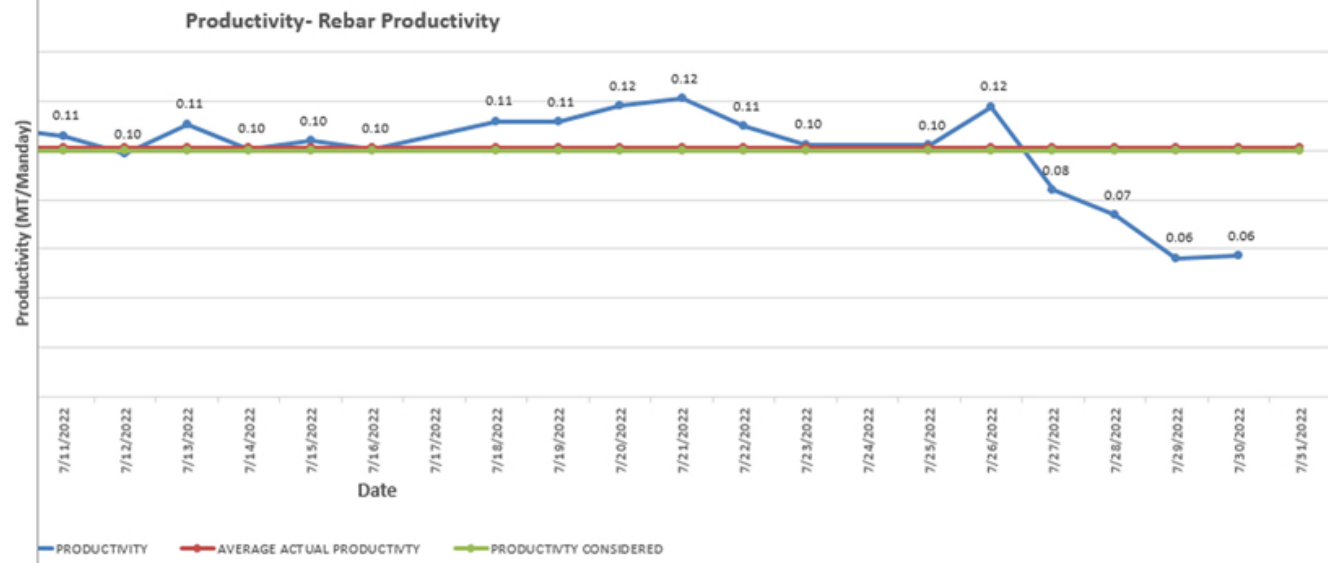


PRODUCTIVITY

REBAR PRODUCTIVITY

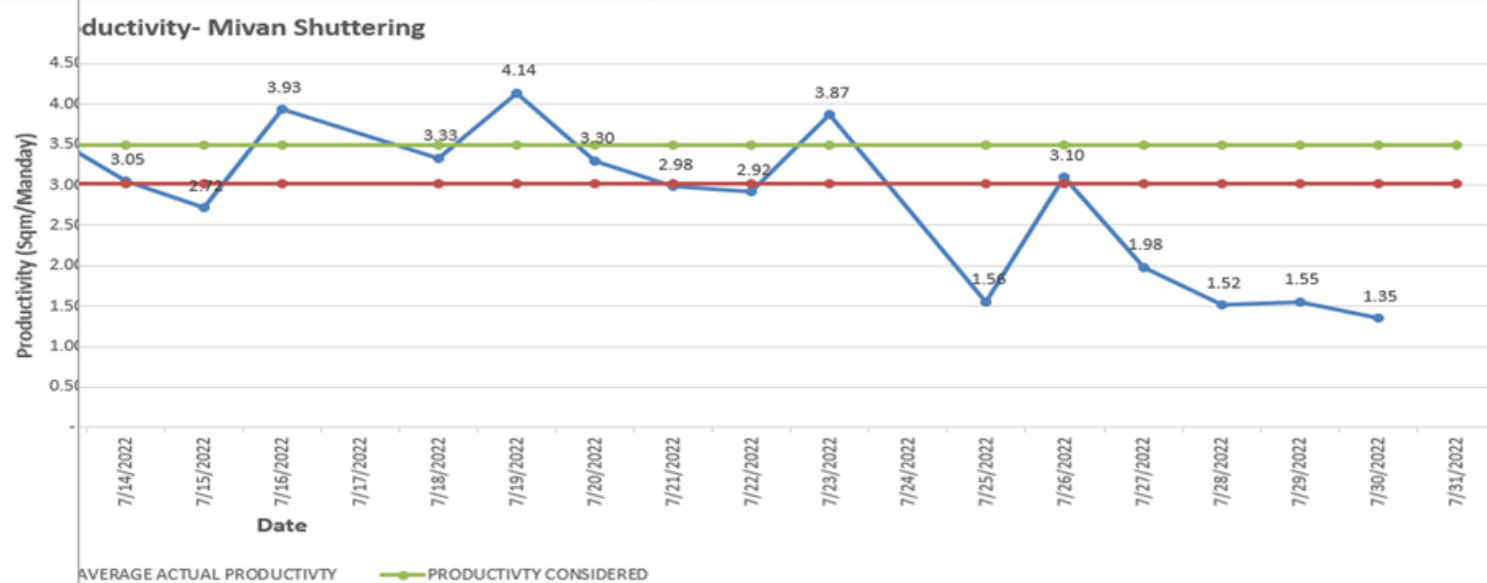
	Productivity- Rebar Productivity																					
Date	7/11/2022	7/12/2022	7/13/2022	7/14/2022	7/15/2022	7/16/2022	7/17/2022	7/18/2022	7/19/2022	7/20/2022	7/21/2022	7/22/2022	7/23/2022	7/24/2022	7/25/2022	7/26/2022	7/27/2022	7/28/2022	7/29/2022	7/30/2022	7/31/2022	Total
REBAR QTY	10.05	9.06	11.05	10.05	10.05	10.36		10.05	10.02	11.80	11.60	10.10	8.90		9.30	12.00	10.40	9.38	6.98	7.00		267.70
LABOURS ENGAGED	95.00	92.00	100.00	100.00	97.00	103.00		90.00	90.00	100.00	96.00	92.00	87.00		91.00	102.00	124.00	127.00	124.00	122.00		2,647.00
PRODUCTIVITY	0.11	0.10	0.11	0.10	0.10	0.10		0.11	0.11	0.12	0.12	0.11	0.10		0.10	0.12	0.08	0.07	0.06	0.06		0.10
AVERAGE ACTUAL PRODUCTIVITY	0.10	0.10	0.10	0.10	0.10	0.10		0.10	0.10	0.10	0.10	0.10	0.10		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
PRODUCTIVITY CONSIDERED	0.10	0.10	0.10	0.10	0.10	0.10		0.10	0.10	0.10	0.10	0.10	0.10		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Note : Shuttering Making																						

Note : Shuttering Making



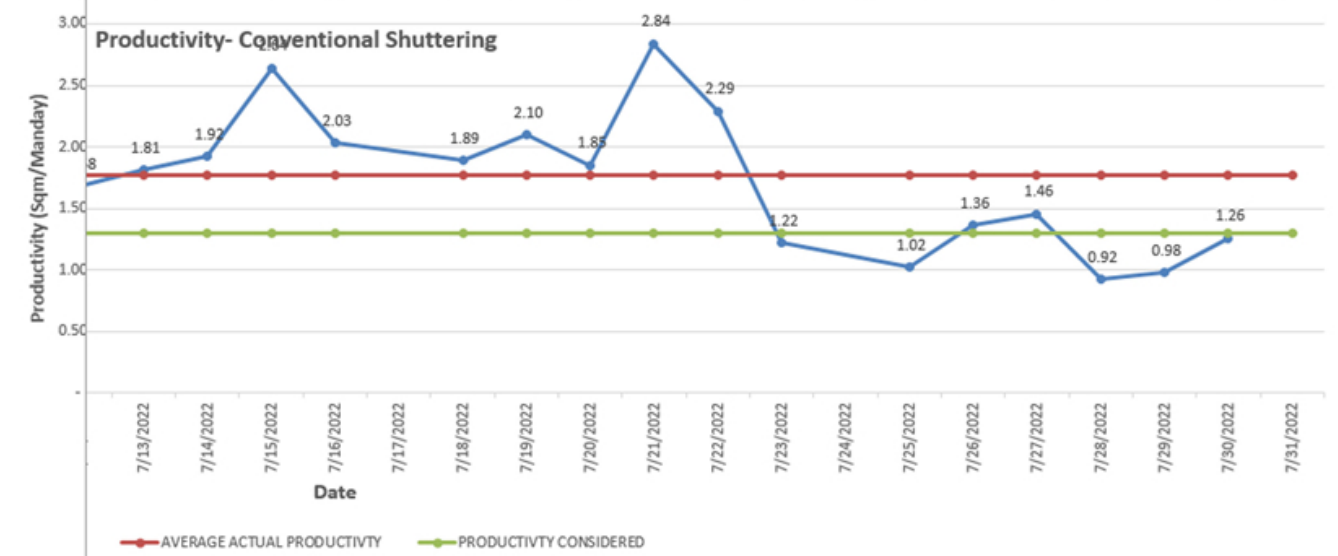
MIVAN PRODUCTIVITY

Date	Productivity- Mivan Shuttering																			Total
	7/13/2022	7/14/2022	7/15/2022	7/16/2022	7/17/2022	7/18/2022	7/19/2022	7/20/2022	7/21/2022	7/22/2022	7/23/2022	7/24/2022	7/25/2022	7/26/2022	7/27/2022	7/28/2022	7/29/2022	7/30/2022	7/31/2022	
SHUTTERING QTY	185.00	195.00	163.00	236.00		190.00	240.00	165.00	155.00	140.00	205.00		120.00	195.00	115.00	100.00	115.00	100.00		4660.00
LABOURS ENGAGED	51.00	64.00	60.00	60.00		57.00	58.00	50.00	52.00	48.00	53.00		77.00	63.00	58.00	66.00	74.00	74.00		1,546.00
PRODUCTIVITY	3.63	3.05	2.72	3.93		3.33	4.14	3.30	2.98	2.92	3.87		1.56	3.10	1.98	1.52	1.55	1.35		3.01
AVERAGE ACTUAL PRODUCTIVITY	3.01	3.01	3.01	3.01		3.01	3.01	3.01	3.01	3.01	3.01		3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01
PRODUCTIVITY CONSIDERED	3.50	3.50	3.50	3.50		3.50	3.50	3.50	3.50	3.50	3.50		3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50



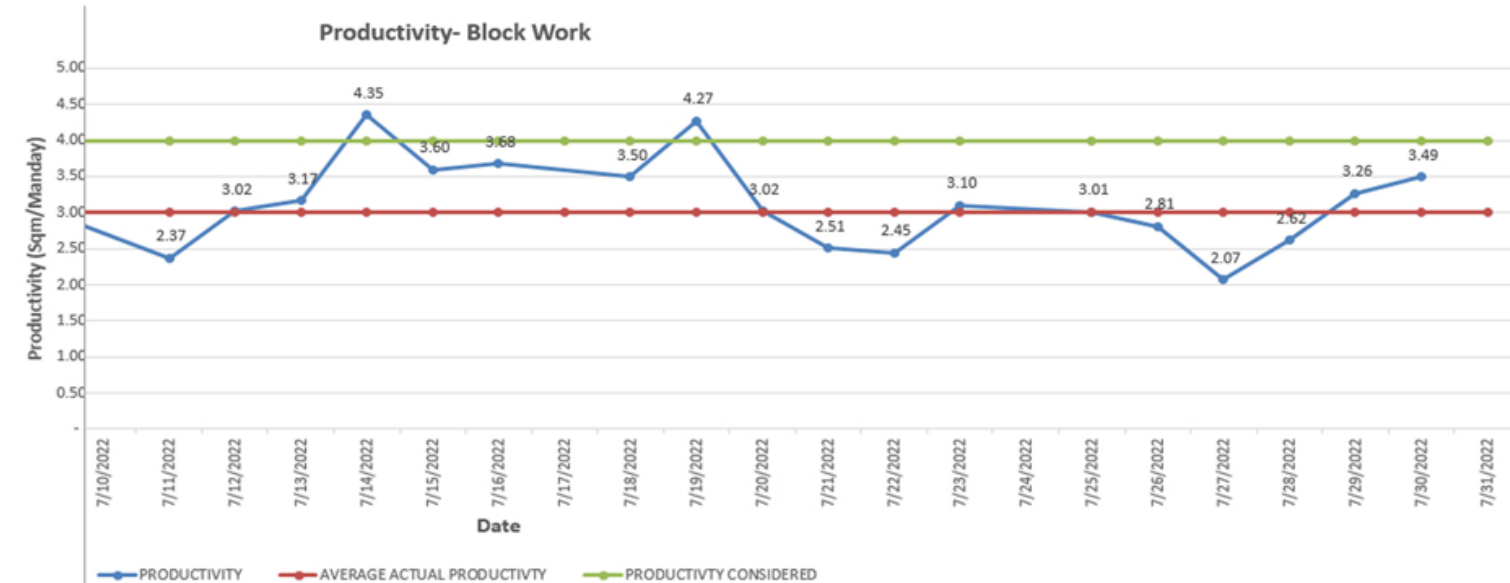
SHUTTERING PRODUCTIVITY

	Productivity- Conventional Shuttering																				
Date	7/12/2022	7/13/2022	7/14/2022	7/15/2022	7/16/2022	7/17/2022	7/18/2022	7/19/2022	7/20/2022	7/21/2022	7/22/2022	7/23/2022	7/24/2022	7/25/2022	7/26/2022	7/27/2022	7/28/2022	7/29/2022	7/30/2022	7/31/2022	Total
SHUTTERING QTY	172.9	184.5	172.8	258.9	215.1		185.1	234.9	214.7	337.8	322.8	177.9		135.9	175.9	197.9	135.9	140.9	185.9		5,166.67
LABOURS ENGAGED	103	102	90	98	106		98	112	116	119	141	146		133	129	136	147	144	148		2,918.00
PRODUCTIVITY	1.68	1.81	1.92	2.64	2.03		1.89	2.10	1.85	2.84	2.29	1.22		1.02	1.36	1.46	0.92	0.98	1.26		1.77
AVERAGE ACTUAL PRODUCTIVITY	1.77	1.77	1.77	1.77	1.77		1.77	1.77	1.77	1.77	1.77	1.77		1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.77
PRODUCTIVITY CONSIDERED	1.30	1.30	1.30	1.30	1.30		1.30	1.30	1.30	1.30	1.30	1.30		1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30



BLOCK WORK PRODUCTIVITY

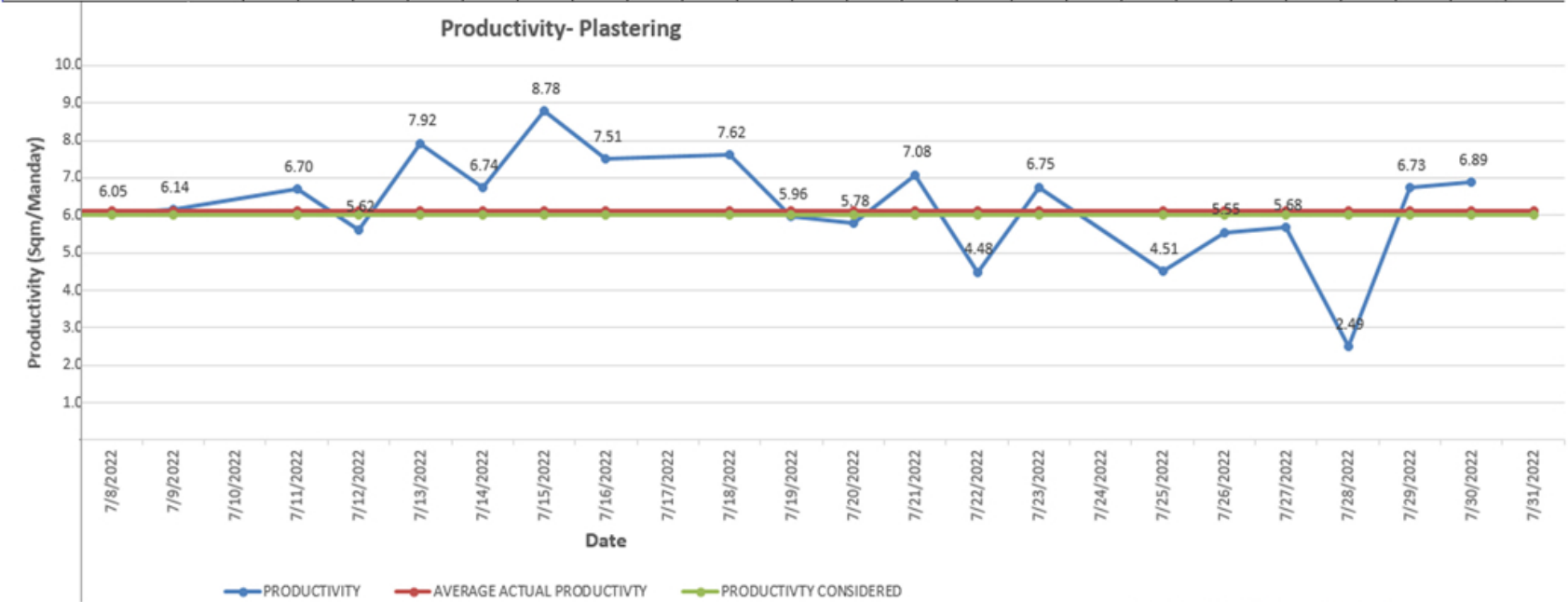
	Productivity- Blockwork																						
Date	7/10/2022	7/11/2022	7/12/2022	7/13/2022	7/14/2022	7/15/2022	7/16/2022	7/17/2022	7/18/2022	7/19/2022	7/20/2022	7/21/2022	7/22/2022	7/23/2022	7/24/2022	7/25/2022	7/26/2022	7/27/2022	7/28/2022	7/29/2022	7/30/2022	7/31/2022	Total
BLOCKWORK		237.41	302.22	319.95	430.94	359.60	371.65		353.28	512.67	370.87	308.76	298.39	381.50		369.80	345.45	279.65	356.28	456.87	489.10		8561.43
(MASONS + HELPERS)		100.00	100.00	101.00	99.00	100.00	101.00		101.00	120.00	123.00	123.00	122.00	123.00		123.00	123.00	135.00	136.00	140.00	140.00		2,846.00
PRODUCTIVITY		2.37	3.02	3.17	4.35	3.60	3.68		3.50	4.27	3.02	2.51	2.45	3.10		3.01	2.81	2.07	2.62	3.26	3.49		3.01
AVERAGE ACTUAL PRODUCTIVITY		3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01		3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01
PRODUCTIVITY CONSIDERED		4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00		4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00



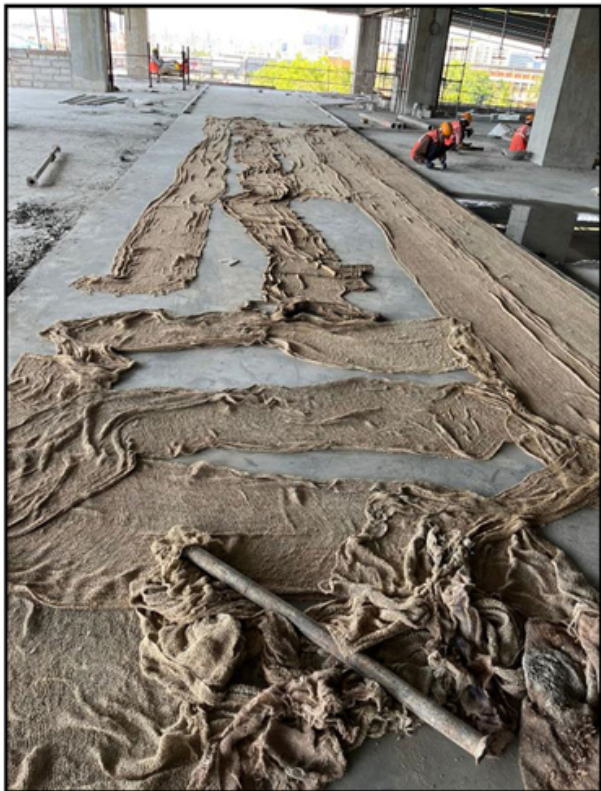
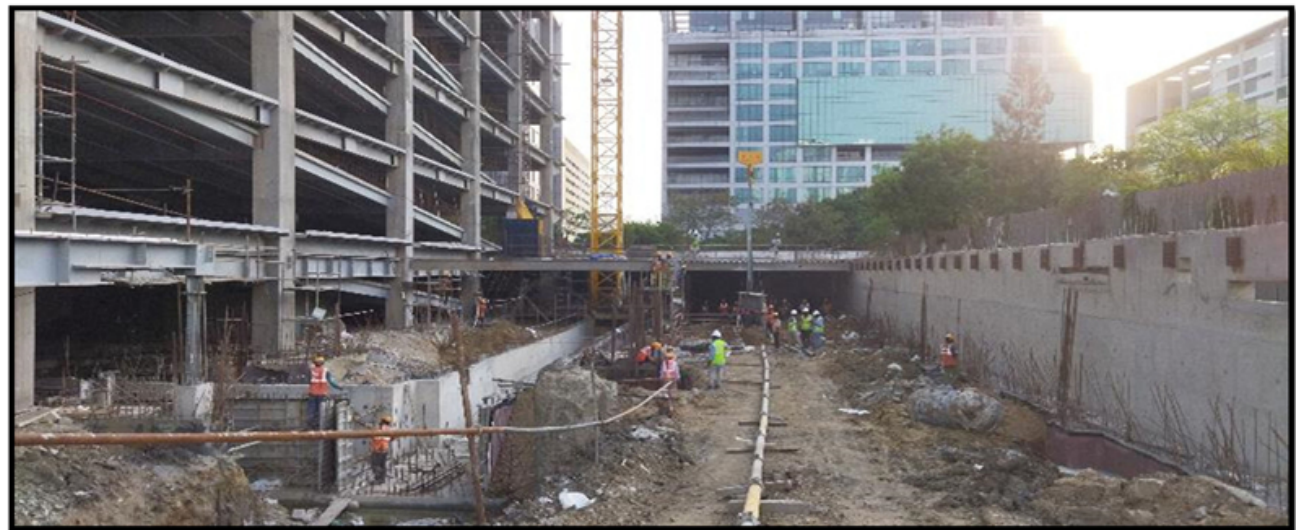
PRODUCTIVITY

REBAR PRODUCTIVITY

	Productivity- Plastering																								
Date	7/8/2022	7/9/2022	7/10/2022	7/11/2022	7/12/2022	7/13/2022	7/14/2022	7/15/2022	7/16/2022	7/17/2022	7/18/2022	7/19/2022	7/20/2022	7/21/2022	7/22/2022	7/23/2022	7/24/2022	7/25/2022	7/26/2022	7/27/2022	7/28/2022	7/29/2022	7/30/2022	7/31/2022	Total
BLOCKWORK	296.28	270.23		294.82	247.16	396.00	336.80	395.14	345.36		350.40	286.24	346.50	432.01	273.44	418.75		279.42	349.76	426.06	189.08	518.10	530.30		8709.23
(MASONS + HELPERS)	49.00	44.00		44.00	44.00	50.00	50.00	45.00	46.00		46.00	48.00	60.00	61.00	61.00	62.00		62.00	63.00	75.00	76.00	77.00	77.00		1,422.00
PRODUCTIVITY	6.05	6.14		6.70	5.62	7.92	6.74	8.78	7.51		7.62	5.96	5.78	7.08	4.48	6.75		4.51	5.55	5.68	2.49	6.73	6.89		6.12
AVERAGE ACTUAL PRODUCTIVITY	6.12	6.12		6.12	6.12	6.12	6.12	6.12	6.12		6.12	6.12	6.12	6.12	6.12	6.12		6.12	6.12	6.12	6.12	6.12	6.12	6.12	6.12
PRODUCTIVITY CONSIDERED	6.00	6.00		6.00	6.00	6.00	6.00	6.00	6.00		6.00	6.00	6.00	6.00	6.00	6.00		6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00



PROGRESS PHOTOS



PILE TRACKER

SECANT PILE TRACKER - STP

SECANT PILE TRACKER-STP							
Sl.No	Casting Date	Pile No		Dia of Pile	Concrete (Cum)	Grade	Remarks
		PCC	RCC				
120	7/1/2022		55	600	20	M30	
121	7/1/2022		393				
122	7/1/2022		399				
123	7/1/2022		403				
124	7/1/2022		69				
125	7/1/2022		5				
126	7/2/2022		95	600	20	M30	
127	7/2/2022		99	600		M30	
128	7/2/2022		105	600		M30	
129	7/2/2022		109	600		M30	
130	7/2/2022		113	600		M30	
131	7/2/2022		117	600		M30	
132	7/4/2022		83	600	17	M30	
133	7/4/2022		87	600		M30	
134	7/4/2022		91	600		M30	
135	7/4/2022		395	600		M30	
136	7/5/2022		71	600		M30	
137	7/5/2022		75	600	8	M30	
138	7/5/2022		79	600		M30	
139	7/6/2022		439	600	7	M30	
140	7/6/2022		443	600		M30	
141	7/7/2022		85	600	22	M31	
142	7/7/2022		89	600		M32	
143	7/7/2022		73	600		M33	
144	7/7/2022		77	600		M34	
145	7/7/2022		435	600		M35	
146	7/9/2022		81	600	20	M30	
147	7/9/2022		49	600		M30	
148	7/9/2022		43	600		M30	
149	7/9/2022		41	600		M30	
150	7/9/2022		6	600		M30	
151	7/9/2022		7	600		M30	
152	7/11/2022		39	600	11	M30	
153	7/11/2022		43	600		M30	
154	7/11/2022		47	600		M30	
155	7/12/2022		429	600	8.5	M30	
156	7/12/2022		433	600		M30	
157	7/13/2022		25	600	10.5	M30	
158	7/13/2022		29	600		M30	
159	7/13/2022		37	600		M30	
160	7/14/2022		21	600	10.5	M30	
161	7/14/2022		17	600		M30	
162	7/14/2022		13	600		M30	
163	7/15/2022		35	600	14	M30	
164	7/15/2022		427	600		M30	
165	7/15/2022		431	600		M30	
166	7/15/2022		437	600		M30	
167	7/16/2022		455	600	7	M30	
168	7/16/2022		459	600		M30	
169	7/18/2022		19	600	6	M30	
170	7/18/2022		27	600		M30	
171	7/18/2022		33	600		M30	
172	7/19/2022		407	600		M30	
173	7/19/2022		413	600		M30	
174	7/20/2022		457	600	14	M30	
175	7/20/2022		31	600		M30	
176	7/20/2022		23	600		M30	
177	7/20/2022		15	600		M30	
178	7/21/2022		445	600	7	M30	
179	7/21/2022		461	600		M30	
180	7/22/2022		5	600	7	M30	

181	7/22/2022		11	600	11	M30	
182	7/23/2022		417	600			
183	7/23/2022		423	600			
184	7/23/2022		441	600			
185	7/25/2022		425	600			
186	7/25/2022		415	600	14	M30	
187	7/25/2022		9	600			
188	7/25/2022		3	600			
189	7/27/2022		449	600			
190	7/27/2022		453	600			
191	7/27/2022		463	600	14	M30	
192	7/27/2022		419	600			
193	7/27/2022		7	600			
194	7/28/2022		451	600			
195	7/28/2022		421	600	12.5	M30	
196	7/28/2022		1	600			

	61	135	577.5
	Total	Completed	Balance
RCC	232	232	0
PCC	232	232	0
	464	464	0

SECANT PILE TRACKER - WTP

SECANT PILE TRACKER-WTP							
Sl.No	Casting Date	Pile No		Dia of Pile	Concrete (Cum)	Grade	Remarks
		PCC	RCC				
106	7/4/2022		113	600	14	M30	
107	7/4/2022		109	600		M30	
108	7/4/2022		105	600		M30	
109	7/4/2022		101	600		M30	
110	7/5/2022		89	600	6.5	M30	
111	7/5/2022		93	600		M30	
112	7/6/2022		117	600		M30	
113	7/6/2022		111	600		M30	
114	7/6/2022		85	600	14	M30	
115	7/6/2022		107	600		M30	
116	7/7/2022		91	600		M30	
117	7/7/2022		92	600		M30	
118	7/7/2022		95	600	10.5	M30	
119	7/12/2022		75	600		M30	
120	7/12/2022		79	600		M30	
121	7/12/2022		332	600		M30	
122	7/12/2022		336	600	14	M30	
123	7/13/2022		314	600		M30	
124	7/13/2022		318	600		M30	
125	7/13/2022		322	600		M30	
126	7/14/2022		213	600	10.5	M30	
127	7/14/2022		219	600		M30	
128	7/14/2022		225	600		M30	
129	7/14/2022		231	600		M30	
130	7/15/2022		197	600	15	M30	
131	7/15/2022		201	600		M30	
132	7/15/2022		239	600		M30	
133	7/16/2022		211	600		M30	
134	7/16/2022		221	600	14	M30	
135	7/16/2022		227	600		M30	

136	7/16/2022		233	600	14	M30
137	7/18/2022		199	600		M30
138	7/18/2022		207	600		M30
139	7/18/2022		203	600		M30
140	7/18/2022		215	600		M30
141	7/20/2022		217	600	30	M30
142	7/20/2022		223	600		M30
143	7/20/2022		229	600		M30
144	7/20/2022		235	600		M30
145	7/20/2022		57	600		M30
146	7/20/2022		97	600		M30
147	7/20/2022		103	600		M30
148	7/20/2022		250	600		M30
149	7/20/2022		254	600		M30
150	7/20/2022		258	600	M30	
151	7/21/2022	270		600	12	M10
152	7/21/2022	262		600		M10
153	7/21/2022	266		600		M10
154	7/21/2022	32		600		M10
155	7/21/2022	36		600		M10
156	7/21/2022	50		600	M10	
157	7/22/2022		191	600	10.5	M30
158	7/22/2022		237	600		M30
159	7/22/2022		53	600		M30
160	7/22/2022	168		600	16.5	M10
161	7/22/2022	272		600		M10
162	7/22/2022	301		600		M10
163	7/22/2022	305		600		M10
164	7/22/2022	309		600		M10
165	7/22/2022	30		600		M10
166	7/22/2022	34		600		M10
167	7/22/2022	38		600		M10
168	7/22/2022	276		600		M10
169	7/23/2022	303		600	9	M10
170	7/23/2022	307		600		M10
171	7/23/2022	40		600		M10
172	7/23/2022	28		600		M10
173	7/23/2022	24		600		M10
174	7/23/2022	20		600	M10	
175	7/25/2022	44		600	M10	
176	7/25/2022	48		600	M10	
177	7/25/2022	278		600	M10	
178	7/25/2022	274		600	16.5	M10
179	7/25/2022	2		600		M10
180	7/25/2022	6		600		M10
181	7/25/2022	10		600		M10
182	7/25/2022	18		600		M10
183	7/25/2022	22		600		M10
184	7/25/2022	26		600	M10	
185	7/25/2022		33	600	7	M30
186	7/25/2022		29	600		M30
187	7/26/2022	46		600	8	M10
188	7/26/2022	42		600		M10
189	7/26/2022	385		600		M10
190	7/26/2022	389		600	M10	