

SCHEDULING OF

JATAYU MALL

TIRUNELVELI, TAMIL NADU



CM776 - CONSTRUCTION PROJECT PLANNING & SCHEDULING

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1. PROJECT OVERVIEW

1.1 INTRODUCTION

Tirunelveli City Municipal Corporation is one among 12 smart cities selected in Tamil Nadu as a part of a program under the Smart Cities Mission. Under this development, the Tirunelveli Smart City Limited proposed a site for the construction of a Commercial Mall with Multi Level Car Parking in the heart of the city.

The Jatayu Mall has been categorized with diverse types of activity including Shops, Game zone, Food court, Showrooms, etc. The commercial value of the site is high. Therefore, the proposed project will impact great revenue and improve the area.

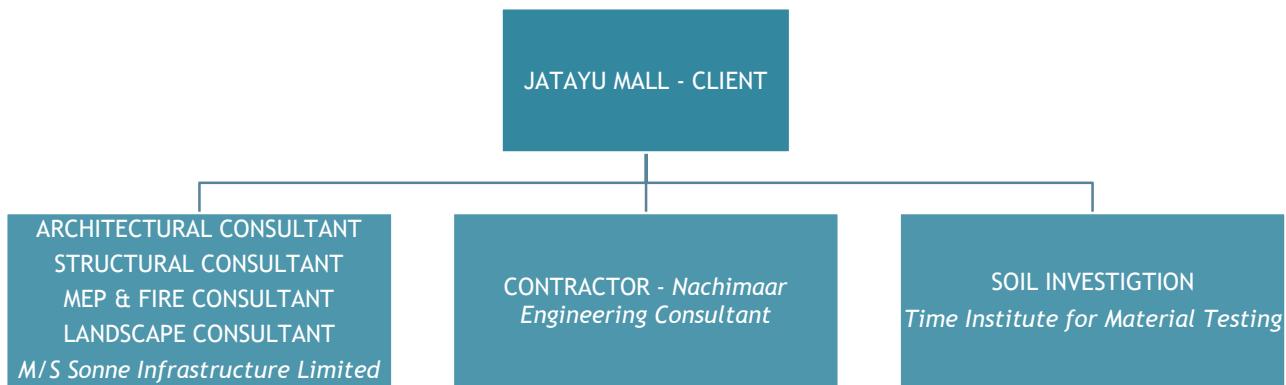


Figure 1: Project Team

1.2 SITE PLANNING



Figure 2: Site Plan of Jatayu Mall

- The Commercial Mall is constructed in three Blocks- Block I and Block II.
- The Multi-Level Car Parking is Block III of the projects.
- The three Blocks are being constructed simultaneously under the same contractor.

1.3 PROJECT CHARTER

NAME OF PROJECT	Commercial Mall with Multi Level Car Parking		
LOCATION	Near Pallai Bus Stand, Tirunelveli, Tamil Nadu		
NO. OF BLOCKS	Block I	Block II	Block III
NO. OF FLOORS	Basement + G+ 3	Basement + G+ 3	Basement + G+ 3
ESTIMATED COST	INR 14.93 Crores	INR 11.73 Crores	INR 12.82 Crores
ESTIMATED DURATION	12 Months	12 Months	12 Months
PROJECT START DATE	14th May, 2021		
PROJECT END DATE	19th July, 2022	EXTENDED PROJECT COMPLETION	25 Nov, 2022
TYPE OF CONTRACT	Item Rate Contract		
TOTAL ESTIMATED COST	INR 39.48 Crores		

Table 1: Project Charter

1.4 AREA

TOTAL PLOT AREA	5301 Sq.m.		
NO. OF BLOCK	Block I	Block II	Block III
BASEMENT	1430 Sq.m.	775 Sq.m.	1043 Sq.m.
GROUND FLOOR	1436 Sq.m.	628 Sq.m.	1230 Sq.m.
FIRST FLOOR	1436 Sq.m.	628 Sq.m.	1230 Sq.m.
SECOND FLOOR	1436 Sq.m.	628 Sq.m.	1230 Sq.m.
THIRD FLOOR	1436 Sq.m.	-	-
TOTAL AREA	7174 Sq.m.	3317 Sq.m.	5963 Sq.m.
TOTAL BUILT UP AREA	16454 Sq.m.		
HEIGHT OF BUILDING	18.2m		

Table 2: Area Statement

1.5 CONSTRUCTION METHOD STATEMENT

1.5.1 SCOPE OF WORK

- Commercial mall

2 Blocks of Framed RCC structure for Commercial Use with facilities including lift, reverse osmosis system, CCTV, fire services, solar panels and basement parking

- BLOCK 1 (5936 Sqm)

- B + G + 3 floors
 - Basement - 1043 Sqm (Two-Wheeler - 57; Four-Wheeler - 16)
 - Ground Floor - Show room / Commercial Space - 647 Sqm
 - First Floor - Commercial Space - 647 Sqm
 - Second Floor - Commercial Space - 647 Sqm
 - Third Floor - Food Court / Commercial Space - 647 Sqm

- BLOCK 2 (2317 Sqm)

- B + G + 3 floors
 - Basement - 775 Sqm (Two-Wheeler - 92; Four-Wheeler - 6)
 - Ground Floor - Show room / Commercial Space - 316 Sqm
 - First Floor - Commercial Space - 316 Sqm
 - Second Floor - Commercial Space - 316 Sqm
 - Third Floor - Food Court / Commercial Space -316 Sqm

- Multilevel Parking

1 Block of Framed RCC structure for Commercial Use with facilities including lift, reverse osmosis system, CCTV, fire services, solar panels and basement parking

- BLOCK 3 (7175 Sqm)

- B + G + 4 floors
 - Basement - 1195 Sqm (Four-Wheeler - 24)
 - Ground Floor - 1260 Sqm (Four-Wheeler - 21)
 - First Floor - 1180 Sqm (Four-Wheeler - 21)
 - Second Floor - 1180 Sqm (Four-Wheeler - 21)
 - Third Floor - 1180 Sqm (Two-Wheeler - 173)
 - Fourth Floor - 1180 Sqm (Two-Wheeler - 173)

1.5.2 ROLES & RESPONSIBILITIES

The primary responsibility of carrying out all the activities mentioned in this procedure rests with the site-in-charge unless mentioned otherwise.

- **Project Leader:** Overall execution and administration of the project as per contract requirements, specifications and the PQP. Liaise with the Head (Quality & HSE) for preparation and updating of PQP. Directly control the Site Engineers and Supervisors. He is responsible to ensure that all the correct procedures are followed and all necessary permits for the works are obtained in advance.
- **Site Engineer:** Assess manpower, equipment or other resources required to ensure timely completion of the project. Monitor availability of all materials as per schedule. Inform the Project Leader for any non-availability of materials to take proper action. Carry out receiving inspection in coordination with the QA/QC Engineer. Ensure that the drawings and documents are up to date and the latest drawing is available and is being utilized in the project site works
- **QA/QC Engineer:** Responsible for the monitoring and implementing of quality related matters and ensure the works are being executed with the approved Project Quality Plan and requirements of the Contract Documents, sections 1 part 8 of QCS 2010, approved method statement and ITPs.
- **Safety Officer:** Responsible for monitoring and implementation of safety related matters such as work permits, First Aid, PPE, approval of diversions, follow the safety and traffic regulations by all the workmen during the construction, according to the approved project HSE plan. First Aid boxes are readily available with HSE officer and other two numbers at site personnel's vehicles for site requirements.
- **Supervisor/Foreman:** Plan and obtain required manpower and resources in coordination with the Site Engineer. Carry out all activities as per the planned schedule to achieve target dates. Coordinate with respective disciplines of work and liaise with the site engineer for day to day activities. Inform Discipline Engineer regarding site inspections when it is ready. Ensure pre task briefing is to be conducted prior to start of work at each session.
- **Charge hand:** Works shall be executed as per direction of Supervisors/Foremen for all activities as per the planned schedule to achieve target. Coordinate with respective disciplines of work and liaise with the Supervisors/Foremen for day to day activities. Ensure pre task briefing is conducted prior to start of work at each session.

1.5.3 MACHINES & TOOLS REQUIRED

- Tree Transplant Machine (To Be Hired)
- Hydraulic Excavator
- Loader
- Concrete Mixers
- Mobile Water Tank
- Safety Equipment (Rubber Boot, Helmet, Gloves, Etc.)
- Machines
 - Drill Machine
 - Steel Rod Cutter Machine
 - Sand Screen Machine
 - Chipping Hammer Machine
 - Needle Vibrator

1.5.4 MANPOWER REQUIRED

- Site Engineer
- Supervisor
- HSE Inspector
- QA/QC Inspector
- Carpenters
- Steel Fixers
- Masons
- Helpers
- Painters
- Operators
- Drivers & Technicians

1.6 ASSUMPTIONS LOG

- All quantities are extracted from the drawings utilising quantity take off tools, with no delays in machine and material procurement.
- There is no consideration for weather delays.
- Work time per day is considered from 8AM to 5PM with 1 hour of break.
- The no. of days per week is considered from Monday to Saturday.
- The rates of labours are as per the Tamil Nadu govt. norms.
- The labour productivity and labour requirement for the activities are as per the Tamil Nadu govt. norms.
- Duration of activities are calculated from labour productivity and reduced for faster construction by increasing the work crew.
- Resources are considered for civil works, finishes and MEP.
- 100% efficiency of resources are taken into account.
- Consideration of overtime during work days is neglected
- Quality and productivity of resources are considered to be uniform throughout the project.
- Details of Equipments are considered as per the following table

EXCAVATOR	
Ck-90	Bucket - 0.9 Cum
	Cycle Time In Plant - 35 Min.
	Efficiency - 80%
	Capacity - 74.1 Cum/Hr
VIBRATOR - NEEDLE TYPE (8 to 10 Tonne)	
Static wt. Dual efficiency	Speed - 2 Km/Hr
	Drum Width - 2 M
	Layer Thickness - 0.2 M
TIPPER VEHICLE	
	Earth Work Capacity - 7.5 Cum.
	Avg. Lead - 3 Km. (6 Km Both Ways)
	Loading Time And Turning On - 7 Min.
	Loading Avg. Speed(20km/Hr) - 33 Min.
	Unloading And Turning On - 5 Min.
	Total Cycle Time - 45 Min.
	Capacity 10 Cum/Hr
TRANSIT MIXER (6 CUM. CAPACITY)	
	Avg. Lead - 3 Km.
	Loading Time And Turning On - 3.5 Min.
	Loading Avg. Speed (20 Km/Hr) - 9 Min
	Unloading And Turning On - 35 Min.
	Total Cycle Time - 69 Min
	Capacity - 5.2 Cum/Hr
CONCRETE PUMP (capacity-30 cum/hr)	
	Efficiency - 80 %
	Capacity - 24 Cum/Hr

Table 3: Equipment Details

2. LOGISTICS

2.1 PARTS OF CONSTRUCTION

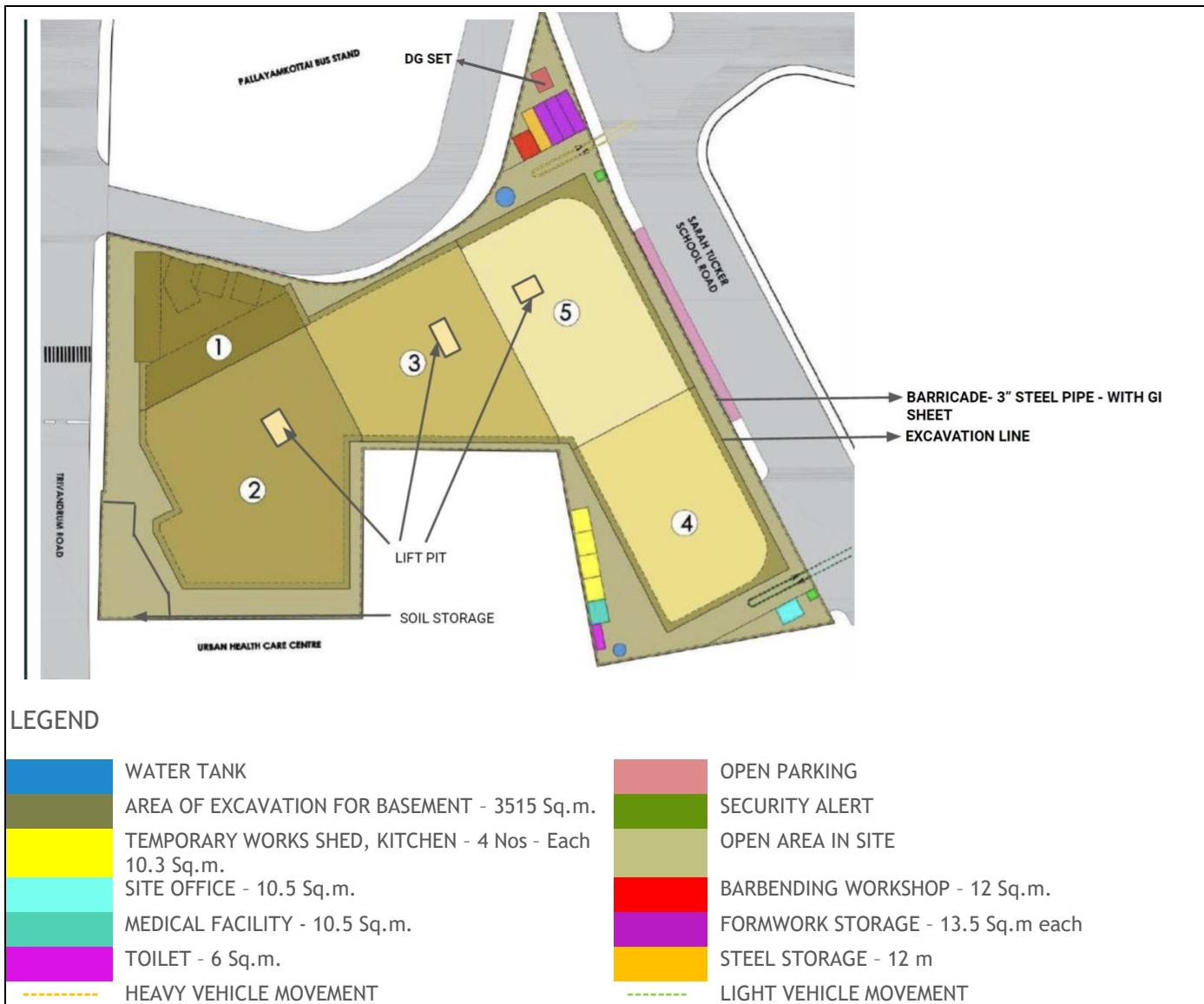


Figure 3: Parts of Construction

AREA OF EXCAVATION

- Area of excavation 1 - 409 sq.m
- Area of excavation 2 - 1043 sq.m
- Area of excavation 3 - 766 sq.m
- Area of excavation 4 - 685 sq.m
- Area of excavation 5 - 835 sq.m

2.2 SEQUENCE OF WORK

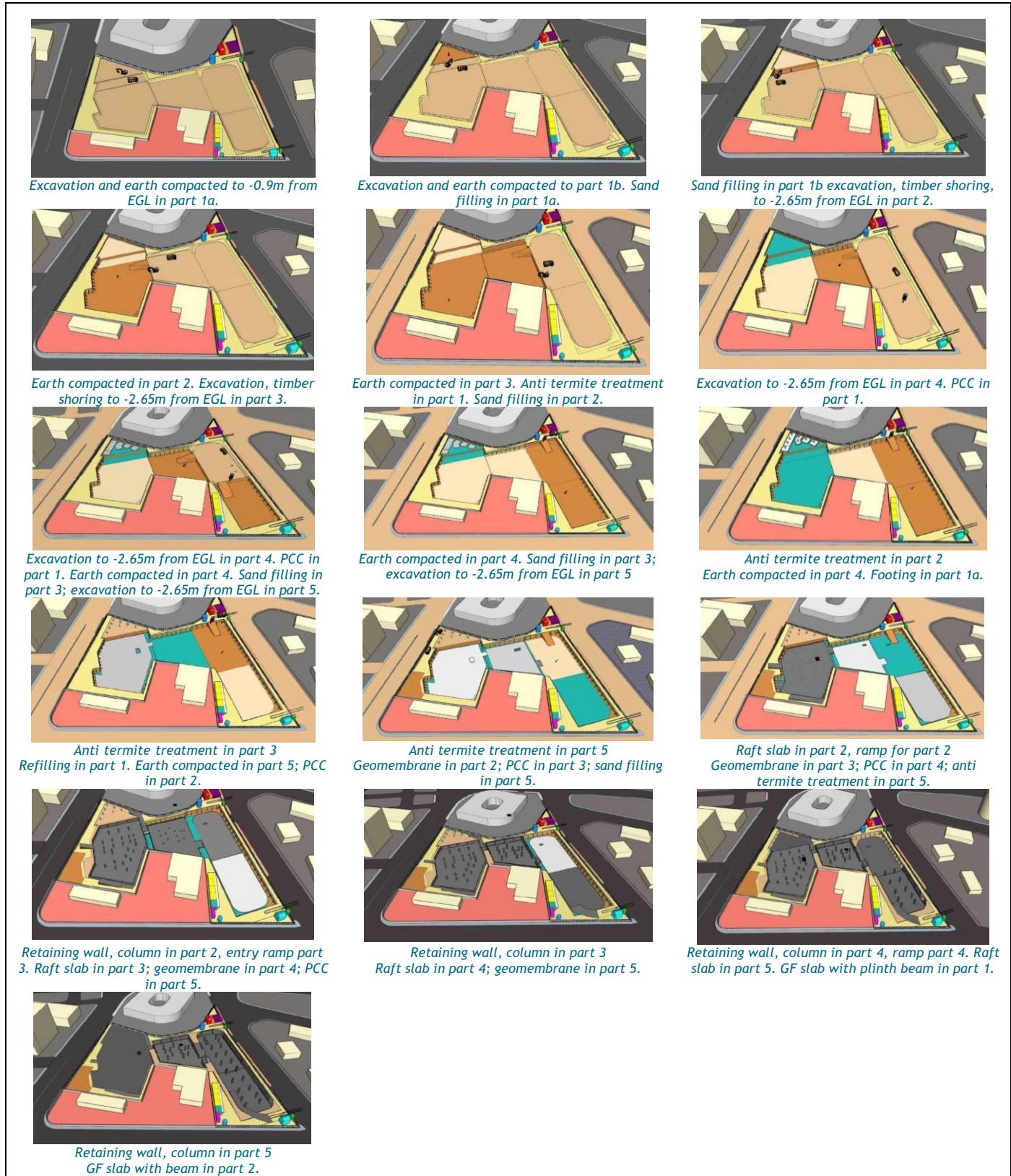


Figure 4: Construction Sequencing

2.3 VERTICAL LOGISTICS

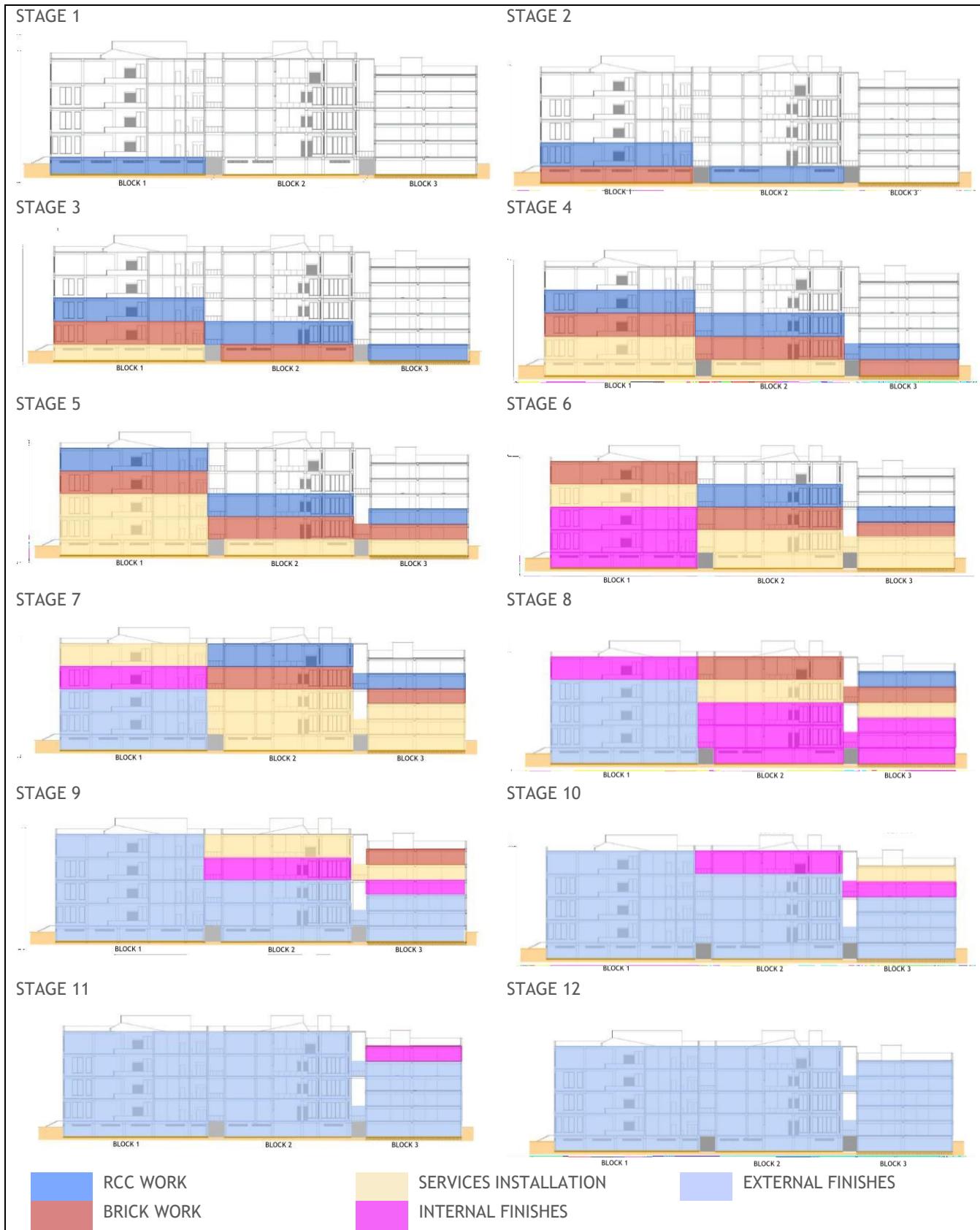


Figure 5: Vertical Logistics along the Towers

3. WORK BREAKDOWN STRUCTURE

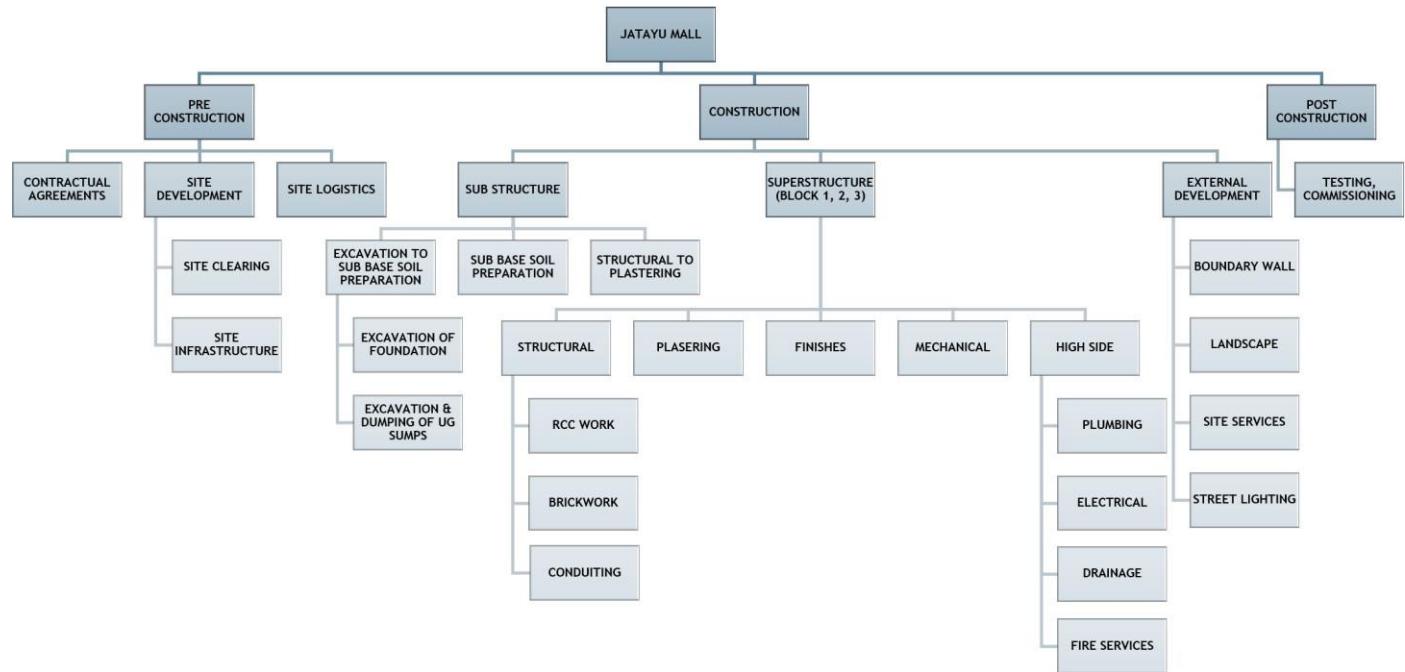


Figure 6: Work Breakdown Structure of Jatayu Mall

3.1 ACTIVITY IDENTIFICATION

Identifying the tasks involved in a project is a crucial aspect of project management. Without determining the activities required for the project, it can be challenging to complete it on schedule. It is important to prioritize tasks that need to be accomplished before moving on to the next activity. Creating a project schedule requires identifying the project's activities.

To begin a project, we need to identify the various task packages that constitute the project and decide them in advance. After identifying the work packages, they must be broken down into multiple activities or tasks. Each activity should be further broken down into sub-activities that need to be completed within the given timeline to ensure timely project completion.

The work packages were divided into several stages before starting, beginning with the pre-construction phase.

Jatayu Mall was decided to have three phases of construction

- Preconstruction phase
- Construction phase
 - Block 1
 - Block 2
 - Block 3
- Post construction phase

The major phases in construction phase of each Block are

- Structural
 - RCC
 - Brickwork
 - Conduiting
- Plastering
- Finishes
- Mechanical
- High Side
 - Plumbing
 - Electrical
 - Drainage
 - Fire Services

3.2 ACTIVITY SEQUENCING

After identifying the activities for a project, the next step is to sequence them to establish their interconnections. Random execution of construction tasks is not advisable, hence proper sequencing is crucial. Sequencing activities can help the project manager determine the workload on the project team.

There are primarily four types of activity relationships that need to be considered, and they are as follows:

1. **Finish-to-Start:** Until the predecessor activity is complete, the successor activity cannot start.
2. **Finish-to-Finish:** The successor activity can't be completed until the point that a predecessor activity is complete.
3. **Start-to-Start:** Unless the predecessor activity has not started a successor activity cannot start.
4. **Start-to-Finish:** Until the predecessor activity has not begun, a successor activity cannot finish.

3.3 ACTIVITIES UNDER EACH WORK PACKAGE

The following are the list of Activities under each work package along with resource crew and duration. The activities are given WBS code for identification of each specific activity.

WBS	TASK NAME	CREW	DURATION
1	PROJECT START		0 days
2	JATAYU MALL		272 days
2.1	PRE CONSTRUCTION		6 days
2.1.1	Contractual Agreements		1 day
2.1.2	SITE DEVELOPMENT		5 days
2.1.2.1	SITE CLEARING		2 days
2.1.2.1.1	Demolition of Existing Building & Soil levelling	1 poclaim, 2 skilled, 2 unskilled	3 days
2.1.2.1.2	Transplanting the trees to the site	1 tree transplantation machine, 4 skilled, 8 unskilled	3 days
2.1.2.2	Site Barricading - GI Sheet	2 skilled, 2 unskilled	3 days
2.1.2.3	SITE INFRASTRUCTURE		2 days
2.1.2.3.1	Preparation of vehicular pathway	1 skilled, 3 unskilled	2 days
2.1.2.3.2	DG set installation	2 skilled, 4 unskilled	1 day
2.1.3	SITE LOGISTICS		2 days
2.1.3.1	Setting up of storage & labour requirements	2 skilled, 5 unskilled	2 days
2.2	CONSTRUCTION		231 days
2.2.1	SUB STRUCTURE		91 days
2.2.1.1	EXCAVATION TO SUB BASE SOIL PREPARATION		5 days
2.2.1.1.1	EXCAVATION OF FOUNDATION		3 days
2.2.1.1.1.1	Isolated & Combined footing	2 skilled, 4 unskilled, 1 hydraulic excavator, 2 loader	1 day
2.2.1.1.1.2	Raft foundation 1	2 skilled, 4 unskilled, 1 hydraulic excavator, 2 loader	1 day
2.2.1.1.1.3	Raft foundation 2	2 skilled, 4 unskilled, 1 hydraulic excavator, 2 loader	1 day
2.2.1.1.1.4	Raft foundation 3	2 skilled, 4 unskilled, 1 hydraulic excavator, 2 loader	1 day
2.2.1.1.1.5	Raft foundation 4	2 skilled, 4 unskilled, 1 hydraulic excavator, 2 loader	1 day
2.2.1.1.2	EXCAVATION & DUMPING OF UG SUMPS		4 days
2.2.1.1.2.1	Block 1	2 skilled, 4 unskilled, 1 hydraulic excavator, 2 loader	2 days
2.2.1.1.2.2	Block 2	2 skilled, 4 unskilled, 1 hydraulic excavator, 2 loader	2 days
2.2.1.1.2.3	Block 3	2 skilled, 4 unskilled, 1 hydraulic excavator, 2 loader	1 day
2.2.1.1.3	Excavation & Dumping of soil for Storm water drain	2 skilled, 4 unskilled, 1 hydraulic excavator, 2 loader	2 days
2.2.1.2	SUB BASE SOIL PREPARATION		7 days
2.2.1.2.1	ISOLATED & COMBINED FOOTING		5 days
2.2.1.2.1.1	Filling of consolidated & rammed earth	1 skilled, 2 unskilled	1 day
2.2.1.2.1.2	Sand Filling	3 unskilled	1 day
2.2.1.2.1.3	Laying of PCC 100mm thk	1 skilled, 8 unskilled, 1 needle vibrator	1 day
2.2.1.2.1.4	Laying of water proofing layer	1 skilled, 5 unskilled	3 days
2.2.1.2.2	RAFT FOOTING PART 1		3 days
2.2.1.2.2.1	Timber Shoring	1 skilled, 2 unskilled	1 day

2.2.1.2.2.2	Filling of consolidated & rammed earth	1 skilled, 14 unskilled	1 day
2.2.1.2.2.3	Sand Filling	7 skilled	1 day
2.2.1.2.2.4	Laying of PCC 100mm thk	1 skilled, 8 unskilled, 1 needle vibrator	1 day
2.2.1.2.2.5	Laying of water proofing layer	1 skilled, 5 unskilled	1 day
2.2.1.2.3	RAFT FOOTING PART 2		7 days
2.2.1.2.3.1	Timber Shoring	1 skilled, 2 unskilled	3 days
2.2.1.2.3.2	Filling of consolidated & rammed earth	1 skilled, 14 unskilled	1 day
2.2.1.2.3.3	Sand Filling	7 skilled	1 day
2.2.1.2.3.4	Laying of PCC 100mm thk	1 skilled, 8 unskilled, 1 needle vibrator	3 days
2.2.1.2.3.5	Laying of water proofing layer	1 skilled, 5 unskilled	3 days
2.2.1.2.4	RAFT FOOTING PART 3		4 days
2.2.1.2.4.1	Timber Shoring	1 skilled, 2 unskilled	3 days
2.2.1.2.4.2	Filling of consolidated & rammed earth	1 skilled, 14 unskilled	1 day
2.2.1.2.4.3	Sand Filling	7 skilled	1 day
2.2.1.2.4.4	Laying of PCC 100mm thk	1 skilled, 8 unskilled, 1 needle vibrator	1 day
2.2.1.2.4.5	Laying of water proofing layer	1 skilled, 5 unskilled	1 day
2.2.1.2.5	RAFT FOOTING PART 4		5 days
2.2.1.2.5.1	Timber Shoring	1 skilled, 2 unskilled	3 days
2.2.1.2.5.2	Filling of consolidated & rammed earth	1 skilled, 14 unskilled	1 day
2.2.1.2.5.3	Sand Filling	7 skilled	1 day
2.2.1.2.5.4	Laying of PCC 100mm thk	1 skilled, 8 unskilled, 1 needle vibrator	2 days
2.2.1.2.5.5	Laying of water proofing layer	1 skilled, 5 unskilled	2 days
2.2.1.3	STRUCTURAL TO PLASTERING		87 days
2.2.1.3.1	STORM WATER DRAIN		42 days
2.2.1.3.1.1	Sand Filling	7 skilled	7 days
2.2.1.3.1.2	Laying of PCC 100mm thk	1 skilled, 8 unskilled, 1 needle vibrator	5 days
2.2.1.3.1.3	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	15 days
2.2.1.3.1.4	Shuttering	1 skilled, 2 unskilled	12 days
2.2.1.3.1.5	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 needle vibrator, 1 concrete mixer	12 days
2.2.1.3.2	FOOTING		17 days
2.2.1.3.2.1	ISOLATED & COMBINED FOOTING		11 days
2.2.1.3.2.1.1	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	5 days
2.2.1.3.2.1.2	Shuttering	1 skilled, 2 unskilled	1 day
2.2.1.3.2.1.3	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 needle vibrator, 1 concrete mixer	2 days
2.2.1.3.2.1.4	Laying of water proofing layer	1 skilled, 6 unskilled	2 days
2.2.1.3.2.1.5	Backfilling	1 skilled, 3 unskilled	3 days
2.2.1.3.2.1.6	Anti-termite Treatment	1 unskilled	1 day
2.2.1.3.2.2	RAFT SLAB 1		10 days
2.2.1.3.2.2.1	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	5 days
2.2.1.3.2.2.2	Shuttering	1 skilled, 2 unskilled	2 days
2.2.1.3.2.2.3	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 needle vibrator, 1 concrete mixer	3 days
2.2.1.3.2.2.4	Anti-termite Treatment	1 unskilled	2 days
2.2.1.3.2.3	RAFT SLAB 2		9 days
2.2.1.3.2.3.1	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	3 days

2.2.1.3.2.3.2	Shuttering	1 skilled, 2 unskilled	2 days
2.2.1.3.2.3.3	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 needle vibrator, 1 concrete mixer	2 days
2.2.1.3.2.3.4	Anti-termite Treatment	1 unskilled	4 days
2.2.1.3.2.4	RAFT SLAB 3		7 days
2.2.1.3.2.4.1	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	3 days
2.2.1.3.2.4.2	Shuttering	1 skilled, 2 unskilled	1 day
2.2.1.3.2.4.3	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 needle vibrator, 1 concrete mixer	2 days
2.2.1.3.2.4.4	Anti-termite Treatment	1 unskilled	3 days
2.2.1.3.2.5	RAFT SLAB 4		8 days
2.2.1.3.2.5.1	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	4 days
2.2.1.3.2.5.2	Shuttering	1 skilled, 2 unskilled	1 day
2.2.1.3.2.5.3	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 needle vibrator, 1 concrete mixer	2 days
2.2.1.3.2.5.4	Anti-termite Treatment	1 unskilled	3 days
2.2.1.3.2.6	RAFT SLAB ABOVE EXISTING WALL		8 days
2.2.1.3.2.6.1	Centering & Shuttering	1 skilled, 2 unskilled	2 days
2.2.1.3.2.6.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	5 days
2.2.1.3.2.6.3	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 needle vibrator, 1 concrete mixer	1 day
2.2.1.3.3	RETAINING WALL		26 days
2.2.1.3.3.1	PART 1		19 days
2.2.1.3.3.1.1	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	3 days
2.2.1.3.3.1.2	Shuttering	1 skilled, 2 unskilled	4 days
2.2.1.3.3.1.3	Transporting & Pouring Concrete	2 skilled, 8 unskilled, 1 needle vibrator	1 day
2.2.1.3.3.1.4	Laying of water proofing layer	1 skilled, 3 unskilled	1 day
2.2.1.3.3.1.5	Backfilling	1 hydraulic excavator, 1 loader, 6 unskilled	1 day
2.2.1.3.3.1.6	Anti-termite Treatment	1 unskilled	3 days
2.2.1.3.3.2	PART 2		18 days
2.2.1.3.3.2.1	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	3 days
2.2.1.3.3.2.2	Shuttering	1 skilled, 2 unskilled	4 days
2.2.1.3.3.2.3	Transporting & Pouring Concrete	2 skilled, 8 unskilled, 1 needle vibrator	1 day
2.2.1.3.3.2.4	Laying of water proofing layer	1 skilled, 3 unskilled	1 day
2.2.1.3.3.2.5	Backfilling	1 hydraulic excavator, 1 loader, 6 unskilled	1 day
2.2.1.3.3.2.6	Anti-termite Treatment	1 unskilled	2 days
2.2.1.3.3.3	PART 3		18 days
2.2.1.3.3.3.1	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	3 days
2.2.1.3.3.3.2	Shuttering	1 skilled, 2 unskilled	4 days
2.2.1.3.3.3.3	Transporting & Pouring Concrete	2 skilled, 8 unskilled, 1 needle vibrator	1 day
2.2.1.3.3.3.4	Laying of water proofing layer	1 skilled, 3 unskilled	1 day
2.2.1.3.3.3.5	Backfilling	1 hydraulic excavator, 1 loader, 6 unskilled	1 day
2.2.1.3.3.3.6	Anti-termite Treatment	1 unskilled	2 days
2.2.1.3.3.4	PART 4		19 days
2.2.1.3.3.4.1	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	3 days
2.2.1.3.3.4.2	Shuttering	1 skilled, 2 unskilled	4 days
2.2.1.3.3.4.3	Transporting & Pouring Concrete	2 skilled, 8 unskilled, 1 needle vibrator	1 day

2.2.1.3.3.4.4	Laying of water proofing layer	1 skilled, 3 unskilled	1 day
2.2.1.3.3.4.5	Backfilling	1 hydraulic excavator, 1 loader, 6 unskilled	1 day
2.2.1.3.3.4.6	Anti-termite Treatment	1 unskilled	2 days
2.2.1.3.4	COLUMN & CORE WALL		17 days
2.2.1.3.4.1	PART 1		8 days
2.2.1.3.4.1.1	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	3 days
2.2.1.3.4.1.2	Shuttering	1 skilled, 2 unskilled	5 days
2.2.1.3.4.1.3	Transporting & Pouring Concrete	1 skilled, 5 unskilled, 1 vibrator	2 days
2.2.1.3.4.2	PART 2		10 days
2.2.1.3.4.2.1	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	5 days
2.2.1.3.4.2.2	Shuttering	1 skilled, 2 unskilled	6 days
2.2.1.3.4.2.3	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 vibrator	1 day
2.2.1.3.4.3	PART 3		12 days
2.2.1.3.4.3.1	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	6 days
2.2.1.3.4.3.2	Shuttering	1 skilled, 2 unskilled	6 days
2.2.1.3.4.3.3	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 vibrator	2 days
2.2.1.3.4.4	PART 4		10 days
2.2.1.3.4.4.1	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	5 days
2.2.1.3.4.4.2	Shuttering	1 skilled, 2 unskilled	6 days
2.2.1.3.4.4.3	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 vibrator	1 day
2.2.1.3.5	RAMP & STAIRCASE		22 days
2.2.1.3.5.1	RAMP PART 1		13 days
2.2.1.3.5.1.1	Sand Filling	7 unskilled	1 day
2.2.1.3.5.1.2	Laying of PCC	1 skilled, 18 unskilled, 1 needle vibrator	1 day
2.2.1.3.5.1.3	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	1 day
2.2.1.3.5.1.4	Shuttering	2 skilled, 1 unskilled	6 days
2.2.1.3.5.1.5	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 vibrator	1 day
2.2.1.3.5.2	RAMP PART 2		13 days
2.2.1.3.5.2.1	Sand Filling	7 unskilled	1 day
2.2.1.3.5.2.2	Laying of PCC	1 skilled, 18 unskilled, 1 needle vibrator	1 day
2.2.1.3.5.2.3	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	1 day
2.2.1.3.5.2.4	Shuttering	2 skilled, 1 unskilled	6 days
2.2.1.3.5.2.5	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 vibrator	1 day
2.2.1.3.5.3	RAMP PART 3		13 days
2.2.1.3.5.3.1	Sand Filling	7 unskilled	1 day
2.2.1.3.5.3.2	Laying of PCC	1 skilled, 18 unskilled, 1 needle vibrator	1 day
2.2.1.3.5.3.3	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	1 day
2.2.1.3.5.3.4	Shuttering	2 skilled, 1 unskilled	6 days
2.2.1.3.5.3.5	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 vibrator	1 day
2.2.1.3.5.4	STAIRCASE PART 1		5 days
2.2.1.3.5.4.1	Centering & Shuttering	2 skilled, 1 unskilled	3 days
2.2.1.3.5.4.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	2 days
2.2.1.3.5.4.3	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 vibrator	1 day
2.2.1.3.5.5	STAIRCASE PART 2		5 days

2.2.1.3.5.5.1	Centering & Shuttering	2 skilled, 1 unskilled	3 days
2.2.1.3.5.5.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	2 days
2.2.1.3.5.5.3	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 vibrator	1 day
2.2.1.3.5.6	STAIRCASE PART 3		5 days
2.2.1.3.5.6.1	Centering & Shuttering	2 skilled, 1 unskilled	3 days
2.2.1.3.5.6.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	2 days
2.2.1.3.5.6.3	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 vibrator	1 day
2.2.1.3.6	BASEMENT ROOF SLAB		35 days
2.2.1.3.6.1	PART 1		35 days
2.2.1.3.6.1.1	Centering & Shuttering	1 skilled, 2 unskilled	10 days
2.2.1.3.6.1.2	Placing of Fabricated Reinforcement Cage	1 skilled, 2 unskilled	32 days
2.2.1.3.6.1.3	Transporting & Pouring Concrete	1 skilled, 2 unskilled, 1 vibrator	1 day
2.2.1.3.6.2	PART 2		12 days
2.2.1.3.6.2.1	Centering & Shuttering	1 skilled, 2 unskilled	7 days
2.2.1.3.6.2.2	Placing of Fabricated Reinforcement Cage	1 skilled, 2 unskilled	6 days
2.2.1.3.6.2.3	Transporting & Pouring Concrete	2 skilled, 3 unskilled, 1 vibrator	2 days
2.2.1.3.6.3	PART 3		25 days
2.2.1.3.6.3.1	Centering & Shuttering	1 skilled, 2 unskilled	14 days
2.2.1.3.6.3.2	Placing of Fabricated Reinforcement Cage	1 skilled, 2 unskilled	14 days
2.2.1.3.6.3.3	Transporting & Pouring Concrete	1 skilled, 4 unskilled, 1 vibrator	2 days
2.2.1.3.7	BRICKWORK		23 days
2.2.1.3.7.1	Part 1	2 skilled, 5 unskilled, 2 extra unskilled	4 days
2.2.1.3.7.2	Part 2	2 skilled, 5 unskilled, 2 extra unskilled	4 days
2.2.1.3.7.3	Part 3	2 skilled, 5 unskilled, 2 extra unskilled	9 days
2.2.1.3.8	BASMENT WALL PLASTERING		26 days
2.2.1.3.8.1	Part 1	1 skilled, 2 unskilled	7 days
2.2.1.3.8.2	Part 2	1 skilled, 2 unskilled	11 days
2.2.1.3.8.3	Part 3	1 skilled, 2 unskilled	6 days
2.2.1.3.9	CEILING PLASTERING		20 days
2.2.1.3.9.1	Part 1	1 skilled, 2 unskilled	5 days
2.2.1.3.9.2	Part 2	1 skilled, 2 unskilled	5 days
2.2.1.3.9.3	Part 3	1 skilled, 2 unskilled	7 days
2.2.1.3.10	SERVICES		24 days
2.2.1.3.10.1	Laying of water supply pipes	6 skilled, 4 unskilled	4 days
2.2.1.3.10.2	Providing & fixing distribution line for sprinklers	8 skilled, 8 unskilled	1 day
2.2.1.3.10.3	Pointing & wiring	7 skilled, 7 unskilled	8 days
2.2.1.3.10.4	Providing & fixing distribution boards	1 skilled, 1 unskilled	2 days
2.2.1.3.10.5	Connection with equipments	2 skilled, 2 unskilled	5 days
2.2.1.3.10.6	Providing & fixing TNEB meter board	1 skilled, 1 unskilled	1 day
2.2.1.3.11	INTERNAL FINISHES		35 days
2.2.1.3.11.1	INTERNAL PAINTING		19 days
2.2.1.3.11.1.1	Part 1	1 skilled, 1 unskilled	4 days
2.2.1.3.11.1.2	Part 2	1 skilled, 1 unskilled	3 days
2.2.1.3.11.1.3	Part 3	1 skilled, 1 unskilled	3 days
2.2.1.3.11.2	FIXTURES		5 days

2.2.1.3.11.2.1	Light fixtures	3 skilled, 3 unskilled	6 days
2.2.1.3.11.2.2	Washbasin	2 skilled, 1 unskilled	5 days
2.2.1.3.11.2.3	IWC	1 skilled, 1 unskilled	2 days
2.2.1.3.11.2.4	EWC	1 skilled, 1 unskilled	3 days
2.2.1.3.11.2.5	Urinals	1 skilled, 1 unskilled	2 days
2.2.1.3.11.2.6	Sprinklers, Smoke detectors etc	5 skilled, 10 unskilled	1 day
2.2.1.3.11.3	FLOOR FINISHES		23 days
2.2.1.3.11.3.1	PART 1		7 days
2.2.1.3.11.3.1.1	Laying of synthetic grey granite	3 skilled, 2 unskilled, 2 machines	8 days
2.2.1.3.11.3.1.2	Laying of granolithic tiles	3 skilled, 3 unskilled	8 days
2.2.1.3.11.3.2	PART 2		5 days
2.2.1.3.11.3.2.1	Laying of synthetic grey granite	3 skilled, 2 unskilled, 2 machines	7 days
2.2.1.3.11.3.2.2	Laying of granolithic tiles	1 skilled, 1 unskilled	7 days
2.2.1.3.11.3.3	PART 3		6 days
2.2.1.3.11.3.3.1	Laying of synthetic grey granite	3 skilled, 2 unskilled, 2 machines	5 days
2.2.1.3.11.3.3.2	Laying of granolithic tiles	1 skilled, 1 unskilled	8 days
2.2.1.3.11.4	FIXING OF VENTILATOR		5 days
2.2.1.3.11.4.1	Fixing of UPVC Ventilator	1 skilled, 1 unskilled	6 days
2.2.1.3.12	UG SUMP		32 days
2.2.1.3.12.1	BOTTOM SLAB		12 days
2.2.1.3.12.1.1	Sand Filling	7 unskilled	1 day
2.2.1.3.12.1.2	Mooram Filling	7 unskilled	1 day
2.2.1.3.12.1.3	Laying of PCC 100mm thk	1 skilled, 18 unskilled, 1 needle vibrator	1 day
2.2.1.3.12.1.4	Laying of water proofing layer	1 skilled, 3 unskilled	1 day
2.2.1.3.12.1.5	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	1 day
2.2.1.3.12.1.6	Shuttering	1 skilled, 2 unskilled	1 day
2.2.1.3.12.1.7	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 vibrator	3 days
2.2.1.3.12.2	RCC WALL		20 days
2.2.1.3.12.2.1	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	2 days
2.2.1.3.12.2.2	Shuttering	1 skilled, 2 unskilled	2 days
2.2.1.3.12.2.3	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 vibrator	1 day
2.2.1.3.12.2.4	Laying of water proofing layer	1 skilled, 6 unskilled	2 days
2.2.1.3.12.2.5	Backfilling	15 unskilled	5 days
2.2.1.3.12.2.6	Anti-termite Treatment	1 unskilled	1 day
2.2.2	SUPERSTRUCTURE		181 days
2.2.2.1	BLOCK 1		181 days
2.2.2.1.1	STRUCTURAL TO PLASTERING		118 days
2.2.2.1.1.1	GROUND FLOOR		71 days
2.2.2.1.1.1.1	RCC WORK		25 days
2.2.2.1.1.1.1.1	COLUMNS & COREWALL		6 days
2.2.2.1.1.1.1.1.1	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	1 day
2.2.2.1.1.1.1.1.2	Shuttering	1 skilled, 2 unskilled	2 days
2.2.2.1.1.1.1.1.3	Transporting & Pouring Concrete	2 skilled, 15 unskilled, 1 concrete mixer, 1 needle type vibrator	4 days
2.2.2.1.1.1.1.1.2	BEAMS, DROPS & SLABS		13 days

2.2.2.1.1.1.2.1	Centering & Shuttering	1 skilled, 2 unskilled	7 days
2.2.2.1.1.1.2.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	7 days
2.2.2.1.1.1.2.3	Transporting & Pouring Concrete	1 skilled, 3 unskilled, 1 concrete mixer, 1 needle type vibrator	2 days
2.2.2.1.1.1.3	STAIRCASE		6 days
2.2.2.1.1.1.3.1	Centering & Shuttering	2 skilled, 1 unskilled	3 days
2.2.2.1.1.1.3.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	3 days
2.2.2.1.1.1.3.3	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	1 day
2.2.2.1.1.1.2	BRICKWORK	2 skilled, 5 unskilled, 2 extra unskilled	13 days
2.2.2.1.1.1.3	SERVICES		9 days
2.2.2.1.1.1.3.1	Water supply pipes	3 skilled, 2 unskilled	8 days
2.2.2.1.1.1.3.2	Connection lines	3 skilled, 2 unskilled	6 days
2.2.2.1.1.1.3.3	Pointing & wiring	6 skilled, 6 unskilled	7 days
2.2.2.1.1.1.3.4	Connections with equipments	2 skilled, 2 unskilled	2 days
2.2.2.1.1.1.3.5	Earthing	2 skilled, 2 unskilled	2 days
2.2.2.1.1.1.3.6	Distribution lines	25 skilled, 25 unskilled	2 days
2.2.2.1.1.1.4	PLASTERING		19 days
2.2.2.1.1.1.4.1	Plastering of 10mm, 12mm thk cement mortar	1 skilled, 2 unskilled	23 days
2.2.2.1.1.2	FIRST FLOOR		76 days
2.2.2.1.1.2.1	RCC WORK		30 days
2.2.2.1.1.2.1.1	COLUMNS & COREWALL		5 days
2.2.2.1.1.2.1.1.1	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	2 days
2.2.2.1.1.2.1.1.2	Shuttering	1 skilled, 2 unskilled	2 days
2.2.2.1.1.2.1.1.3	Transporting & Pouring Concrete	2 skilled, 15 unskilled, 1 concrete miser, 1 needle type vibrator	2 days
2.2.2.1.1.2.1.2	BEAMS, DROPS & SLABS		17 days
2.2.2.1.1.2.1.2.1	Centering & Shuttering	1 skilled, 2 unskilled	7 days
2.2.2.1.1.2.1.2.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	12 days
2.2.2.1.1.2.1.2.3	Transporting & Pouring Concrete	1 skilled, 5 unskilled, 1 concrete mixer, 1 needle type vibrator	2 days
2.2.2.1.1.2.1.3	STAIRCASE		6 days
2.2.2.1.1.2.1.3.1	Centering & Shuttering	2 skilled, 1 unskilled	3 days
2.2.2.1.1.2.1.3.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	3 days
2.2.2.1.1.2.1.3.3	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	1 day
2.2.2.1.1.2.2	BRICKWORK	2 skilled, 5 unskilled, 2 extra unskilled	16 days
2.2.2.1.1.2.3	SERVICES		9 days
2.2.2.1.1.2.3.1	Water supply pipes	3 skilled, 2 unskilled	8 days
2.2.2.1.1.2.3.2	Connection lines	3 skilled, 2 unskilled	6 days
2.2.2.1.1.2.3.3	Pointing & wiring	6 skilled, 6 unskilled	7 days
2.2.2.1.1.2.3.4	Connections with equipments	2 skilled, 2 unskilled	2 days
2.2.2.1.1.2.3.5	Earthing	2 skilled, 2 unskilled	2 days
2.2.2.1.1.2.3.6	Distribution lines	25 skilled, 25 unskilled	2 days
2.2.2.1.1.2.4	PLASTERING		17 days
2.2.2.1.1.2.4.1	Plastering of 10mm, 12mm thk cement mortar	1 skilled, 2 unskilled	20 days
2.2.2.1.1.3	SECOND FLOOR		75 days
2.2.2.1.1.3.1	RCC WORK		28 days

2.2.2.1.1.3.1.1	COLUMNS & COREWALL		5 days
2.2.2.1.1.3.1.1.1	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	2 days
2.2.2.1.1.3.1.1.2	Shuttering	1 skilled, 2 unskilled	2 days
2.2.2.1.1.3.1.1.3	Transporting & Pouring Concrete	2 skilled, 15 unskilled, 1 concrete miser, 1 needle type vibrator	2 days
2.2.2.1.1.3.1.2	BEAMS, DROPS & SLABS		15 days
2.2.2.1.1.3.1.2.1	Centering & Shuttering	1 skilled, 2 unskilled	7 days
2.2.2.1.1.3.1.2.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	6 days
2.2.2.1.1.3.1.2.3	Transporting & Pouring Concrete	1 skilled, 5 unskilled, 1 concrete mixer, 1 needle type vibrator	3.4 days
2.2.2.1.1.3.1.3	STAIRCASE		6 days
2.2.2.1.1.3.1.3.1	Centering & Shuttering	2 skilled, 1 unskilled	3 days
2.2.2.1.1.3.1.3.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	3 days
2.2.2.1.1.3.1.3.3	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	1 day
2.2.2.1.1.3.2	BRICKWORK	2 skilled, 5 unskilled, 2 extra unskilled	13 days
2.2.2.1.1.3.3	SERVICES		9 days
2.2.2.1.1.3.3.1	Water supply pipes	3 skilled, 2 unskilled	8 days
2.2.2.1.1.3.3.2	Connection lines	3 skilled, 2 unskilled	6 days
2.2.2.1.1.3.3.3	Pointing & wiring	6 skilled, 6 unskilled	7 days
2.2.2.1.1.3.3.4	Connections with equipments	2 skilled, 2 unskilled	2 days
2.2.2.1.1.3.3.5	Earthing	2 skilled, 2 unskilled	2 days
2.2.2.1.1.3.3.6	Distribution lines	25 skilled, 25 unskilled	2 days
2.2.2.1.1.3.4	PLASTERING		19 days
2.2.2.1.1.3.4.1	Plastering of 10mm, 12mm thk cement mortar	1 skilled, 2 unskilled	22 days
2.2.2.1.1.4	THIRD FLOOR		61 days
2.2.2.1.1.4.1	RCC WORK		26 days
2.2.2.1.1.4.1.1	COLUMNS & COREWALL		5 days
2.2.2.1.1.4.1.1.1	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	2 days
2.2.2.1.1.4.1.1.2	Shuttering	1 skilled, 2 unskilled	2 days
2.2.2.1.1.4.1.1.3	Transporting & Pouring Concrete	2 skilled, 15 unskilled, 1 concrete miser, 1 needle type vibrator	2 days
2.2.2.1.1.4.1.2	BEAMS, DROPS & SLABS		13 days
2.2.2.1.1.4.1.2.1	Centering & Shuttering	1 skilled, 2 unskilled	7 days
2.2.2.1.1.4.1.2.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	6 days
2.2.2.1.1.4.1.2.3	Transporting & Pouring Concrete	1 skilled, 25 unskilled, 1 concrete mixer, 1 needle type vibrator	2 days
2.2.2.1.1.4.1.3	STAIRCASE		6 days
2.2.2.1.1.4.1.3.1	Centering & Shuttering	2 skilled, 1 unskilled	3 days
2.2.2.1.1.4.1.3.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	3 days
2.2.2.1.1.4.1.3.3	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	1 day
2.2.2.1.1.4.2	BRICKWORK	2 skilled, 5 unskilled, 2 extra unskilled	3 days
2.2.2.1.1.4.3	SERVICES		9 days
2.2.2.1.1.4.3.1	Water supply pipes	3 skilled, 2 unskilled	8 days
2.2.2.1.1.4.3.2	Connection lines	3 skilled, 2 unskilled	6 days
2.2.2.1.1.4.3.3	Pointing & wiring	6 skilled, 6 unskilled	7 days
2.2.2.1.1.4.3.4	Connections with equipments	2 skilled, 2 unskilled	2 days
2.2.2.1.1.4.3.5	Earthing	2 skilled, 2 unskilled	2 days

2.2.2.1.1.4.3.6	Distribution lines	25 skilled, 25 unskilled	2 days
2.2.2.1.1.4.4	PLASTERING		17 days
2.2.2.1.1.4.4.1	Plastering of 10mm, 12mm thk cement mortar	1 skilled, 2 unskilled	20 days
2.2.2.1.1.5	STAIRCASE HEADROOM SLAB & BEAM		3 days
2.2.2.1.1.5.1	Centering & Shuttering	1 skilled, 2 unskilled	1 day
2.2.2.1.1.5.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	1 day
2.2.2.1.1.5.3	Transporting & Pouring Concrete	2 skilled, 15 unskilled, 1 concrete mixer, 1 vibrator	2 days
2.2.2.1.1.6	OHT		4 days
2.2.2.1.1.6.1	Centering & Shuttering	1 skilled, 2 unskilled	2 days
2.2.2.1.1.6.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	1 day
2.2.2.1.1.6.3	Transporting & Pouring Concrete	1 skilled, 16 unskilled, 1 concrete mixer, 1 needle type vibrator	1 day
2.2.2.1.2	INTERNAL FINISHES		39 days
2.2.2.1.2.1	INSTALLATION OF PARTITIONS, DOORS & WINDOWS		13 days
2.2.2.1.2.1.1	PVC & UPVC frames	3 skilled, 3 unskilled	16 days
2.2.2.1.2.1.2	Rolling Shutters	18 skilled, 9 unskilled	5 days
2.2.2.1.2.1.3	Aluminium partition	10 skilled, 5 unskilled	12 days
2.2.2.1.2.1.4	MS Grills, Doors & Windows	28 skilled, 28 unskilled	1 day
2.2.2.1.2.1.5	Handrails on staircase	3 blacksmith, 12 unskilled	2 days
2.2.2.1.2.2	INSTALLATION FIXTURES		2.57 days
2.2.2.1.2.2.1	Washbasin	24 skilled, 12 unskilled	1 day
2.2.2.1.2.2.2	IWC, EWC, Urinals	14 skilled, 14 unskilled	3 days
2.2.2.1.2.2.3	Ceiling Fan & Lighting fixtures	52 skilled, 52 unskilled	1 day
2.2.2.1.2.2.4	Sprinklers, Smoke detectors etc	40 skilled, 76 unskilled	1 day
2.2.2.1.2.3	INSTALLATION OF FLOOR FINISHES		24 days
2.2.2.1.2.3.1	Granolithic finish, dadoeing	3 skilled, 3 unskilled	15 days
2.2.2.1.2.3.2	Polished Synthetic Grey Concrete	3 skilled, 2 unskilled, 2 machines	29 days
2.2.2.1.2.4	PAINTING	1 skilled, 1 unskilled	6 days
2.2.2.1.2.5	INSTALLATION OF METAL FALSE CEILING	1 skilled, 1 unskilled	12 days
2.2.2.1.3	EXTERNAL FINISHES		26 days
2.2.2.1.3.1	Plastering of 12mm thk cement mortar	11 skilled, 22 unskilled	2 days
2.2.2.1.3.2	INSTALLATION OF FLOOR FINISHES		13 days
2.2.2.1.3.2.1	Weathering Course	48 skilled, 24 unskilled	5 days
2.2.2.1.3.2.2	Machine pressed tiles	60 skilled	10 days
2.2.2.1.3.3	INSTALLATION OF CLADDING		12 days
2.2.2.1.3.3.1	Unitized Glazing	22 special crew	4 days
2.2.2.1.3.3.2	Polycarbonate Sheets	46 special crew	10 days
2.2.2.1.3.3.3	ACP framework	30 special crew	2 days
2.2.2.1.4	MECHANICAL		63 days
2.2.2.1.4.1	Installation of lifts	Special crew	63 days
2.2.2.1.5	HIGH SIDE		12 days
2.2.2.1.5.1	PLUMBING		2 days
2.2.2.1.5.1.1	Main pipe line fixing	3 fitter, 2 unskilled	3 days
2.2.2.1.5.2	ELECTRICAL		6 days
2.2.2.1.5.2.1	SOLAR POWER		3 days

2.2.2.1.5.2.1.1	Connection with equipments	Special crew	2 days
2.2.2.1.5.2.1.2	Solar Panel	Special crew	3 days
2.2.2.1.5.2.2	TNEB		6 days
2.2.2.1.5.2.2.1	Fixing of transformer	Special crew	6 days
2.2.2.1.5.2.2.2	Fixing of DG	Special crew	6 days
2.2.2.1.5.2.2.3	Fixing LT Panels	1 wireman, 1 unskilled	1 day
2.2.2.1.5.3	DRAINAGE		12 days
2.2.2.1.5.3.1	Rain water Harvesting pipes	1 skilled, 1 unskilled	15 days
2.2.2.1.5.3.2	Laying of Drainage Lines	1 skilled, 1 unskilled	6 days
2.2.2.1.5.4	FIRE FIGHTING		5 days
2.2.2.1.5.4.1	Supply line from sump to main line	3 skilled, 2 unskilled	2 days
2.2.2.1.5.4.2	Fixing of main line	6 skilled, 12 unskilled	7 days
2.2.2.1.5.4.3	Fixing of horizontal centrification pump	2 skilled, 10 unskilled	1 day
2.2.2.1.5.4.4	Fixing of hydrant pump	2 skilled, 10 unskilled	1 day
2.2.2.2	BLOCK 2		136 days
2.2.2.2.1	STRUCTURAL TO PLASTERING		93 days
2.2.2.2.1.1	GROUND FLOOR		33 days
2.2.2.2.1.1.1	RCC WORK		17 days
2.2.2.2.1.1.1.1	COLUMNS & COREWALL		5 days
2.2.2.2.1.1.1.1.1	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	2 days
2.2.2.2.1.1.1.1.2	Shuttering	1 skilled, 2 unskilled	2 days
2.2.2.2.1.1.1.1.3	Transporting & Pouring Concrete	2 skilled, 12 unskilled, 1 concrete miser, 1 needle type vibrator	2 days
2.2.2.2.1.1.1.2	BEAMS, DROPS & SLABS		12 days
2.2.2.2.1.1.1.2.1	Centering & Shuttering	1 skilled, 2 unskilled	6 days
2.2.2.2.1.1.1.2.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	7 days
2.2.2.2.1.1.1.2.3	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	2 days
2.2.2.2.1.1.1.3	STAIRCASE		11 days
2.2.2.2.1.1.1.3.1	Centering & Shuttering	2 skilled, 1 unskilled	6 days
2.2.2.2.1.1.1.3.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	6 days
2.2.2.2.1.1.1.3.3	Transporting & Pouring Concrete	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	1 day
2.2.2.2.1.1.2	BRICKWORK	2 skilled, 5 unskilled, 2 extra unskilled	6 days
2.2.2.2.1.1.3	SERVICES		6 days
2.2.2.2.1.1.3.1	Water supply pipes	3 skilled, 2 unskilled	1 day
2.2.2.2.1.1.3.2	Connection lines	3 skilled, 2 unskilled	1 day
2.2.2.2.1.1.3.3	Pointing & wiring	6 skilled, 6 unskilled	4 days
2.2.2.2.1.1.3.4	Connections with equipments	2 skilled, 2 unskilled	2 days
2.2.2.2.1.1.3.5	Earthing	2 skilled, 2 unskilled	1 day
2.2.2.2.1.1.3.6	Distribution lines	25 skilled, 25 unskilled	5 days
2.2.2.2.1.1.4	PLASTERING		4 days
2.2.2.2.1.1.4.1	Plastering of 10mm, 12mm thk cement mortar	1 skilled, 2 unskilled	5 days
2.2.2.2.1.2	FIRST FLOOR		33 days
2.2.2.2.1.2.1	RCC WORK		23 days
2.2.2.2.1.2.1.1	COLUMNS & COREWALL		5 days
2.2.2.2.1.2.1.2	BEAMS, DROPS & SLABS	1 skilled, 1 unskilled	18 days

2.2.2.2.1.2.1.3	STAIRCASE	1 skilled, 2 unskilled	6 days
2.2.2.2.1.2.2	BRICKWORK	2 skilled, 12 unskilled, 1 concrete miser, 1 needle type vibrator	6 days
2.2.2.2.1.2.3	SERVICES		6 days
2.2.2.2.1.2.3.1	Water supply pipes	1 skilled, 2 unskilled	1 day
2.2.2.2.1.2.3.2	Connection lines	1 skilled, 1 unskilled	1 day
2.2.2.2.1.2.3.3	Pointing & wiring	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	4 days
2.2.2.2.1.2.3.4	Connections with equipments		2 days
2.2.2.2.1.2.3.5	Earthing	2 skilled, 1 unskilled	1 day
2.2.2.2.1.2.3.6	Distribution lines	1 skilled, 1 unskilled	5 days
2.2.2.2.1.2.4	PLASTERING	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	4 days
2.2.2.2.1.2.4.1	Plastering of 10mm, 12mm thk cement mortar	2 skilled, 5 unskilled, 2 extra unskilled	5 days
2.2.2.2.1.3	SECOND FLOOR		33 days
2.2.2.2.1.3.1	RCC WORK	3 skilled, 2 unskilled	18 days
2.2.2.2.1.3.1.1	COLUMNS & COREWALL	3 skilled, 2 unskilled	5 days
2.2.2.2.1.3.1.1.1	Placing of Fabricated Reinforcement Cage	6 skilled, 6 unskilled	2 days
2.2.2.2.1.3.1.1.2	Shuttering	2 skilled, 2 unskilled	2 days
2.2.2.2.1.3.1.1.3	Transporting & Pouring Concrete	2 skilled, 2 unskilled	2 days
2.2.2.2.1.3.1.2	BEAMS, DROPS & SLABS	25 skilled, 25 unskilled	13 days
2.2.2.2.1.3.1.2.1	Centering & Shuttering		6 days
2.2.2.2.1.3.1.2.2	Placing of Fabricated Reinforcement Cage	1 skilled, 2 unskilled	7 days
2.2.2.2.1.3.1.2.3	Transporting & Pouring Concrete		2 days
2.2.2.2.1.3.1.3	STAIRCASE		6 days
2.2.2.2.1.3.1.3.1	Centering & Shuttering		3 days
2.2.2.2.1.3.1.3.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	3 days
2.2.2.2.1.3.1.3.3	Transporting & Pouring Concrete	1 skilled, 2 unskilled	1 day
2.2.2.2.1.3.2	BRICKWORK	2 skilled, 12 unskilled, 1 concrete miser, 1 needle type vibrator	6 days
2.2.2.2.1.3.3	SERVICES		6 days
2.2.2.2.1.3.3.1	Water supply pipes	1 skilled, 2 unskilled	1 day
2.2.2.2.1.3.3.2	Connection lines	1 skilled, 1 unskilled	1 day
2.2.2.2.1.3.3.3	Pointing & wiring	1 skilled, 3 unskilled, 1 concrete mixer, 1 needle type vibrator	4 days
2.2.2.2.1.3.3.4	Connections with equipments		2 days
2.2.2.2.1.3.3.5	Earthing	2 skilled, 1 unskilled	1 day
2.2.2.2.1.3.3.6	Distribution lines	1 skilled, 1 unskilled	5 days
2.2.2.2.1.3.4	FINISHES	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	4 days
2.2.2.2.1.3.4.1	PLASTERING	2 skilled, 5 unskilled, 2 extra unskilled	4 days
2.2.2.2.1.3.4.1.1	Plastering of 10mm, 12mm thk cement mortar		5 days
2.2.2.2.1.4	THIRD FLOOR	3 skilled, 2 unskilled	33 days
2.2.2.2.1.4.1	RCC WORK	3 skilled, 2 unskilled	17 days
2.2.2.2.1.4.1.1	COLUMNS & COREWALL	6 skilled, 6 unskilled	5 days
2.2.2.2.1.4.1.1.1	Placing of Fabricated Reinforcement Cage	2 skilled, 2 unskilled	2 days
2.2.2.2.1.4.1.1.2	Shuttering	2 skilled, 2 unskilled	2 days
2.2.2.2.1.4.1.1.3	Transporting & Pouring Concrete	25 skilled, 25 unskilled	2 days
2.2.2.2.1.4.1.2	BEAMS, DROPS & SLABS		12 days

2.2.2.2.1.4.1.2.1	Centering & Shuttering		7 days
2.2.2.2.1.4.1.2.2	Placing of Fabricated Reinforcement Cage	1 skilled, 2 unskilled	6 days
2.2.2.2.1.4.1.2.3	Transporting & Pouring Concrete		2 days
2.2.2.2.1.4.1.3	STAIRCASE		6 days
2.2.2.2.1.4.1.3.1	Centering & Shuttering		3 days
2.2.2.2.1.4.1.3.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	3 days
2.2.2.2.1.4.1.3.3	Transporting & Pouring Concrete	1 skilled, 2 unskilled	1 day
2.2.2.2.1.4.2	BRICKWORK	2 skilled, 12 unskilled, 1 concrete miser, 1 needle type vibrator	6 days
2.2.2.2.1.4.3	SERVICES		6 days
2.2.2.2.1.4.3.1	Water supply pipes	1 skilled, 2 unskilled	1 day
2.2.2.2.1.4.3.2	Connection lines	1 skilled, 1 unskilled	1 day
2.2.2.2.1.4.3.3	Pointing & wiring	1 skilled, 3 unskilled, 1 concrete mixer, 1 needle type vibrator	4 days
2.2.2.2.1.4.3.4	Connections with equipments		2 days
2.2.2.2.1.4.3.5	Earthing	2 skilled, 1 unskilled	1 day
2.2.2.2.1.4.3.6	Distribution lines	1 skilled, 1 unskilled	5 days
2.2.2.2.1.4.4	INTERNAL FINISHES	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	4 days
2.2.2.2.1.4.4.1	Plastering of 10mm, 12mm thk cement mortar	2 skilled, 5 unskilled, 2 extra unskilled	5 days
2.2.2.2.1.5	ROOF WORKS		10 days
2.2.2.2.1.5.1	STAIRCASE HEADROOM SLAB & BEAM	3 skilled, 2 unskilled	4 days
2.2.2.2.1.5.1.1	Centering & Shuttering	3 skilled, 2 unskilled	2 days
2.2.2.2.1.5.1.2	Placing of Fabricated Reinforcement Cage	6 skilled, 6 unskilled	2 days
2.2.2.2.1.5.1.3	Transporting & Pouring Concrete	2 skilled, 2 unskilled	1 day
2.2.2.2.1.5.2	OHT	2 skilled, 2 unskilled	4 days
2.2.2.2.1.5.2.1	Centering & Shuttering	25 skilled, 25 unskilled	2 days
2.2.2.2.1.5.2.2	Placing of Fabricated Reinforcement Cage		2 days
2.2.2.2.1.5.2.3	Transporting & Pouring Concrete	1 skilled, 2 unskilled	1 day
2.2.2.2.1.5.3	PARAPET WALL		5 days
2.2.2.2.2	INTERNAL FINISHES		41 days
2.2.2.2.2.1	INSTALLATION OF PARTITIONS, DOORS & WINDOWS	1 skilled, 2 unskilled	33 days
2.2.2.2.2.1.1	PVC & UPVC frames	1 skilled, 1 unskilled	15 days
2.2.2.2.2.1.2	Rolling Shutters	2 skilled, 31 unskilled, 1 concrete mixer, 1 vibrator	22 days
2.2.2.2.2.1.3	Aluminium partition		18 days
2.2.2.2.2.1.4	MS Grills, Doors & Windows	1 skilled, 2 unskilled	40 days
2.2.2.2.2.1.5	Handrails on staircase	1 skilled, 1 unskilled	2 days
2.2.2.2.2.2	INSTALLATION FIXTURES	1 skilled, 5 unskilled, 1 concrete mixer, 1 needle type vibrator	13.4 days
2.2.2.2.2.2.1	Washbasin	4 skilled, 5 unskilled	2 days
2.2.2.2.2.2.2	IWC, EWC, Urinals		5 days
2.2.2.2.2.2.3	Ceiling Fan & Lighting fixtures		10 days
2.2.2.2.2.2.4	Sprinklers, Smoke detectors etc	3 skilled, 3 unskilled	4 days
2.2.2.2.2.3	INSTALLATION OF FLOOR FINISHES	18 skilled, 9 unskilled	12 days
2.2.2.2.2.3.1	Dadoeing with glazed tiles	10 skilled, 5 unskilled	10 days
2.2.2.2.2.3.2	Vetrified Marbonite Tiles	28 skilled, 28 unskilled	15 days
2.2.2.2.2.3.3	Polished Synthetic Grey Granite	3 blacksmith, 12 unskilled	15 days

2.2.2.2.2.3.4	Antiskit ceramic tiles		5 days
2.2.2.2.2.4	PAINTING	16 skilled, 8 unskilled	10 days
2.2.2.2.2.5	INSTALLATION OF METAL FALSE CEILING	5 skilled, 5 unskilled	24 days
2.2.2.2.3	EXTERNAL FINISHES	10 skilled, 10 unskilled	31 days
2.2.2.2.3.1	Plastering of 12mm thlk cement mortar	12 skilled, 24 unskilled	15 days
2.2.2.2.3.2	ROOF FINISH		14 days
2.2.2.2.3.2.1	Weathering Course	3 skilled, 3 unskilled	7 days
2.2.2.2.3.2.2	Machine pressed tiles	1 skilled, 1 unskilled	10 days
2.2.2.2.3.3	EXTERNAL CLADDING	3 skilled, 2 unskilled, 2 machines	4 days
2.2.2.2.3.3.1	ACP Framework	1 skilled, 1 unskilled	4 days
2.2.2.2.3.3.2	Unitized Glazing	1 skilled, 1 unskilled	4 days
2.2.2.2.4	MECHANICAL	1 skilled, 1 unskilled	38 days
2.2.2.2.4.1	Installation of lifts		38 days
2.2.2.2.5	HIGH SIDE	1 skilled, 2 unskilled	13 days
2.2.2.2.5.1	PLUMBING		3 days
2.2.2.2.5.1.1	Main pipe line fixing	3 skilled, 1 unskilled	3 days
2.2.2.2.5.2	ELECTRICAL	2 skilled	7 days
2.2.2.2.5.2.1	SOLAR POWER		7 days
2.2.2.2.5.2.1.1	Connection with equipments	15 Special crew	2 days
2.2.2.2.5.2.1.2	Solar Panel	22 Special crew	7 days
2.2.2.2.5.2.2	TNEB		6 days
2.2.2.2.5.2.2.1	Fixing of transformer	Special crew	6 days
2.2.2.2.5.2.2.2	Fixing of DG		6 days
2.2.2.2.5.2.2.3	Fixing LT Panels		1 day
2.2.2.2.5.3	DRAINAGE	3 fitter, 2 unskilled	13 days
2.2.2.2.5.3.1	Rain water Harvesting pipes		15 days
2.2.2.2.5.3.2	Laying of Drainage Lines		6 days
2.2.2.2.5.4	FIRE FIGHTING	Special crew	6 days
2.2.2.2.5.4.1	Supply line from sump to main line	Special crew	2 days
2.2.2.2.5.4.2	Fixing of main line		7 days
2.2.2.2.5.4.3	Fixing of horizontal centrification pump	Special crew	1 day
2.2.2.2.5.4.4	Fixing of hydrant pump	Special crew	1 day
2.2.2.3	BLOCK 3	1 wireman, 1 unskilled	133 days
2.2.2.3.1	STRUCTURAL TO PLASTERING		96 days
2.2.2.3.1.1	GROUND FLOOR	1 skilled, 1 unskilled	26 days
2.2.2.3.1.1.1	RCC WORK	1 skilled, 1 unskilled	21 days
2.2.2.3.1.1.1.1	COLUMNS & COREWALL		9 days
2.2.2.3.1.1.1.1.1	Placing of Fabricated Reinforcement Cage	3 skilled, 2 unskilled	6 days
2.2.2.3.1.1.1.1.2	Shuttering	6 skilled, 12 unskilled	3 days
2.2.2.3.1.1.1.1.3	Transporting & Pouring Concrete	2 skilled, 10 unskilled	2 days
2.2.2.3.1.1.1.2	BEAMS, DROPS & SLABS	2 skilled, 10 unskilled	12 days
2.2.2.3.1.1.1.2.1	Centering & Shuttering		6 days
2.2.2.3.1.1.1.2.2	Placing of Fabricated Reinforcement Cage		7 days
2.2.2.3.1.1.1.2.3	Transporting & Pouring Concrete		2 days
2.2.2.3.1.1.1.3	RAMP		5 days

2.2.2.3.1.1.3.1	Shuttering		2 days
2.2.2.3.1.1.3.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	2 days
2.2.2.3.1.1.3.3	Transporting & Pouring Concrete	1 skilled, 2 unskilled	2 days
2.2.2.3.1.1.1.4	STAIRCASE	2 skilled, 16 unskilled, 1 concrete miser, 1 needle type vibrator	5 days
2.2.2.3.1.1.1.4.1	Centering & Shuttering		2 days
2.2.2.3.1.1.1.4.2	Placing of Fabricated Reinforcement Cage	1 skilled, 2 unskilled	2 days
2.2.2.3.1.1.1.4.3	Transporting & Pouring Concrete	1 skilled, 1 unskilled	2 days
2.2.2.3.1.1.2	BRICKWORK	3 skilled, 10 unskilled, 1 concrete mixer, 1 needle type vibrator	1 day
2.2.2.3.1.1.2.1	Brickwork		2 days
2.2.2.3.1.1.3	SERVICES	1 skilled, 1 unskilled	4 days
2.2.2.3.1.1.3.1	Water supply pipes	2 skilled, 1 unskilled	1 day
2.2.2.3.1.1.3.2	Connection lines	1 skilled, 15 unskilled, needle vibrator	1 day
2.2.2.3.1.1.3.3	Pointing & wiring		1 day
2.2.2.3.1.1.3.4	Connections with equipments	2 skilled, 1 unskilled	1 day
2.2.2.3.1.1.3.5	Earthing	1 skilled, 1 unskilled	1 day
2.2.2.3.1.1.3.6	Distribution lines	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	5 days
2.2.2.3.1.1.4	PLASTERING		3 days
2.2.2.3.1.1.4.1	Plastering of 10mm, 12mm thk cement mortar	2 skilled, 5 unskilled, 2 extra unskilled	3 days
2.2.2.3.1.2	FIRST FLOOR		30 days
2.2.2.3.1.2.1	RCC WORK	3 skilled, 2 unskilled	17 days
2.2.2.3.1.2.1.1	COLUMNS & COREWALL	3 skilled, 2 unskilled	5 days
2.2.2.3.1.2.1.1.1	Placing of Fabricated Reinforcement Cage	4 skilled, 4 unskilled	2 days
2.2.2.3.1.2.1.1.2	Shuttering	1 skilled, 1 unskilled	2 days
2.2.2.3.1.2.1.1.3	Transporting & Pouring Concrete	1 skilled, 1 unskilled	1 day
2.2.2.3.1.2.1.2	BEAMS, DROPS & SLABS	5 skilled, 10 unskilled	12 days
2.2.2.3.1.2.1.2.1	Centering & Shuttering		6 days
2.2.2.3.1.2.1.2.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	7 days
2.2.2.3.1.2.1.2.3	Transporting & Pouring Concrete		2 days
2.2.2.3.1.2.1.3	RAMP		4 days
2.2.2.3.1.2.1.3.1	Shuttering		2 days
2.2.2.3.1.2.1.3.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	2 days
2.2.2.3.1.2.1.3.3	Transporting & Pouring Concrete	1 skilled, 2 unskilled	1 day
2.2.2.3.1.2.1.4	STAIRCASE	2 skilled, 16 unskilled, 1 concrete miser, 1 needle type vibrator	5 days
2.2.2.3.1.2.1.4.1	Centering & Shuttering		2 days
2.2.2.3.1.2.1.4.2	Placing of Fabricated Reinforcement Cage	1 skilled, 2 unskilled	2 days
2.2.2.3.1.2.1.4.3	Transporting & Pouring Concrete	1 skilled, 1 unskilled	2 days
2.2.2.3.1.2.2	BRICKWORK	3 skilled, 10 unskilled, 1 concrete mixer, 1 needle type vibrator	7 days
2.2.2.3.1.2.2.1	Brickwork		4 days
2.2.2.3.1.2.3	SERVICES	1 skilled, 1 unskilled	2 days
2.2.2.3.1.2.3.1	Water supply pipes	2 skilled, 1 unskilled	1 day
2.2.2.3.1.2.3.2	Connection lines	1 skilled, 15 unskilled, needle vibrator	1 day
2.2.2.3.1.2.3.3	Pointing & wiring		1 day
2.2.2.3.1.2.3.4	Connections with equipments	2 skilled, 1 unskilled	1 day

2.2.2.3.1.2.3.5	Earthing	1 skilled, 1 unskilled	1 day
2.2.2.3.1.2.3.6	Distribution lines	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	1 day
2.2.2.3.1.2.4	PLASTERING		4 days
2.2.2.3.1.2.4.1	Plastering of 10mm, 12mm thk cement mortar	2 skilled, 5 unskilled, 2 extra unskilled	4 days
2.2.2.3.1.3	SECOND FLOOR		23 days
2.2.2.3.1.3.1	RCC WORK	3 skilled, 2 unskilled	17 days
2.2.2.3.1.3.1.1	COLUMNS & COREWALL	3 skilled, 2 unskilled	4 days
2.2.2.3.1.3.1.1.1	Placing of Fabricated Reinforcement Cage	4 skilled, 4 unskilled	2 days
2.2.2.3.1.3.1.1.2	Shuttering	1 skilled, 1 unskilled	2 days
2.2.2.3.1.3.1.1.3	Transporting & Pouring Concrete	1 skilled, 1 unskilled	1 day
2.2.2.3.1.3.1.2	BEAMS, DROPS & SLABS	5 skilled, 10 unskilled	13 days
2.2.2.3.1.3.1.2.1	Centering & Shuttering		6 days
2.2.2.3.1.3.1.2.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	7 days
2.2.2.3.1.3.1.2.3	Transporting & Pouring Concrete		2 days
2.2.2.3.1.3.1.3	RAMP		5 days
2.2.2.3.1.3.1.3.1	Shuttering		2 days
2.2.2.3.1.3.1.3.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	2 days
2.2.2.3.1.3.1.3.3	Transporting & Pouring Concrete	1 skilled, 2 unskilled	2 days
2.2.2.3.1.3.1.4	STAIRCASE	2 skilled, 16 unskilled, 1 concrete miser, 1 needle type vibrator	5 days
2.2.2.3.1.3.1.4.1	Centering & Shuttering		2 days
2.2.2.3.1.3.1.4.2	Placing of Fabricated Reinforcement Cage	1 skilled, 2 unskilled	2 days
2.2.2.3.1.3.1.4.3	Transporting & Pouring Concrete	1 skilled, 1 unskilled	2 days
2.2.2.3.1.3.2	BRICKWORK	3 skilled, 10 unskilled, 1 concrete mixer, 1 needle type vibrator	2 days
2.2.2.3.1.3.2.1	Brickwork		2 days
2.2.2.3.1.3.3	SERVICES	1 skilled, 1 unskilled	2 days
2.2.2.3.1.3.3.1	Water supply pipes	2 skilled, 1 unskilled	1 day
2.2.2.3.1.3.3.2	Connection lines	1 skilled, 15 unskilled, needle vibrator	1 day
2.2.2.3.1.3.3.3	Pointing & wiring		1 day
2.2.2.3.1.3.3.4	Connections with equipments	2 skilled, 1 unskilled	1 day
2.2.2.3.1.3.3.5	Earthing	1 skilled, 1 unskilled	1 day
2.2.2.3.1.3.3.6	Distribution lines	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	1 day
2.2.2.3.1.3.4	PLASTERING		4 days
2.2.2.3.1.3.4.1	Plastering of 10mm, 12mm thk cement mortar	2 skilled, 5 unskilled, 2 extra unskilled	4 days
2.2.2.3.1.4	THIRD FLOOR		21 days
2.2.2.3.1.4.1	RCC WORK	3 skilled, 2 unskilled	16 days
2.2.2.3.1.4.1.1	COLUMNS & COREWALL	3 skilled, 2 unskilled	4 days
2.2.2.3.1.4.1.1.1	Placing of Fabricated Reinforcement Cage	4 skilled, 4 unskilled	2 days
2.2.2.3.1.4.1.1.2	Shuttering	1 skilled, 1 unskilled	2 days
2.2.2.3.1.4.1.1.3	Transporting & Pouring Concrete	1 skilled, 1 unskilled	1 day
2.2.2.3.1.4.1.2	BEAMS, DROPS & SLABS	5 skilled, 10 unskilled	12 days
2.2.2.3.1.4.1.2.1	Centering & Shuttering		6 days
2.2.2.3.1.4.1.2.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	7 days
2.2.2.3.1.4.1.2.3	Transporting & Pouring Concrete		2 days
2.2.2.3.1.4.1.3	RAMP		5 days

2.2.2.3.1.4.1.3.1	Shuttering		2 days
2.2.2.3.1.4.1.3.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	2 days
2.2.2.3.1.4.1.3.3	Transporting & Pouring Concrete	1 skilled, 2 unskilled	2 days
2.2.2.3.1.4.1.4	STAIRCASE	2 skilled, 16 unskilled, 1 concrete miser, 1 needle type vibrator	5 days
2.2.2.3.1.4.1.4.1	Centering & Shuttering		2 days
2.2.2.3.1.4.1.4.2	Placing of Fabricated Reinforcement Cage	1 skilled, 2 unskilled	2 days
2.2.2.3.1.4.1.4.3	Transporting & Pouring Concrete	1 skilled, 1 unskilled	2 days
2.2.2.3.1.4.2	BRICKWORK	3 skilled, 10 unskilled, 1 concrete mixer, 1 needle type vibrator	2 days
2.2.2.3.1.4.2.1	Brickwork		2 days
2.2.2.3.1.4.3	SERVICES	1 skilled, 1 unskilled	2 days
2.2.2.3.1.4.3.1	Water supply pipes	2 skilled, 1 unskilled	1 day
2.2.2.3.1.4.3.2	Connection lines	1 skilled, 15 unskilled, needle vibrator	1 day
2.2.2.3.1.4.3.3	Pointing & wiring		1 day
2.2.2.3.1.4.3.4	Connections with equipments	2 skilled, 1 unskilled	1 day
2.2.2.3.1.4.3.5	Earthing	1 skilled, 1 unskilled	1 day
2.2.2.3.1.4.3.6	Distribution lines	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	1 day
2.2.2.3.1.4.4	PLASTERING		3 days
2.2.2.3.1.4.4.1	Plastering of 10mm, 12mm thk cement mortar	2 skilled, 5 unskilled, 2 extra unskilled	4 days
2.2.2.3.1.5	FOURTH FLOOR		25 days
2.2.2.3.1.5.1	RCC WORK	3 skilled, 2 unskilled	17 days
2.2.2.3.1.5.1.1	COLUMNS & COREWALL	3 skilled, 2 unskilled	5 days
2.2.2.3.1.5.1.1.1	Placing of Fabricated Reinforcement Cage	4 skilled, 4 unskilled	2 days
2.2.2.3.1.5.1.1.2	Shuttering	1 skilled, 1 unskilled	2 days
2.2.2.3.1.5.1.1.3	Transporting & Pouring Concrete	1 skilled, 1 unskilled	1 day
2.2.2.3.1.5.1.2	BEAMS, DROPS & SLABS	5 skilled, 10 unskilled	12 days
2.2.2.3.1.5.1.2.1	Centering & Shuttering		6 days
2.2.2.3.1.5.1.2.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	7 days
2.2.2.3.1.5.1.2.3	Transporting & Pouring Concrete		2 days
2.2.2.3.1.5.1.3	RAMP		5 days
2.2.2.3.1.5.1.3.1	Shuttering		2 days
2.2.2.3.1.5.1.3.2	Placing of Fabricated Reinforcement Cage	1 skilled, 1 unskilled	2 days
2.2.2.3.1.5.1.3.3	Transporting & Pouring Concrete	1 skilled, 2 unskilled	2 days
2.2.2.3.1.5.1.4	STAIRCASE	2 skilled, 16 unskilled, 1 concrete miser, 1 needle type vibrator	5 days
2.2.2.3.1.5.1.4.1	Centering & Shuttering		2 days
2.2.2.3.1.5.1.4.2	Placing of Fabricated Reinforcement Cage	1 skilled, 2 unskilled	2 days
2.2.2.3.1.5.1.4.3	Transporting & Pouring Concrete	1 skilled, 1 unskilled	2 days
2.2.2.3.1.5.2	BRICKWORK	3 skilled, 10 unskilled, 1 concrete mixer, 1 needle type vibrator	2 days
2.2.2.3.1.5.2.1	Brickwork		2 days
2.2.2.3.1.5.3	SERVICES	1 skilled, 1 unskilled	2 days
2.2.2.3.1.5.3.1	Water supply pipes	2 skilled, 1 unskilled	1 day
2.2.2.3.1.5.3.2	Connection lines	1 skilled, 15 unskilled, needle vibrator	1 day
2.2.2.3.1.5.3.3	Pointing & wiring		1 day
2.2.2.3.1.5.3.4	Connections with equipments	2 skilled, 1 unskilled	1 day

2.2.2.3.1.5.3.5	Earthing	1 skilled, 1 unskilled	1 day
2.2.2.3.1.5.3.6	Distribution lines	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	1 day
2.2.2.3.1.5.4	PLASTERING		4 days
2.2.2.3.1.5.4.1	Plastering of 10mm, 12mm thk cement mortar	2 skilled, 5 unskilled, 2 extra unskilled	4 days
2.2.2.3.1.6	STAIRCASE HEADROOM SLAB & BEAM		3 days
2.2.2.3.1.6.1	Centering & Shuttering	3 skilled, 2 unskilled	2 days
2.2.2.3.1.6.2	Placing of Fabricated Reinforcement Cage	3 skilled, 2 unskilled	1 day
2.2.2.3.1.6.3	Transporting & Pouring Concrete	4 skilled, 4 unskilled	1 day
2.2.2.3.1.7	OHT	1 skilled, 1 unskilled	3 days
2.2.2.3.1.7.1	Centering & Shuttering	1 skilled, 1 unskilled	1 day
2.2.2.3.1.7.2	Placing of Fabricated Reinforcement Cage	5 skilled, 10 unskilled	1 day
2.2.2.3.1.7.3	Transporting & Pouring Concrete		1 day
2.2.2.3.2	INTERNAL FINISHES	1 skilled, 1 unskilled	38 days
2.2.2.3.2.1	INSTALLATION OF PARTITIONS, DOORS & WINDOWS		18.51 days
2.2.2.3.2.1.1	PVC & UPVC frames	1 skilled, 2 unskilled	5 days
2.2.2.3.2.1.2	Rolling Shutters	1 skilled, 1 unskilled	5.23 days
2.2.2.3.2.1.3	MS Grills, Doors & Windows	2 skilled, 15 unskilled, 1 concrete mixer, 1 vibrator	19.4 days
2.2.2.3.2.1.4	Handrails on staircase		12 days
2.2.2.3.2.2	INSTALLATION FIXTURES	1 skilled, 2 unskilled	17 days
2.2.2.3.2.2.1	Washbasin	1 skilled, 1 unskilled	9 days
2.2.2.3.2.2.2	IWC, EWC, Urinals	1 skilled, 16 unskilled, 1 concrete mixer, 1 needle type vibrator	6 days
2.2.2.3.2.2.3	Ceiling Fan & Lighting fixtures		7 days
2.2.2.3.2.2.4	Sprinklers, Smoke detectors etc		7 days
2.2.2.3.2.3	INSTALLATION OF FLOOR FINISHES	3 skilled, 3 unskilled	25 days
2.2.2.3.2.3.1	Granolithic finish	18 skilled, 9 unskilled	30 days
2.2.2.3.2.3.2	Vitrified Marbonite Tiles	10 skilled, 5 unskilled	15 days
2.2.2.3.2.3.3	Polished Synthetic Grey Granite	3 blacksmith, 12 unskilled	21.5 days
2.2.2.3.2.4	PAINTING		13 days
2.2.2.3.2.4.1	Cement Paint & Acrylic emulsion	16 skilled, 8 unskilled	16 days
2.2.2.3.3	EXTERNAL FINISHES	5 skilled, 5 unskilled	35 days
2.2.2.3.3.1	Plastering of 12mm thlk cement mortar	10 skilled, 10 unskilled	16 days
2.2.2.3.3.2	INSTALLATION OF FLOOR FINISHES	12 skilled, 24 unskilled	35 days
2.2.2.3.3.2.1	Weathering Course		15 days
2.2.2.3.3.2.2	Machine pressed tiles	3 skilled, 3 unskilled	15 days
2.2.2.3.3.3	EXTERNAL CLADDING	1 skilled, 1 unskilled	8.6 days
2.2.2.3.3.3.1	Installation of unitized glazing	3 skilled, 2 unskilled, 2 machines	4.6 days
2.2.2.3.3.3.2	Installation of ACP Framework		3 days
2.2.2.3.4	MECHANICAL	1 skilled, 1 unskilled	37 days
2.2.2.3.4.1	Installation of lifts		37 days
2.2.2.3.5	HIGH SIDE	1 skilled, 2 unskilled	13 days
2.2.2.3.5.1	PLUMBING		4 days
2.2.2.3.5.1.1	Main pipe line fixing	1 skilled, 3 unskilled	5 days
2.2.2.3.5.2	ELECTRICAL	2 skilled	7 days
2.2.2.3.5.2.1	SOLAR POWER		7 days

2.2.2.3.5.2.1.1	Connection with equipments	22 Special crew	2 days
2.2.2.3.5.2.1.2	Solar Panel	46 Special crew	7 days
2.2.2.3.5.2.2	TNEB		6 days
2.2.2.3.5.2.2.1	Fixing of transformer	Special crew	6 days
2.2.2.3.5.2.2.2	Fixing of DG	Special crew	6 days
2.2.2.3.5.2.2.3	Fixing LT Panels	Special crew	1 day
2.2.2.3.5.3	DRAINAGE	3 fitter, 2 unskilled	13 days
2.2.2.3.5.3.1	Rain water Harvesting pipes		15 days
2.2.2.3.5.3.2	Laying of Drainage Lines		6 days
2.2.2.3.5.4	FIRE FIGHTING	Special crew	6 days
2.2.2.3.5.4.1	Supply line from sump to main line	Special crew	2 days
2.2.2.3.5.4.2	Fixing of main line		7 days
2.2.2.3.5.4.3	Fixing of horizontal centrification pump	Special crew	2 days
2.2.2.3.5.4.4	Fixing of hydrant pump	Special crew	2 days
2.2.3	EXTERNAL DEVELOPMENT	1 wireman, 1 unskilled	176 days
2.2.3.1	Boundary wall		36 days
2.2.3.2	LANDSCAPE	1 skilled, 1 unskilled	27 days
2.2.3.2.1	Excavation for lawn area	1 skilled, 1 unskilled	18 days
2.2.3.2.2	Sil Filling		7 days
2.2.3.2.3	Manure Filling	3 skilled, 2 unskilled	7 days
2.2.3.2.4	Pavement	6 skilled, 12 unskilled	14 days
2.2.3.3	SITE SERVICES	2 skilled, 10 unskilled	28 days
2.2.3.3.1	Laying of main Plumbing lines	2 skilled, 10 unskilled	7 days
2.2.3.3.2	Laying of main Sewarage lines		3 days
2.2.3.3.3	Fire figting - Wiring to terrace pump motor	1 skilled, 2 unskilled	15 days
2.2.3.3.4	Grating for SWD		20 days
2.2.3.4	STREET LIGHTING	1 skilled, 2 unskilled	36 days
2.2.3.4.1	Installation of street lights	2 unskilled	13 days
2.2.3.4.2	Installation of PVC Armoured cable	2 unskilled	34 days
2.3	POST CONSTRUCTION	1 skilled, 1 unskilled	45 days
2.3.1	Testing, commissioning and handing over of site		30 days
2.3.2	Buffer	3 skilled, 2 unskilled	15 days
3	PROJECT FINISH	1 skilled, 1 unskilled	0 days

Table 4: Activity list with resource crew and duration

4. RESOURCE CREW CALCULATION

The crew resource required are calculated using the quantity in the BOQ and the productivity as per the standards.

TASK NAME	UNIT	QTY AS PER BOQ	CREW	PRODUCTIVITY	DUR. REQ	CREW / DAY	DUR
PROJECT START							
JATAYU MALL							
PRECONSTRUCTION							
Contractual Agreements							
SITE DEVELOPMENT							
SITE CLEARING							
Demolition of Existing Building & Soil levelling	Nos.	3.00	1 poclaim, 2 skilled, 2 unskilled	1.00	3.0	1	3
Transplanting the trees to the site	Nos.	54.00	1 tree transplantation machine, 4 skilled, 8 unskilled	16.00	3.4	1	3
Site Barricading - GI Sheet	RM	307.00	2 skilled, 2 unskilled	30.00	10.2	2	5
SITE INFRASTRUCTURE							
Preparation of vehicular pathway	RM	30.00	1 skilled, 3 unskilled	5.00	6.0	2	3
DG set installation	Nos.	1.00	2 skilled, 4 unskilled	1.00	1.0	1	1
SITE LOGISTICS							
Setting up of storage & labour requirements	Sq.m.	500.00	2 skilled, 5 unskilled	10.00	50.0	5	10
CONSTRUCTION							
SUB STRUCTURE							
EXCAVATION TO SUB BASE SOIL PREPARATION							
EXCAVATION OF FOUNDATION							
Isolated & Combined footing	Cu.m.	215.10	2 skilled, 4 unskilled, 1 hydraulic excavator, 2 loader	240.00	0.9	1	1
Raft foundation 1	Cu.m.	3077.22	2 skilled, 4 unskilled, 1 hydraulic excavator, 2 loader	240.00	12.8	4	3
Raft foundation 2	Cu.m.	2175.62	2 skilled, 4 unskilled, 1 hydraulic excavator, 2 loader	240.00	9.1	5	2
Raft foundation 3	Cu.m.	1960.02	2 skilled, 4 unskilled, 1 hydraulic excavator, 2 loader	240.00	8.2	4	2
Raft foundation 4	Cu.m.	2371.62	2 skilled, 4 unskilled, 1 hydraulic excavator, 2 loader	240.00	9.9	5	2
EXCAVATION & DUMPING OF UG SUMPS							

Block 1	Cu.m.	187.92	2 skilled, 4 unskilled, 1 hydraulic excavator, 2 loader	240.00	0.8	1	1
Block 2	Cu.m.	187.92	2 skilled, 4 unskilled, 1 hydraulic excavator, 2 loader	240.00	0.8	1	1
Block 3	Cu.m.	187.92	2 skilled, 4 unskilled, 1 hydraulic excavator, 2 loader	240.00	0.8	1	1
Excavation & Dumping of soil for Storm water drain	Cu.m.	500.00	2 skilled, 4 unskilled, 1 hydraulic excavator, 2 loader	240.00	2.1	1	2
SUB BASE SOIL PREPARATION							
ISOLATED & COMBINED FOOTING							
Filling of consolidated & rammed earth	Cu.m.	26.00	1 skilled, 2 unskilled	48.00	0.5	1	1
Sand Filling	Cu.m.	13.00	3 unskilled	13.00	1.0	1	1
Laying of PCC 100mm thk	Cu.m.	13.00	1 skilled, 8 unskilled, 1 needle vibrator	6.00	2.2	2	1
Laying of water proofing layer	Sq.m.	130.00	1 skilled, 5 unskilled	50.00	2.6	1	3
RAFT FOOTING PART 1							
Timber Shoring	Sq.m.	244.47	1 skilled, 2 unskilled	14.40	17.0	4	4
Filling of consolidated & rammed earth	Cu.m.	186.98	1 skilled, 14 unskilled	240.00	0.8	1	1
Sand Filling	Cu.m.	93.49	7 skilled	29.00	3.2	3	1
Laying of PCC 100mm thk	Cu.m.	93.49	1 skilled, 8 unskilled, 1 needle vibrator	6.00	15.6	8	2
Laying of water proofing layer	Sq.m.	934.89	1 skilled, 5 unskilled	50.00	18.7	9	2
RAFT FOOTING PART 2							
Timber Shoring	Sq.m.	172.84	1 skilled, 2 unskilled	14.40	12.0	4	3
Filling of consolidated & rammed earth	Cu.m.	132.19	1 skilled, 14 unskilled	240.00	0.6	1	1
Sand Filling	Cu.m.	66.10	7 skilled	29.00	2.3	2	1
Laying of PCC 100mm thk	Cu.m.	66.10	1 skilled, 8 unskilled, 1 needle vibrator	6.00	11.0	6	2
Laying of water proofing layer	Sq.m.	660.97	1 skilled, 5 unskilled	50.00	13.2	7	2
RAFT FOOTING PART 3							
Timber Shoring	Sq.m.	155.71	1 skilled, 2 unskilled	14.40	10.8	4	3
Filling of consolidated & rammed earth	Cu.m.	119.10	1 skilled, 14 unskilled	240.00	0.6	1	1
Sand Filling	Cu.m.	59.55	7 skilled	29.00	2.1	2	1
Laying of PCC 100mm thk	Cu.m.	59.55	1 skilled, 8 unskilled, 1 needle vibrator	6.00	9.9	10	1
Laying of water proofing layer	Sq.m.	595.47	1 skilled, 5 unskilled	50.00	11.9	12	1
RAFT FOOTING PART 4							
Timber Shoring	Sq.m.	188.41	1 skilled, 2 unskilled	14.40	13.1	4	3

Filling of consolidated & rammed earth	Cu.m.	144.10	1 skilled, 14 unskilled	240.00	0.6	1	1
Sand Filling	Cu.m.	72.05	7 skilled	29.00	2.5	2	1
Laying of PCC 100mm thk	Cu.m.	72.05	1 skilled, 8 unskilled, 1 needle vibrator	6.00	12.0	6	2
Laying of water proofing layer	Sq.m.	720.52	1 skilled, 5 unskilled	50.00	14.4	7	2
STRUCTURAL TO PLASTERING							
STORM WATER DRAIN							
Sand Filling	Cu.m.	56.10	7 skilled	8.00	7.0	1	7
Laying of PCC 100mm thk	Cu.m.	56.10	1 skilled, 8 unskilled, 1 needle vibrator	6.00	9.4	2	5
Placing of Fabricated Reinforcement Cage	Kg	24660.00	1 skilled, 1 unskilled	167.00	147.7	10	15
Shuttering	Sq.m.	1782.00	1 skilled, 2 unskilled	14.40	123.8	10	12
Transporting & Pouring Concrete	Cu.m.	274.00	1 skilled, 8 unskilled, 1 needle vibrator, 1 concrete mixer	5.88	46.6	4	12
FOOTING							
ISOLATED & COMBINED FOOTING							
Placing of Fabricated Reinforcement Cage	Kg	10404.08	1 skilled, 1 unskilled	167.00	62.3	12	5
Shuttering	Sq.m.	75.86	1 skilled, 2 unskilled	14.40	5.3	5	1
Transporting & Pouring Concrete	Cu.m.	80.02	1 skilled, 8 unskilled, 1 needle vibrator, 1 concrete mixer	5.88	13.6	7	2
Laying of water proofing layer	Sq.m.	203.20	1 skilled, 6 unskilled	50.00	4.1	2	2
Backfilling	Cu.m.	96.08	1 skilled, 3 unskilled	30.00	3.2	1	3
Anti-termite Treatment	Sq.m.	239.00	1 unskilled	30.03	8.0	8	1
RAFT SLAB 1							
Placing of Fabricated Reinforcement Cage	Kg	79444.32	1 skilled, 1 unskilled	167.00	475.7	95	5
Shuttering	Sq.m.	77.67	1 skilled, 2 unskilled	14.40	5.4	3	2
Transporting & Pouring Concrete	Cu.m.	61.11	1 skilled, 8 unskilled, 1 needle vibrator, 1 concrete mixer	5.88	10.4	3	3
Anti-termite Treatment	Sq.m.	934.89	1 unskilled	30.03	8.0	2	4
RAFT SLAB 2							
Placing of Fabricated Reinforcement Cage	Kg	56167.64	1 skilled, 1 unskilled	167.00	336.3	112	3
Shuttering	Sq.m.	54.92	1 skilled, 2 unskilled	14.40	3.8	2	2
Transporting & Pouring Concrete	Cu.m.	432.06	1 skilled, 8 unskilled, 1 needle vibrator, 1 concrete mixer	5.88	10.4	5	2
Anti-termite Treatment	Sq.m.	660.97	1 unskilled	30.03	8.0	2	4
RAFT SLAB 3							
Placing of Fabricated Reinforcement Cage	Kg	50601.48	1 skilled, 1 unskilled	167.00	303.0	101	3
Shuttering	Sq.m.	49.47	1 skilled, 2 unskilled	14.40	3.4	3	1

Transporting & Pouring Concrete	Cu.m.	389.40	1 skilled, 8 unskilled, 1 needle vibrator, 1 concrete mixer	5.88	66.2	10	2
Anti-termite Treatment	Sq.m.	595.47	1 unskilled	30.03	19.8	7	3
RAFT SLAB 4							
Placing of Fabricated Reinforcement Cage	Kg	61227.79	1 skilled, 1 unskilled	167.00	366.6	92	4
Shuttering	Sq.m.	59.80	1 skilled, 2 unskilled	14.40	4.2	4	1
Transporting & Pouring Concrete	Cu.m.	470.98	1 skilled, 8 unskilled, 1 needle vibrator, 1 concrete mixer	5.88	80.1	8	2
Anti-termite Treatment	Sq.m.	720.52	1 unskilled	30.03	24.0	8	3
RAFT SLAB ABOVE EXISTING WALL							
Centering & Shuttering	Sq.m.	34.58	1 skilled, 2 unskilled	14.40	2.4	1	2
Placing of Fabricated Reinforcement Cage	Kg	880.90	1 skilled, 1 unskilled	167.00	5.3	1	5
Transporting & Pouring Concrete	Cu.m.	8.81	1 skilled, 8 unskilled, 1 needle vibrator, 1 concrete mixer	5.88	1.5	1	1
RETAINING WALL							
PART 1							
Placing of Fabricated Reinforcement Cage	Kg	13478.23	1 skilled, 1 unskilled	167	80.7	27	3
Shuttering	Sq.m.	553.16	1 skilled, 2 unskilled	4.5	122.9	31	4
Transporting & Pouring Concrete	Cu.m.	103.68	2 skilled, 8 unskilled, 1 needle vibrator	17	6.1	6	1
Laying of water proofing layer	Sq.m.	278.84	1 skilled, 3 unskilled	208.25	1.3	1	1
Backfilling	Cu.m.	244.47	1 hydraulic excavator, 1 loader, 6 unskilled	240	1.0	1	1
Anti-termite Treatment	RM	92.25	1 unskilled	30.03	3.1	3	3
PART 2							
Placing of Fabricated Reinforcement Cage	Kg	9529.20	1 skilled, 1 unskilled	167	57.1	19	3
Shuttering	Sq.m.	391.09	1 skilled, 2 unskilled	4.5	86.9	22	4
Transporting & Pouring Concrete	Cu.m.	73.30	2 skilled, 8 unskilled, 1 needle vibrator	17	4.3	4	1
Laying of water proofing layer	Sq.m.	197.10	1 skilled, 3 unskilled	208.25	0.9	1	1
Backfilling	Cu.m.	172.84	1 hydraulic excavator, 1 loader, 6 unskilled	240	0.7	1	1
Anti-termite Treatment	RM	65.22	1 unskilled	30.03	2.2	3	2
PART 3							
Placing of Fabricated Reinforcement Cage	Kg	8584.86	1 skilled, 1 unskilled	167	51.4	17	3
Shuttering	Sq.m.	352.33	1 skilled, 2 unskilled	4.5	78.3	20	4
Transporting & Pouring Concrete	Cu.m.	66.04	2 skilled, 8 unskilled, 1 needle vibrator	17	3.9	4	1

Laying of water proofing layer	Sq.m.	177.61	1 skilled, 3 unskilled	208.25	0.9	1	1
Backfilling	Cu.m.	155.71	1 hydraulic excavator, 1 loader, 6 unskilled	240	0.6	1	1
Anti-termite Treatment	RM	58.76	1 unskilled	30.03	2.0	3	2
PART 4							
Placing of Fabricated Reinforcement Cage	Kg	10387.68	1 skilled, 1 unskilled	167	62.2	21	3
Shuttering	Sq.m.	426.32	1 skilled, 2 unskilled	4.5	94.7	24	4
Transporting & Pouring Concrete	Cu.m.	79.91	2 skilled, 8 unskilled, 1 needle vibrator	17	4.7	5	1
Laying of water proofing layer	Sq.m.	214.90	1 skilled, 3 unskilled	208.25	1.0	1	1
Backfilling	Cu.m.	188.41	1 hydraulic excavator, 1 loader, 6 unskilled	240	0.8	1	1
Anti-termite Treatment	RM	71.10	1 unskilled	30.3	2.3	3	2
COLUMN & CORE WALL							
PART 1							
Placing of Fabricated Reinforcement Cage	Kg	10348.61	1 skilled, 1 unskilled	167.00	62.0	21	3
Shuttering	Sq.m.	346.34	1 skilled, 2 unskilled	4.50	77.0	19	4
Transporting & Pouring Concrete	Cu.m.	60.87	1 skilled, 5 unskilled, 1 vibrator	5.00	12.2	8	1
PART 2							
Placing of Fabricated Reinforcement Cage	Kg	6526.68	1 skilled, 1 unskilled	167.00	39.1	13	3
Shuttering	Sq.m.	218.43	1 skilled, 2 unskilled	4.50	48.5	12	4
Transporting & Pouring Concrete	Cu.m.	38.39	1 skilled, 8 unskilled, 1 vibrator	5.00	7.7	8	1
PART 3							
Placing of Fabricated Reinforcement Cage	Kg	5879.89	1 skilled, 1 unskilled	167.00	35.2	12	3
Shuttering	Sq.m.	196.78	1 skilled, 2 unskilled	4.50	43.7	11	4
Transporting & Pouring Concrete	Cu.m.	34.59	1 skilled, 8 unskilled, 1 vibrator	5.00	6.9	7	1
PART 4							
Placing of Fabricated Reinforcement Cage	Kg	7114.67	1 skilled, 1 unskilled	167.00	42.6	14	3
Shuttering	Sq.m.	238.11	1 skilled, 2 unskilled	4.50	52.9	13	4
Transporting & Pouring Concrete	Cu.m.	41.85	1 skilled, 8 unskilled, 1 vibrator	5.00	8.4	8	1
RAMP & STARICASE							
RAMP PART 1							
Sand Filling	Cu.m.	102.34	7 unskilled	29.00	3.5	4	1
Laying of PCC	Cu.m.	11.42	1 skilled, 18 unskilled, 1 needle vibrator	6.00	1.9	2	1
Placing of Fabricated Reinforcement Cage	Kg	4117.23	1 skilled, 1 unskilled	167.00	24.7	25	1
Shuttering	Sq.m.	223.96	2 skilled, 1 unskilled	5.80	38.6	6	6

Transporting & Pouring Concrete	Cu.m.	31.67	1 skilled, 8 unskilled, 1 vibrator	5.00	6.3	6	1
RAMP PART 2							
Sand Filling	Cu.m.	102.34	7 unskilled	29.00	3.5	4	1
Laying of PCC	Cu.m.	11.42	1 skilled, 18 unskilled, 1 needle vibrator	6.00	1.9	2	1
Placing of Fabricated Reinforcement Cage	Kg	4117.23	1 skilled, 1 unskilled	167.00	24.7	25	1
Shuttering	Sq.m.	223.96	2 skilled, 1 unskilled	5.80	38.6	6	6
Transporting & Pouring Concrete	Cu.m.	31.67	1 skilled, 8 unskilled, 1 vibrator	5.00	6.3	6	1
RAMP PART 3							
Sand Filling	Cu.m.	102.34	7 unskilled	29.00	3.5	4	1
Laying of PCC	Cu.m.	11.42	1 skilled, 18 unskilled, 1 needle vibrator	6.00	1.9	2	1
Placing of Fabricated Reinforcement Cage	Kg	4117.23	1 skilled, 1 unskilled	167.00	24.7	25	1
Shuttering	Sq.m.	223.96	2 skilled, 1 unskilled	5.80	38.6	6	6
Transporting & Pouring Concrete	Cu.m.	31.67	1 skilled, 8 unskilled, 1 vibrator	5.00	6.3	6	1
STAIRCASE PART 1							
Centering & Shuttering	Sq.m.	98.11	2 skilled, 1 unskilled	5.80	16.9	6	3
Placing of Fabricated Reinforcement Cage	Kg	2509.50	1 skilled, 1 unskilled	167.00	15.0	8	2
Transporting & Pouring Concrete	Cu.m.	16.73	1 skilled, 8 unskilled, 1 vibrator	5.00	3.3	3	1
STAIRCASE PART 2							
Centering & Shuttering	Sq.m.	45.15	2 skilled, 1 unskilled	5.80	7.8	3	3
Placing of Fabricated Reinforcement Cage	Kg	912.00	1 skilled, 1 unskilled	167.00	5.5	3	2
Transporting & Pouring Concrete	Cu.m.	6.08	1 skilled, 8 unskilled, 1 vibrator	5.00	1.2	1	1
STAIRCASE PART 3							
Centering & Shuttering	Sq.m.	44.27	2 skilled, 1 unskilled	5.80	7.6	3	3
Placing of Fabricated Reinforcement Cage	Kg	1084.50	1 skilled, 1 unskilled	167.00	6.5	3	2
Transporting & Pouring Concrete	Cu.m.	7.23	1 skilled, 8 unskilled, 1 vibrator	5.00	1.4	1	1
BASEMENT ROOF SLAB							
PART 1							
Centering & Shuttering	Sq.m.	1154.91	1 skilled, 2 unskilled	4.50	256.6	18	14
Placing of Fabricated Reinforcement Cage	Kg	5515.47	1 skilled, 2 unskilled	167.00	33.0	3	12
Transporting & Pouring Concrete	Cu.m.	272.83	1 skilled, 2 unskilled, 1 vibrator	5.00	54.6	27	2
PART 2							
Centering & Shuttering	Sq.m.	735.61	1 skilled, 2 unskilled	4.50	163.5	23	7
Placing of Fabricated Reinforcement Cage	Kg	22621.32	1 skilled, 2 unskilled	167.00	135.5	23	6

Transporting & Pouring Concrete	Cu.m.	173.78	2 skilled, 3 unskilled, 1 vibrator	5.00	34.8	16	1
PART 3							
Centering & Shuttering	Sq.m.	1456.51	1 skilled, 2 unskilled	4.50	323.7	23	14
Placing of Fabricated Reinforcement Cage	Kg	44790.21	1 skilled, 2 unskilled	167.00	268.2	22	12
Transporting & Pouring Concrete	Cu.m.	344.08	1 skilled, 4 unskilled, 1 vibrator	5.00	68.8	10	2
BRICKWORK							
Part 1	Cu.m.	9.00	2 skilled, 5 unskilled, 2 extra unskilled	2.10	4.3	1	4
Part 2	Cu.m.	8.00	2 skilled, 5 unskilled, 2 extra unskilled	2.10	3.8	1	4
Part 3	Cu.m.	19.00	2 skilled, 5 unskilled, 2 extra unskilled	2.10	9.0	1	9
BASMENT WALL PLASTERING							
Part 1	Sq.m.	780.17	1 skilled, 2 unskilled	10.00	78.0	11	7
Part 2	Sq.m.	496.92	1 skilled, 2 unskilled	10.00	49.7	7	7
Part 3	Sq.m.	983.91	1 skilled, 2 unskilled	10.00	98.4	14	7
CEILING PLASTERING							
Part 1	Sq.m.	1154.91	1 skilled, 2 unskilled	10.00	115.5	12	10
Part 2	Sq.m.	735.61	1 skilled, 2 unskilled	10.00	73.6	7	10
Part 3	Sq.m.	1456.51	1 skilled, 2 unskilled	10.00	145.7	10	15
SERVICES							
Laying of water supply pipes			6 skilled, 4 unskilled				4
Providing & fixing distribution line for sprinklers			8 skilled, 8 unskilled				1
Pointing & wiring			7 skilled, 7 unskilled				8
Providing & fixing distribution boards			1 skilled, 1 unskilled				2
Connection with equipments			2 skilled, 2 unskilled				5
Providing & fixing TNEB meter board			1 skilled, 1 unskilled				1
INTERNAL FINISHES							
INTERNAL PAINTING							
Part 1	Sq.m.	780.17	1 skilled, 1 unskilled	21.70	36.0	9	4
Part 2	Sq.m.	496.92	1 skilled, 1 unskilled	21.70	22.9	8	3
Part 3	Sq.m.	983.91	1 skilled, 1 unskilled	21.70	45.3	15	3
FIXTURES							
Light fixtures			3 skilled, 3 unskilled				6
Washbasin			2 skilled, 1 unskilled				5
IWC			1 skilled, 1 unskilled				2
EWC			1 skilled, 1 unskilled				3

Urinals			1 skilled, 1 unskilled				2
Sprinklers, Smoke detectors etc			5 skilled, 10 unskilled				1
FLOOR FINISHES							
PART 1							
Laying of synthetic grey granite	Sq.m.	63.22	3 skilled, 2 unskilled, 2 machines	10.00	6.3	1	8
Laying of granolithic tiles	Sq.m.	1235.00	3 skilled, 3 unskilled	10.00	123.5	15	8
PART 2							
Laying of synthetic grey granite	Sq.m.	101.45	3 skilled, 2 unskilled, 2 machines	10.00	10.1	1	7
Laying of granolithic tiles	Sq.m.	900.00	1 skilled, 1 unskilled	5.00	180.0	26	7
PART 3							
Laying of synthetic grey granite	Sq.m.	37.70	3 skilled, 2 unskilled, 2 machines	10.00	3.8	1	5
Laying of granolithic tiles	Sq.m.	945.85	1 skilled, 1 unskilled	5.00	189.2	24	8
FIXING OF VENTILATOR							
Fixing of UPVC Ventilator	Sq.m.	207.04	1 skilled, 1 unskilled	5.30	39.1	13	3
UG SUMP							
BOTTOM SLAB							
Sand Filling	Cu.m.	18.41	7 unskilled	29.00	0.6	1	1
Mooram Filling	Cu.m.	55.22	7 unskilled	29.00	1.9	2	1
Laying of PCC 100mm thk	Cu.m.	18.41	1 skilled, 18 unskilled, 1 needle vibrator	6.00	3.1	3	1
Laying of water proofing layer	Sq.m.	184.08	1 skilled, 3 unskilled	104.00	1.8	2	1
Placing of Fabricated Reinforcement Cage	Kg	5522.40	1 skilled, 1 unskilled	167.00	33.1	33	1
Shuttering	Sq.m.	29.34	1 skilled, 2 unskilled	14.40	2.0	2	1
Transporting & Pouring Concrete	Cu.m.	55.22	1 skilled, 8 unskilled, 1 vibrator	5.00	11.0	6	2
RCC WALL							
Placing of Fabricated Reinforcement Cage	Kg	7668.00	1 skilled, 1 unskilled	167.00	45.9	23	2
Shuttering	Sq.m.	307.60	1 skilled, 2 unskilled	4.50	68.4	34	2
Transporting & Pouring Concrete	Cu.m.	76.68	1 skilled, 8 unskilled, 1 vibrator	5.00	15.3	10	1
Laying of water proofing layer	Sq.m.	178.20	1 skilled, 6 unskilled	104.00	1.7	1	2
Backfilling	Cu.m.	71.72	15 unskilled	5.00	14.3	3	5
Anti-termite Treatment	RM	32.60	1 unskilled	30.30	1.1	2	1
SUPERSTRUCTURE							
BLOCK 1							
STRUCTURAL TO PLASTERING							
GROUND FLOOR							
RCC WORK							
COLUMNS & COREWALL							

Placing of Fabricated Reinforcement Cage	Kg	13957.50	1 skilled, 1 unskilled	167.00	83.6	42	2
Shuttering	Sq.m.	558.50	1 skilled, 2 unskilled	4.50	124.1	50	2
Transporting & Pouring Concrete	Cu.m.	92.63	2 skilled, 15 unskilled, 1 concrete mixer, 1 needle type vibrator	9.98	9.3	5	2
BEAMS, DROPS & SLABS							
Centering & Shuttering	Sq.m.	1926.00	1 skilled, 2 unskilled	6.20	310.6	44	7
Placing of Fabricated Reinforcement Cage	Kg	45299.50	1 skilled, 1 unskilled	167.00	271.3	45	6
Transporting & Pouring Concrete	Cu.m.	396.55	1 skilled, 3 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	95.1	25	2
STAIRCASE							
Centering & Shuttering	Sq.m.	75.50	2 skilled, 1 unskilled	5.80	13.0	4	3
Placing of Fabricated Reinforcement Cage	Kg	253.50	1 skilled, 1 unskilled	167.00	1.5	2	3
Transporting & Pouring Concrete	Cu.m.	9.80	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	2.4	2	1
BRICKWORK	Cu.m.	148.00	2 skilled, 5 unskilled, 2 extra unskilled	2.10	70.5	25	3
SERVICES							
Water supply pipes			3 skilled, 2 unskilled				8
Connection lines			3 skilled, 2 unskilled				6
Pointing & wiring			6 skilled, 6 unskilled				7
Connections with equipments			2 skilled, 2 unskilled				2
Earthing			2 skilled, 2 unskilled				2
Distribution lines			25 skilled, 25 unskilled				2
PLASTERING							
Plastering of 10mm, 12mm thk cement mortar	Sq.m.	3786.75	1 skilled, 2 unskilled	10.00	378.7	32	12
FIRST FLOOR							
RCC WORK							
COLUMNS & COREWALL							
Placing of Fabricated Reinforcement Cage	Kg	13957.50	1 skilled, 1 unskilled	167.00	83.6	42	2
Shuttering	Sq.m.	558.50	1 skilled, 2 unskilled	4.50	124.1	50	2
Transporting & Pouring Concrete	Cu.m.	92.63	2 skilled, 15 unskilled, 1 concrete miser, 1 needle type vibrator	9.98	9.3	5	2
BEAMS, DROPS & SLABS							
Centering & Shuttering	Sq.m.	1926.00	1 skilled, 2 unskilled	6.20	310.6	44	7
Placing of Fabricated Reinforcement Cage	Kg	45299.50	1 skilled, 1 unskilled	167.00	271.3	45	6

Transporting & Pouring Concrete	Cu.m.	396.55	1 skilled, 5 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	95.1	25	2
STAIRCASE							
Centering & Shuttering	Sq.m.	75.50	2 skilled, 1 unskilled	5.80	13.0	4	3
Placing of Fabricated Reinforcement Cage	Kg	253.50	1 skilled, 1 unskilled	167.00	1.5	2	3
Transporting & Pouring Concrete	Cu.m.	9.80	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	2.4	2	1
BRICKWORK	Cu.m.	148.00	2 skilled, 5 unskilled, 2 extra unskilled	2.10	70.5	20	3
SERVICES							
Water supply pipes			3 skilled, 2 unskilled				8
Connection lines			3 skilled, 2 unskilled				6
Pointing & wiring			6 skilled, 6 unskilled				7
Connections with equipments			2 skilled, 2 unskilled				2
Earthing			2 skilled, 2 unskilled				2
Distribution lines			25 skilled, 25 unskilled				2
PLASTERING							
Plastering of 10mm, 12mm thk cement mortar	Sq.m.	3786.75	1 skilled, 2 unskilled	10.00	378.7	32	10
SECOND FLOOR							
RCC WORK							
COLUMNS & COREWALL							
Placing of Fabricated Reinforcement Cage	Kg	13957.50	1 skilled, 1 unskilled	167.00	83.6	42	2
Shuttering	Sq.m.	558.50	1 skilled, 2 unskilled	4.50	124.1	50	2
Transporting & Pouring Concrete	Cu.m.	92.63	2 skilled, 15 unskilled, 1 concrete miser, 1 needle type vibrator	9.98	9.3	5	2
BEAMS, DROPS & SLABS							
Centering & Shuttering	Sq.m.	1926.00	1 skilled, 2 unskilled	6.20	310.6	44	7
Placing of Fabricated Reinforcement Cage	Kg	45299.50	1 skilled, 1 unskilled	167.00	271.3	45	6
Transporting & Pouring Concrete	Cu.m.	396.55	1 skilled, 5 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	95.1	25	2
STAIRCASE							
Centering & Shuttering	Sq.m.	75.50	2 skilled, 1 unskilled	5.80	13.0	4	3
Placing of Fabricated Reinforcement Cage	Kg	253.50	1 skilled, 1 unskilled	167.00	1.5	2	3
Transporting & Pouring Concrete	Cu.m.	9.80	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	2.4	2	1

BRICKWORK	Cu.m.	148.00	2 skilled, 5 unskilled, 2 extra unskilled	2.10	70.5	20	3
SERVICES							
Water supply pipes			3 skilled, 2 unskilled				8
Connection lines			3 skilled, 2 unskilled				6
Pointing & wiring			6 skilled, 6 unskilled				7
Connections with equipments			2 skilled, 2 unskilled				2
Earthing			2 skilled, 2 unskilled				2
Distribution lines			25 skilled, 25 unskilled				2
PLASTERING							
Plastering of 10mm, 12mm thk cement mortar	Sq.m.	3786.75	1 skilled, 2 unskilled	10.00	378.7	32	10
THIRD FLOOR							
RCC WORK							
COLUMNS & COREWALL							
Placing of Fabricated Reinforcement Cage	Kg	13957.50	1 skilled, 1 unskilled	167.00	83.6	42	2
Shuttering	Sq.m.	558.50	1 skilled, 2 unskilled	4.50	124.1	50	2
Transporting & Pouring Concrete	Cu.m.	92.63	2 skilled, 15 unskilled, 1 concrete miser, 1 needle type vibrator	9.98	9.3	5	2
BEAMS, DROPS & SLABS							
Centering & Shuttering	Sq.m.	1926.00	1 skilled, 2 unskilled	6.20	310.6	44	7
Placing of Fabricated Reinforcement Cage	Kg	45299.50	1 skilled, 1 unskilled	167.00	271.3	45	6
Transporting & Pouring Concrete	Cu.m.	396.55	1 skilled, 25 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	95.1	25	2
STAIRCASE							
Centering & Shuttering	Sq.m.	75.50	2 skilled, 1 unskilled	5.80	13.0	4	3
Placing of Fabricated Reinforcement Cage	Kg	253.50	1 skilled, 1 unskilled	167.00	1.5	1	3
Transporting & Pouring Concrete	Cu.m.	9.80	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	2.4	2	1
BRICKWORK	Cu.m.	148.00	2 skilled, 5 unskilled, 2 extra unskilled	2.10	70.5	20	3
SERVICES							
Water supply pipes			3 skilled, 2 unskilled				8
Connection lines			3 skilled, 2 unskilled				5
Pointing & wiring			6 skilled, 6 unskilled				6
Connections with equipments			2 skilled, 2 unskilled				2
Earthing			2 skilled, 2 unskilled				2
Distribution lines			25 skilled, 25 unskilled				5

PLASTERING								
Plastering of 10mm, 12mm thk cement mortar	Sq.m.	3786.75	1 skilled, 2 unskilled	10.00	378.7	32	10	
STAIRCASE HEADROOM SLAB & BEAM								
Centering & Shuttering	Sq.m.	62.20	1 skilled, 2 unskilled	4.50	13.8	14	1	
Placing of Fabricated Reinforcement Cage	Kg	1933.50	1 skilled, 1 unskilled	167.00	11.6	12	1	
Transporting & Pouring Concrete	Cu.m.	11.75	2 skilled, 15 unskilled, 1 concrete mixer, 1 vibrator	9.98	1.2	1	1	
OHT								
Centering & Shuttering	Sq.m.	52.25	1 skilled, 2 unskilled	4.50	11.6	6	2	
Placing of Fabricated Reinforcement Cage	Kg	1300.83	1 skilled, 1 unskilled	167.00	7.8	4	2	
Transporting & Pouring Concrete	Cu.m.	9.18	1 skilled, 16 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	2.2	2	1	
INTERNAL FINISHES								
INSTALLATION OF PARTITIONS, DOORS & WINDOWS								
PVC & UPVC frames	Sq.m.	325.00	3 skilled, 3 unskilled	5.30	61.3		15	
Rolling Shutters	Sq.m.	1047.00	18 skilled, 9 unskilled	2.50	418.8		22	
Aluminium partition	Sq.m.	443.00	10 skilled, 5 unskilled	4.30	103.0		10	
MS Grills, Doors & Windows	Kg	3250.00	28 skilled, 28 unskilled	5.00	650.0		40	
Handrails on staircase	Sq.m.	6864.00	3 blacksmith, 12 unskilled	34.00	201.9		2	
INSTALLATION FIXTURES								
Washbasin			24 skilled, 12 unskilled				1	
IWC, EWC, Urinals			14 skilled, 14 unskilled				3	
Ceiling Fan & Lighting fixtures			52 skilled, 52 unskilled				5	
Sprinklers, Smoke detectors etc			40 skilled, 76 unskilled				1	
INSTALLATION OF FLOOR FINISHES								
Granolithic finish, dadoeing	Sq.m.	2015.00	3 skilled, 3 unskilled	10.00	201.5	10	16	
Polished Synthetic Grey Concrete	Sq.m.	1690.00	3 skilled, 2 unskilled, 2 machines	10.00	169.0	10	19	
PAINTING								
Plastering of 12mm thk cement mortar	Sq.m.	14951.00	1 skilled, 1 unskilled	21.70	689.0	65	7	
INSTALLATION OF METAL FALSE CEILING								
Weathering Course			1 skilled, 1 unskilled	3.57	1111.5	25	12	
EXTERNAL FINISHES								
Plastering of 12mm thk cement mortar	Sq.m.	15147.00	11 skilled, 22 unskilled	10.00	1514.7		1	
INSTALLATION OF FLOOR FINISHES								
Machine pressed tiles			48 skilled, 24 unskilled				5	
INSTALLATION OF CLADDING								
Unitized Glazing			22 special crew				4	
Polycarbonate Sheets			46 special crew				15	
ACP framework			30 special crew				4	
MECHANICAL								

Installation of lifts			Special crew				75
HIGH SIDE							
PLUMBING							
Main pipe line fixing			3 fitter, 2 unskilled				3
ELECTRICAL							
SOLAR POWER							
Connection with equipments			Special crew				2
Solar Panel			Special crew				3
TNEB							
Fixing of transformer			Special crew				7
Fixing of DG			Special crew				7
Fixing LT Panels			1 wireman, 1 unskilled				1
DRAINAGE							
Rain water Harvesting pipes			1 skilled, 1 unskilled				15
Laying of Drainage Lines			1 skilled, 1 unskilled				6
FIRE FIGHTING							
Supply line from sump to main line			3 skilled, 2 unskilled				2
Fixing of main line			6 skilled, 12 unskilled				5
Fixing of horizontal centrification pump			2 skilled, 10 unskilled				1
Fixing of hydrant pump			2 skilled, 10 unskilled				1
BLOCK 2							
STRUCTURAL TO PLASTERING							
GROUND FLOOR							
RCC WORK							
COLUMNS & COREWALL							
Placing of Fabricated Reinforcement Cage	Kg	9849.65	1 skilled, 1 unskilled	167.00	59.0	29	2
Shuttering	Sq.m.	397.50	1 skilled, 2 unskilled	4.50	88.3	44	2
Transporting & Pouring Concrete	Cu.m.	66.11	2 skilled, 12 unskilled, 1 concrete miser, 1 needle type vibrator	9.98	6.6	3	2
BEAMS, DROPS & SLABS							
Centering & Shuttering	Sq.m.	1134.89	1 skilled, 2 unskilled	6.20	183.0	25	7
Placing of Fabricated Reinforcement Cage	Kg	22310.55	1 skilled, 1 unskilled	167.00	133.6	22	6
Transporting & Pouring Concrete	Cu.m.	189.15	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	45.4	15	2
STAIRCASE							
Centering & Shuttering	Sq.m.	38.25	2 skilled, 1 unskilled	5.80	6.6	2	3
Placing of Fabricated Reinforcement Cage	Kg	142.58	1 skilled, 1 unskilled	167.00	0.9	0	3
Transporting & Pouring Concrete	Cu.m.	6.96	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	1.7	2	1

BRICKWORK	Cu.m.	149.00	2 skilled, 5 unskilled, 2 extra unskilled	2.10	71.0	12	6
SERVICES							
Water supply pipes			3 skilled, 2 unskilled				8
Connection lines			3 skilled, 2 unskilled				6
Pointing & wiring			6 skilled, 6 unskilled				7
Connections with equipments			2 skilled, 2 unskilled				2
Earthing			2 skilled, 2 unskilled				2
Distribution lines			25 skilled, 25 unskilled				2
PLASTERING							
Plastering of 10mm, 12mm thk cement mortar	Sq.m.	1416.00	1 skilled, 2 unskilled	10.00	142.0	18	8
FIRST FLOOR							
RCC WORK							
COLUMNS & COREWALL							
BEAMS, DROPS & SLABS	Kg	9849.65	1 skilled, 1 unskilled	167.00	59.0	29	2
STAIRCASE	Sq.m.	397.50	1 skilled, 2 unskilled	4.50	88.3	44	2
BRICKWORK	Cu.m.	66.11	2 skilled, 12 unskilled, 1 concrete miser, 1 needle type vibrator	9.98	6.6	3	2
SERVICES							
Water supply pipes	Sq.m.	1134.89	1 skilled, 2 unskilled	6.20	183.0		7
Connection lines	Kg	22310.55	1 skilled, 1 unskilled	167.00	133.6	22	6
Pointing & wiring	Cu.m.	189.15	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	45.4	25	2
Connections with equipments							
Earthing	Sq.m.	38.25	2 skilled, 1 unskilled	5.80	6.6	2	3
Distribution lines	Kg	142.58	1 skilled, 1 unskilled	167.00	0.9	0	3
PLASTERING	Cu.m.	6.96	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	1.7	2	1
Plastering of 10mm, 12mm thk cement mortar	Cu.m.	149.00	2 skilled, 5 unskilled, 2 extra unskilled	2.10	71.0	12	6
SECOND FLOOR							
RCC WORK							
COLUMNS & COREWALL							
Placing of Fabricated Reinforcement Cage			6 skilled, 6 unskilled				7
Shuttering			2 skilled, 2 unskilled				2
Transporting & Pouring Concrete			2 skilled, 2 unskilled				2
BEAMS, DROPS & SLABS			25 skilled, 25 unskilled				2

Centering & Shuttering							
Placing of Fabricated Reinforcement Cage	Sq.m.	1416.00	1 skilled, 2 unskilled	10.00	142.0	18	8
Transporting & Pouring Concrete							
STAIRCASE							
Centering & Shuttering							
Placing of Fabricated Reinforcement Cage	Kg	9849.65	1 skilled, 1 unskilled	167.00	59.0	29	2
Transporting & Pouring Concrete	Sq.m.	397.50	1 skilled, 2 unskilled	4.50	88.3	44	2
BRICKWORK	Cu.m.	66.11	2 skilled, 12 unskilled, 1 concrete miser, 1 needle type vibrator	9.98	6.6	3	2
SERVICES							
Water supply pipes	Sq.m.	1134.89	1 skilled, 2 unskilled	6.20	183.0	25	7
Connection lines	Kg	22310.55	1 skilled, 1 unskilled	167.00	133.6	22	6
Pointing & wiring	Cu.m.	189.15	1 skilled, 3 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	45.4	25	2
Connections with equipments							
Earthing	Sq.m.	38.25	2 skilled, 1 unskilled	5.80	6.6	2	3
Distribution lines	Kg	142.58	1 skilled, 1 unskilled	167.00	0.9	1	3
FINISHES	Cu.m.	6.96	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	1.7	2	1
PLASTERING	Cu.m.	149.00	2 skilled, 5 unskilled, 2 extra unskilled	2.10	71.0	12	6
Plastering of 10mm, 12mm thk cement mortar							
THIRD FLOOR			3 skilled, 2 unskilled				8
RCC WORK			3 skilled, 2 unskilled				6
COLUMNS & COREWALL			6 skilled, 6 unskilled				7
Placing of Fabricated Reinforcement Cage			2 skilled, 2 unskilled				2
Shuttering			2 skilled, 2 unskilled				2
Transporting & Pouring Concrete			25 skilled, 25 unskilled				2
BEAMS, DROPS & SLABS							
Centering & Shuttering							
Placing of Fabricated Reinforcement Cage	Sq.m.	1416.00	1 skilled, 2 unskilled	10.00	142.0	18	8
Transporting & Pouring Concrete							
STAIRCASE							
Centering & Shuttering							
Placing of Fabricated Reinforcement Cage	Kg	9849.65	1 skilled, 1 unskilled	167.00	59.0	29	2
Transporting & Pouring Concrete	Sq.m.	397.50	1 skilled, 2 unskilled	4.50	88.3	44	2
BRICKWORK	Cu.m.	66.11	2 skilled, 12 unskilled, 1 concrete miser,	9.98	6.6	3	2

			1 needle type vibrator				
SERVICES							
Water supply pipes	Sq.m.	1134.89	1 skilled, 2 unskilled	6.20	183.0	25	7
Connection lines	Kg	22310.55	1 skilled, 1 unskilled	167.00	133.6	22	6
Pointing & wiring	Cu.m.	189.15	1 skilled, 3 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	45.4	25	2
Connections with equipments							
Earthing	Sq.m.	38.25	2 skilled, 1 unskilled	5.80	6.6	2	3
Distribution lines	Kg	142.58	1 skilled, 1 unskilled	167.00	0.9	1	3
INTERNAL FINISHES	Cu.m.	6.96	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	1.7	2	1
Plastering of 10mm, 12mm thk cement mortar	Cu.m.	149.00	2 skilled, 5 unskilled, 2 extra unskilled	2.10	71.0	12	6
ROOF WORKS							
STAIRCASE HEADROOM SLAB & BEAM			3 skilled, 2 unskilled				8
Centering & Shuttering			3 skilled, 2 unskilled				6
Placing of Fabricated Reinforcement Cage			6 skilled, 6 unskilled				7
Transporting & Pouring Concrete			2 skilled, 2 unskilled				2
OHT			2 skilled, 2 unskilled				2
Centering & Shuttering			25 skilled, 25 unskilled				2
Placing of Fabricated Reinforcement Cage							
Transporting & Pouring Concrete	Sq.m.	1416.00	1 skilled, 2 unskilled	10.00	142.0	18	8
PARAPET WALL							
INTERNAL FINISHES							
INSTALLATION OF PARTITIONS, DOORS & WINDOWS	Sq.m.	70.98	1 skilled, 2 unskilled	4.50	15.8	8	2
PVC & UPVC frames	Kg	1479.60	1 skilled, 1 unskilled	167.00	8.9	4	2
Rolling Shutters	Cu.m.	12.03	2 skilled, 31 unskilled, 1 concrete mixer, 1 vibrator	9.98	1.2	1	1
Aluminium partition							
MS Grills, Doors & Windows	Sq.m.	230.45	1 skilled, 2 unskilled	4.50	51.2	10	2
Handrails on staircase	Kg	5203.30	1 skilled, 1 unskilled	167.00	31.2	10	3
INSTALLATION FIXTURES	Cu.m.	37.12	1 skilled, 5 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	8.9	9	1
Washbasin	Cu.m.	50.00	4 skilled, 5 unskilled	2.10	24.0	5	5
IWC, EWC, Urinals							
Ceiling Fan & Lighting fixtures							

Sprinklers, Smoke detectors etc	Sq.m.	300.00	3 skilled, 3 unskilled	5.30	56.6		15
INSTALLATION OF FLOOR FINISHES	Sq.m.	489.00	18 skilled, 9 unskilled	2.50	195.6		22
Dadoeing with glazed tiles	Sq.m.	190.00	10 skilled, 5 unskilled	4.30	44.2		10
Vetrified Marbonite Tiles	Kg	5595.24	28 skilled, 28 unskilled	5.00	1119.0		40
Polished Synthetic Grey Granite	Sq.m.	174.92	3 blacksmith, 12 unskilled	34.00	5.1		2
Antiskit ceramic tiles							
PAINTING			16 skilled, 8 unskilled				1
INSTALLATION OF METAL FALSE CEILING			5 skilled, 5 unskilled				3
EXTERNAL FINISHES			10 skilled, 10 unskilled				5
Plastering of 12mm thlk cement mortar			12 skilled, 24 unskilled				2
ROOF FINISH							
Weathering Course	Sq.m.	174.92	3 skilled, 3 unskilled	10.00	17.5	1	15
Machine pressed tiles	Sq.m.	1340.00	1 skilled, 1 unskilled	5.00	268.0	15	15
EXTERNAL CLADDING	Sq.m.	964.80	3 skilled, 2 unskilled, 2 machines	10.00	96.5	10	5
ACP Framework	Sq.m.	75.00	1 skilled, 1 unskilled	5.00	15.0	12	10
Unitized Glazing	Sq.m.	9684.00	1 skilled, 1 unskilled	21.70	446.3	35	10
MECHANICAL	Sq.m.	2183.00	1 skilled, 1 unskilled	3.57	611.5	26	20
Installation of lifts							
HIGH SIDE	Sq.m.	3140.00	1 skilled, 2 unskilled	10.00	314.0	21	15
PLUMBING							
Main pipe line fixing	Cu.m.	64.00	3 skilled, 1 unskilled	1.00	64.0	9	7
ELECTRICAL	Sq.m.	634.00	2 skilled	3.84	165.1	17	10
SOLAR POWER							
Connection with equipments			15 Special crew				5
Solar Panel			22 Special crew				5
TNEB							
Fixing of transformer			Special crew				45
Fixing of DG							
Fixing LT Panels							
DRAINAGE			3 fitter, 2 unskilled				3
Rain water Harvesting pipes							
Laying of Drainage Lines							
FIRE FIGHTING			Special crew				2
Supply line from sump to main line			Special crew				8
Fixing of main line							
Fixing of horizontal centrification pump			Special crew				7
Fixing of hydrant pump			Special crew				7
BLOCK 3			1 wireman, 1 unskilled				1
STRUCTURAL TO PLASTERING							
GROUND FLOOR			1 skilled, 1 unskilled				15
RCC WORK			1 skilled, 1 unskilled				6

COLUMNS & COREWALL							
Placing of Fabricated Reinforcement Cage			3 skilled, 2 unskilled				2
Shuttering			6 skilled, 12 unskilled				7
Transporting & Pouring Concrete			2 skilled, 10 unskilled				1
BEAMS, DROPS & SLABS			2 skilled, 10 unskilled				1
Centering & Shuttering							
Placing of Fabricated Reinforcement Cage							
Transporting & Pouring Concrete							
RAMP							
Shuttering							
Placing of Fabricated Reinforcement Cage	Kg	4655.40	1 skilled, 1 unskilled	167.00	27.9	14	2
Transporting & Pouring Concrete	Sq.m.	302.00	1 skilled, 2 unskilled	4.50	67.1	34	2
STAIRCASE	Cu.m.	31.04	2 skilled, 16 unskilled, 1 concrete miser, 1 needle type vibrator	9.98	3.1	3	1
Centering & Shuttering							
Placing of Fabricated Reinforcement Cage	Sq.m.	1246.00	1 skilled, 2 unskilled	6.20	201.0	29	7
Transporting & Pouring Concrete	Kg	32396.00	1 skilled, 1 unskilled	167.00	194.0	32	6
BRICKWORK	Cu.m.	249.20	3 skilled, 10 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	59.8	10	2
Brickwork							
SERVICES	Sq.m.	334.00	1 skilled, 1 unskilled	5.80	57.6	15	2
Water supply pipes	Kg	8195.20	2 skilled, 1 unskilled	167.00	49.1	25	2
Connection lines	Cu.m.	63.04	1 skilled, 15 unskilled, needle vibrator	5.00	12.6	3	2
Pointing & wiring							
Connections with equipments	Sq.m.	23.00	2 skilled, 1 unskilled	5.80	4.0	2	2
Earthing	Kg	4160.00	1 skilled, 1 unskilled	167.00	24.9	12	2
Distribution lines	Cu.m.	33.00	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	7.9	4	2
PLASTERING							
Plastering of 10mm, 12mm thk cement mortar	Cu.m.	149.00	2 skilled, 5 unskilled, 2 extra unskilled	2.10	71.0	25	2
FIRST FLOOR							
RCC WORK			3 skilled, 2 unskilled				1
COLUMNS & COREWALL			3 skilled, 2 unskilled				1
Placing of Fabricated Reinforcement Cage			4 skilled, 4 unskilled				1
Shuttering			1 skilled, 1 unskilled				1
Transporting & Pouring Concrete			1 skilled, 1 unskilled				1

BEAMS, DROPS & SLABS			5 skilled, 10 unskilled				1
Centering & Shuttering							
Placing of Fabricated Reinforcement Cage	Sq.m.	2534.60	1 skilled, 1 unskilled	10.00	253.5	44	3
Transporting & Pouring Concrete							
RAMP							
Shuttering							
Placing of Fabricated Reinforcement Cage	Kg	4655.40	1 skilled, 1 unskilled	167.00	27.9	14	2
Transporting & Pouring Concrete	Sq.m.	302.00	1 skilled, 2 unskilled	4.50	67.1	34	2
STAIRCASE	Cu.m.	31.04	2 skilled, 16 unskilled, 1 concrete miser, 1 needle type vibrator	9.98	3.1	3	1
Centering & Shuttering							
Placing of Fabricated Reinforcement Cage	Sq.m.	1246.00	1 skilled, 2 unskilled	6.20	201.0	29	7
Transporting & Pouring Concrete	Kg	32396.00	1 skilled, 1 unskilled	167.00	194.0	32	6
BRICKWORK	Cu.m.	249.20	3 skilled, 10 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	59.8	10	2
Brickwork							
SERVICES	Sq.m.	334.00	1 skilled, 1 unskilled	5.80	57.6	15	2
Water supply pipes	Kg	8195.20	2 skilled, 1 unskilled	167.00	49.1	25	2
Connection lines	Cu.m.	63.04	1 skilled, 15 unskilled, needle vibrator	5.00	12.6	3	2
Pointing & wiring							
Connections with equipments	Sq.m.	23.00	2 skilled, 1 unskilled	5.80	4.0	2	2
Earthing	Kg	4160.00	1 skilled, 1 unskilled	167.00	24.9	12	2
Distribution lines	Cu.m.	33.00	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	7.9	4	2
PLASTERING							
Plastering of 10mm, 12mm thk cement mortar	Cu.m.	149.00	2 skilled, 5 unskilled, 2 extra unskilled	2.10	71.0	25	2
SECOND FLOOR							
RCC WORK			3 skilled, 2 unskilled				1
COLUMNS & COREWALL			3 skilled, 2 unskilled				1
Placing of Fabricated Reinforcement Cage			4 skilled, 4 unskilled				1
Shuttering			1 skilled, 1 unskilled				1
Transporting & Pouring Concrete			1 skilled, 1 unskilled				1
BEAMS, DROPS & SLABS			5 skilled, 10 unskilled				1
Centering & Shuttering							
Placing of Fabricated Reinforcement Cage	Sq.m.	2534.60	1 skilled, 1 unskilled	10.00	253.5	44	3
Transporting & Pouring Concrete							

RAMP							
Shuttering							
Placing of Fabricated Reinforcement Cage	Kg	4655.40	1 skilled, 1 unskilled	167.00	27.9	14	2
Transporting & Pouring Concrete	Sq.m.	302.00	1 skilled, 2 unskilled	4.50	67.1	34	2
STAIRCASE	Cu.m.	31.04	2 skilled, 16 unskilled, 1 concrete miser, 1 needle type vibrator	9.98	3.1	3	1
Centering & Shuttering							
Placing of Fabricated Reinforcement Cage	Sq.m.	1246.00	1 skilled, 2 unskilled	6.20	201.0	29	7
Transporting & Pouring Concrete	Kg	32396.00	1 skilled, 1 unskilled	167.00	194.0	32	6
BRICKWORK	Cu.m.	249.20	3 skilled, 10 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	59.8	10	2
Brickwork							
SERVICES	Sq.m.	334.00	1 skilled, 1 unskilled	5.80	57.6	15	2
Water supply pipes	Kg	8195.20	2 skilled, 1 unskilled	167.00	49.1	25	2
Connection lines	Cu.m.	63.04	1 skilled, 15 unskilled, needle vibrator	5.00	12.6	3	2
Pointing & wiring							
Connections with equipments	Sq.m.	23.00	2 skilled, 1 unskilled	5.80	4.0	2	2
Earthing	Kg	4160.00	1 skilled, 1 unskilled	167.00	24.9	12	2
Distribution lines	Cu.m.	33.00	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	7.9	4	2
PLASTERING							
Plastering of 10mm, 12mm thk cement mortar	Cu.m.	149.00	2 skilled, 5 unskilled, 2 extra unskilled	2.10	71.0	25	2
THIRD FLOOR							
RCC WORK			3 skilled, 2 unskilled				1
COLUMNS & COREWALL			3 skilled, 2 unskilled				1
Placing of Fabricated Reinforcement Cage			4 skilled, 4 unskilled				1
Shuttering			1 skilled, 1 unskilled				1
Transporting & Pouring Concrete			1 skilled, 1 unskilled				1
BEAMS, DROPS & SLABS			5 skilled, 10 unskilled				1
Centering & Shuttering							
Placing of Fabricated Reinforcement Cage	Sq.m.	2534.60	1 skilled, 1 unskilled	10.00	253.5	44	3
Transporting & Pouring Concrete							
RAMP							
Shuttering							
Placing of Fabricated Reinforcement Cage	Kg	4655.40	1 skilled, 1 unskilled	167.00	27.9	14	2
Transporting & Pouring Concrete	Sq.m.	302.00	1 skilled, 2 unskilled	4.50	67.1	34	2

STAIRCASE	Cu.m.	31.04	2 skilled, 16 unskilled, 1 concrete miser, 1 needle type vibrator	9.98	3.1	3	1
Centering & Shuttering							
Placing of Fabricated Reinforcement Cage	Sq.m.	1246.00	1 skilled, 2 unskilled	6.20	201.0	29	7
Transporting & Pouring Concrete	Kg	32396.00	1 skilled, 1 unskilled	167.00	194.0	32	6
BRICKWORK	Cu.m.	249.20	3 skilled, 10 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	59.8	10	2
Brickwork							
SERVICES	Sq.m.	334.00	1 skilled, 1 unskilled	5.80	57.6	15	2
Water supply pipes	Kg	8195.20	2 skilled, 1 unskilled	167.00	49.1	25	2
Connection lines	Cu.m.	63.04	1 skilled, 15 unskilled, needle vibrator	5.00	12.6	3	2
Pointing & wiring							
Connections with equipments	Sq.m.	23.00	2 skilled, 1 unskilled	5.80	4.0	2	2
Earthing	Kg	4160.00	1 skilled, 1 unskilled	167.00	24.9	12	2
Distribution lines	Cu.m.	33.00	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	7.9	4	2
PLASTERING							
Plastering of 10mm, 12mm thk cement mortar	Cu.m.	149.00	2 skilled, 5 unskilled, 2 extra unskilled	2.10	71.0	25	2
FOURTH FLOOR							
RCC WORK			3 skilled, 2 unskilled				1
COLUMNS & COREWALL			3 skilled, 2 unskilled				1
Placing of Fabricated Reinforcement Cage			4 skilled, 4 unskilled				1
Shuttering			1 skilled, 1 unskilled				1
Transporting & Pouring Concrete			1 skilled, 1 unskilled				1
BEAMS, DROPS & SLABS			5 skilled, 10 unskilled				1
Centering & Shuttering							
Placing of Fabricated Reinforcement Cage	Sq.m.	2534.60	1 skilled, 1 unskilled	10.00	253.5	44	3
Transporting & Pouring Concrete							
RAMP							
Shuttering							
Placing of Fabricated Reinforcement Cage	Kg	4655.40	1 skilled, 1 unskilled	167.00	27.9	14	2
Transporting & Pouring Concrete	Sq.m.	302.00	1 skilled, 2 unskilled	4.50	67.1	34	2
STAIRCASE	Cu.m.	31.04	2 skilled, 16 unskilled, 1 concrete miser, 1 needle type vibrator	9.98	3.1	3	1
Centering & Shuttering							

Placing of Fabricated Reinforcement Cage	Sq.m.	1246.00	1 skilled, 2 unskilled	6.20	201.0	29	7
Transporting & Pouring Concrete	Kg	32396.00	1 skilled, 1 unskilled	167.00	194.0	32	6
BRICKWORK	Cu.m.	249.20	3 skilled, 10 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	59.8	10	2
Brickwork							
SERVICES	Sq.m.	334.00	1 skilled, 1 unskilled	5.80	57.6	15	2
Water supply pipes	Kg	8195.20	2 skilled, 1 unskilled	167.00	49.1	25	2
Connection lines	Cu.m.	63.04	1 skilled, 15 unskilled, needle vibrator	5.00	12.6	6	2
Pointing & wiring							
Connections with equipments	Sq.m.	23.00	2 skilled, 1 unskilled	5.80	4.0	2	2
Earthing	Kg	4160.00	1 skilled, 1 unskilled	167.00	24.9	12	2
Distribution lines	Cu.m.	33.00	1 skilled, 8 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	7.9	4	2
PLASTERING							
Plastering of 10mm, 12mm thk cement mortar	Cu.m.	149.00	2 skilled, 5 unskilled, 2 extra unskilled	2.10	71.0	25	2
STAIRCASE HEADROOM SLAB & BEAM							
Centering & Shuttering			3 skilled, 2 unskilled				1
Placing of Fabricated Reinforcement Cage			3 skilled, 2 unskilled				1
Transporting & Pouring Concrete			4 skilled, 4 unskilled				1
OHT			1 skilled, 1 unskilled				1
Centering & Shuttering			1 skilled, 1 unskilled				1
Placing of Fabricated Reinforcement Cage			5 skilled, 10 unskilled				1
Transporting & Pouring Concrete							
INTERNAL FINISHES	Sq.m.	2534.60	1 skilled, 1 unskilled	10.00	253.5	44	3
INSTALLATION OF PARTITIONS, DOORS & WINDOWS							
PVC & UPVC frames	Sq.m.	70.98	1 skilled, 2 unskilled	4.50	15.8	8	2
Rolling Shutters	Kg	1479.60	1 skilled, 1 unskilled	167.00	8.9	9	1
MS Grills, Doors & Windows	Cu.m.	12.03	2 skilled, 15 unskilled, 1 concrete mixer, 1 vibrator	9.98	1.2	1	1
Handrails on staircase							
INSTALLATION FIXTURES	Sq.m.	210.00	1 skilled, 2 unskilled	4.50	46.7	6	1
Washbasin	Kg	4220.00	1 skilled, 1 unskilled	167.00	25.3	4	1
IWC, EWC, Urinals	Cu.m.	37.12	1 skilled, 16 unskilled, 1 concrete mixer, 1 needle type vibrator	4.17	8.9	2	1
Ceiling Fan & Lighting fixtures							

Sprinklers, Smoke detectors etc							
INSTALLATION OF FLOOR FINISHES	Sq.m.	300.00	3 skilled, 3 unskilled	5.30	56.6	1	5
Granolithic finish	Sq.m.	60.00	18 skilled, 9 unskilled	2.50	24.0	1	5
Vetrlified Marbonite Tiles	Kg	3250.00	10 skilled, 5 unskilled	5.00	650.0	1	10
Polished Synthetic Grey Granite	Sq.m.	1372.00	3 blacksmith, 12 unskilled	34.00	40.4	2	20
PAINTING							
Cement Paint & Acrylic emulsion			16 skilled, 8 unskilled				5
EXTERNAL FINISHES			5 skilled, 5 unskilled				5
Plastering of 12mm thlk cement mortar			10 skilled, 10 unskilled				5
INSTALLATION OF FLOOR FINISHES			12 skilled, 24 unskilled				5
Weathering Course							
Machine pressed tiles	Sq.m.	174.92	3 skilled, 3 unskilled	10.00	17.5	10	15
EXTERNAL CLADDING	Sq.m.	1340.00	1 skilled, 1 unskilled	5.00	268.0	18	15
Installation of unitized glazing	Sq.m.	964.80	3 skilled, 2 unskilled, 2 machines	10.00	96.5	10	5
Installation of ACP Framework							
MECHANICAL	Sq.m.	9684.00	1 skilled, 1 unskilled	21.70	446.3	45	10
Installation of lifts							
HIGH SIDE	Sq.m.	3140.00	1 skilled, 2 unskilled	10.00	314.0	21	15
PLUMBING							
Main pipe line fixing	Cu.m.	64.00	1 skilled, 3 unskilled	1.00	64.0	9	7
ELECTRICAL	Sq.m.	634.00	2 skilled	3.84	165.1	17	10
SOLAR POWER							
Connection with equipments			22 Special crew				4
Solar Panel			46 Special crew				4
TNEB							
Fixing of transformer			Special crew				45
Fixing of DG							
Fixing LT Panels							
DRAINAGE			3 fitter, 2 unskilled				3
Rain water Harvesting pipes							
Laying of Drainage Lines							
FIRE FIGHTING			Special crew				2
Supply line from sump to main line			Special crew				8
Fixing of main line							
Fixing of horizontal centrification pump			Special crew				7
Fixing of hydrant pump			Special crew				7
EXTERNAL DEVELOPMENT			1 wireman, 1 unskilled				1
Boundary wall							
LANDSCAPE			1 skilled, 1 unskilled				15
Excavation for lawn area			1 skilled, 1 unskilled				6
Sil Filling							
Manure Filling			3 skilled, 2 unskilled				2

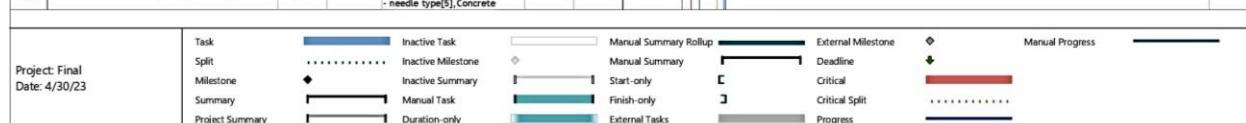
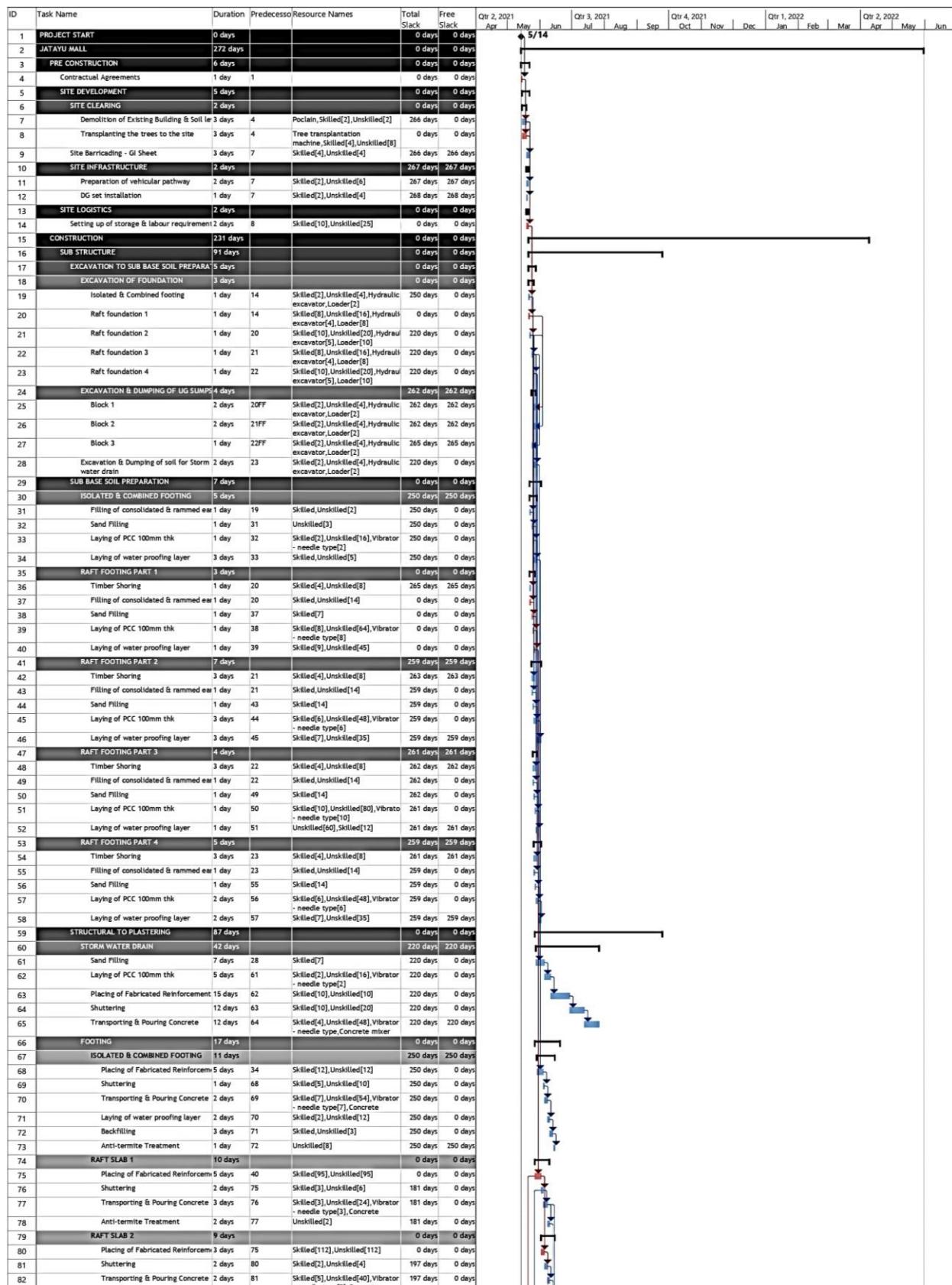
Pavement			6 skilled, 12 unskilled				7
SITE SERVICES			2 skilled, 10 unskilled				1
Laying of main Plumbing lines			2 skilled, 10 unskilled				1
Laying of main Sewarage lines							
Fire fighting - Wiring to terrace pump motor			1 skilled, 2 unskilled			15	36
Grating for SWD							
STREET LIGHTING	Cu.m.	794.00	1 skilled, 2 unskilled	5.00	158.8	9	18
Installation of street lights	Cu.m.	397.00	2 unskilled	8.00	49.6	7	7
Installation of PVC Armoured cable	Cu.m.	397.00	2 unskilled	8.00	49.6	7	7
POST CONSTRUCTION	Sq.m.	816.00	1 skilled, 1 unskilled	3.00	272.0	19	14
Testing, commissioning and handing over of site							
Buffer	RM	215.00	3 skilled, 2 unskilled	3.00	71.7	10	7
PROJECT FINISH	RM	285.00	1 skilled, 1 unskilled	100.00	2.9	10	3
Fire fighting - Wiring to terrace pump motor	RM	3800.00	1 skilled, 1 unskilled	25.00	152.0	10	15
Grating for SWD	Sq.m.	561.00	1 skilled, 1 unskilled	1.42	395.1	20	20
STREET LIGHTING							
Installation of street lights	RM	250.00	2 skilled, 3 unskilled	20.00	12.5	5	13
Installation of PVC Armoured cable	Nos.	21.00	1 skilled, 1 unskilled	5.00	4.2	8	4
POST CONSTRUCTION							
Testing, commissioning and handing over of site							30
Buffer							30
PROJECT FINISH							

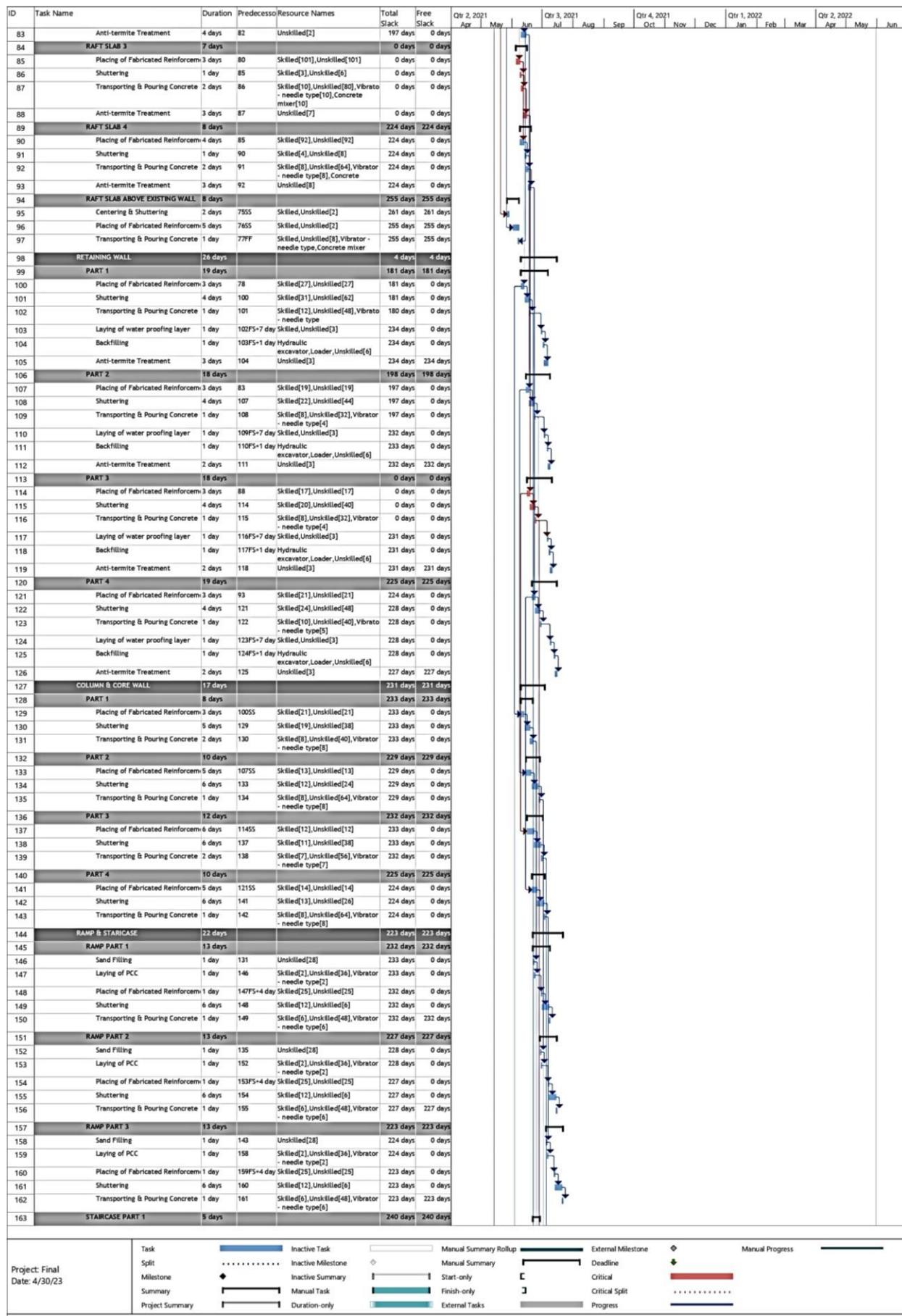
Table 5: Resource Crew & Productivity

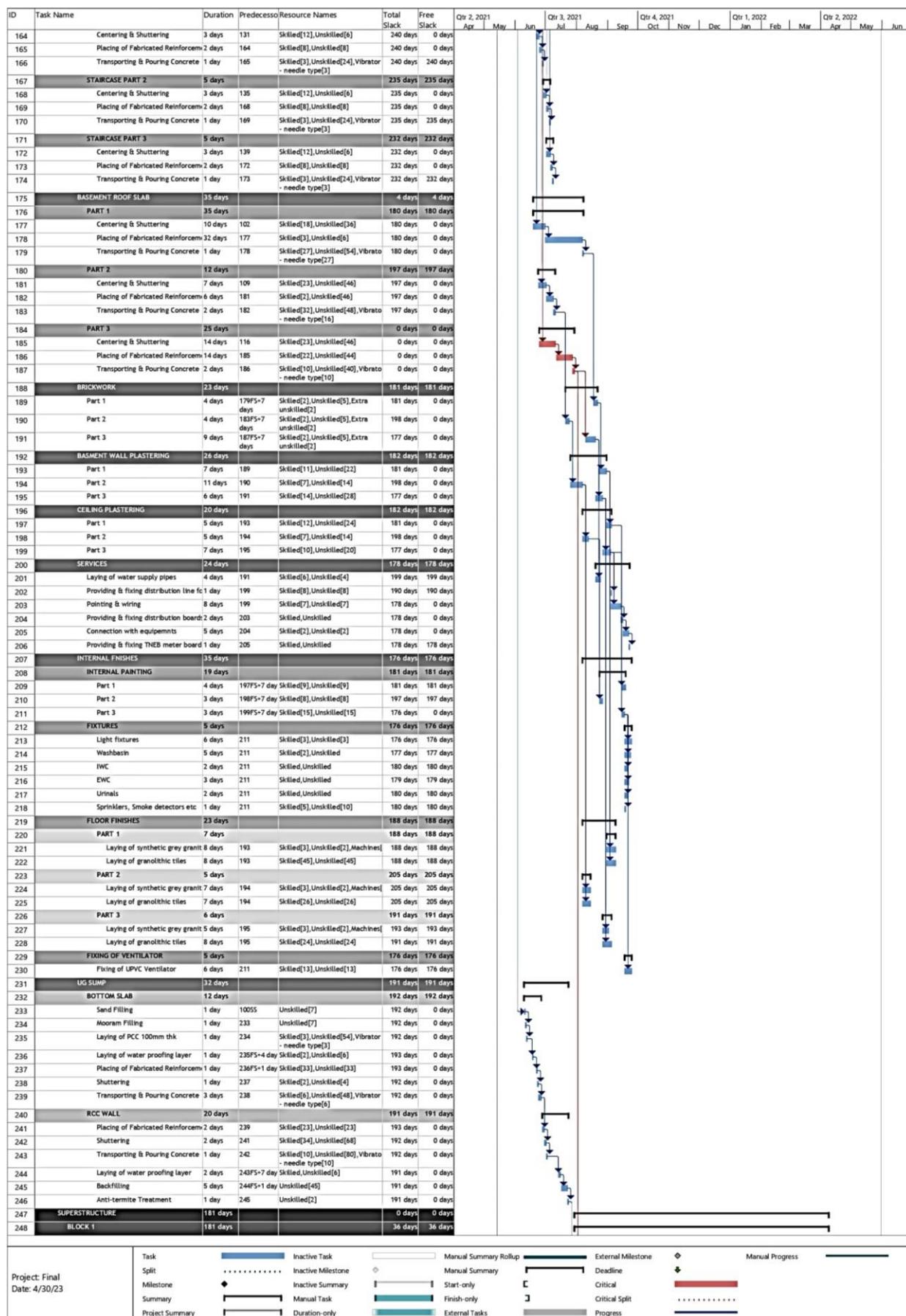
5. SCHEDULING

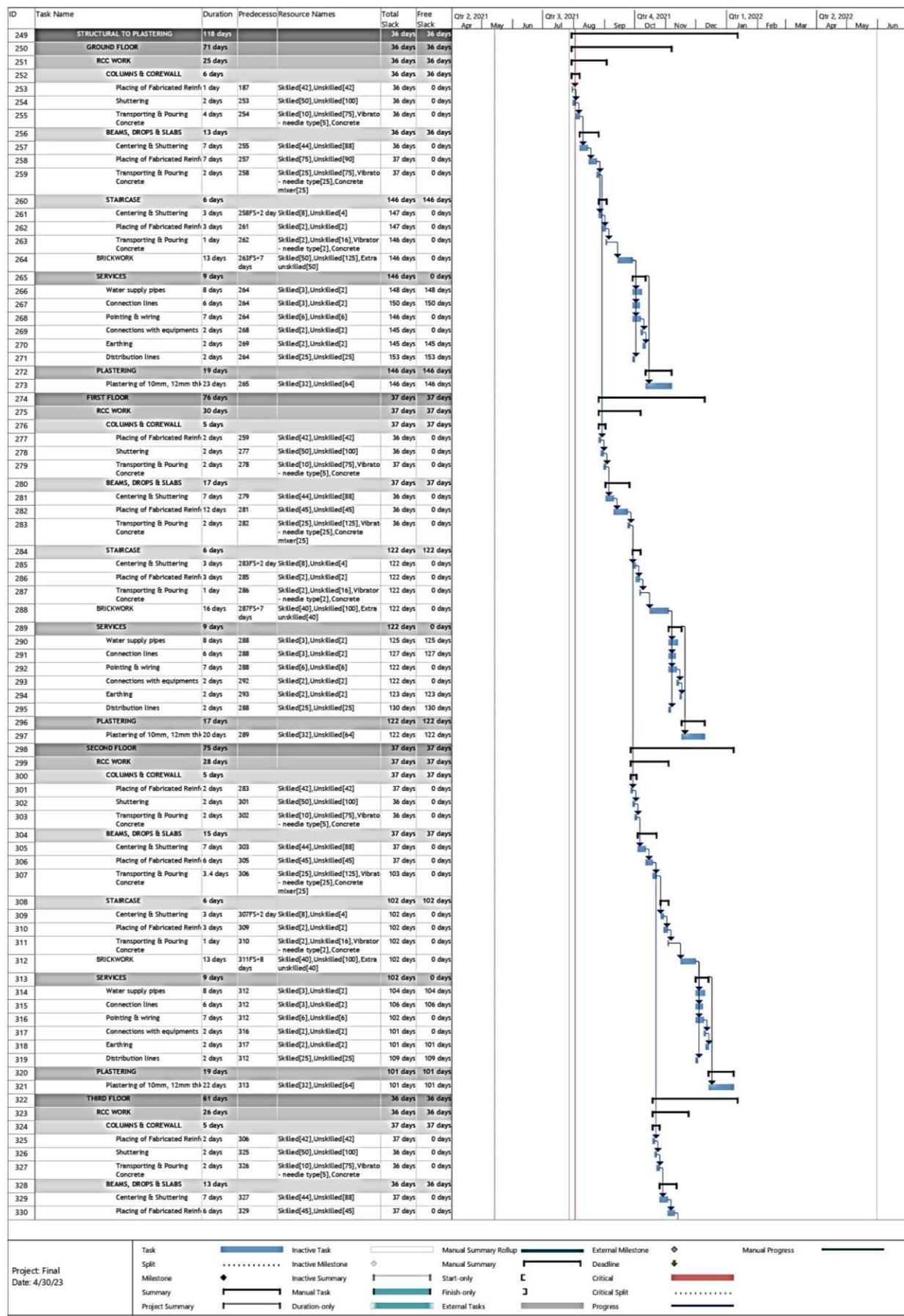
The activities are further put down in Microsoft Projects to arrive at the scheduling. The durations for each activity and predecessors are entered so that we can arrive at the critical path, total slack and free slack given by the software.

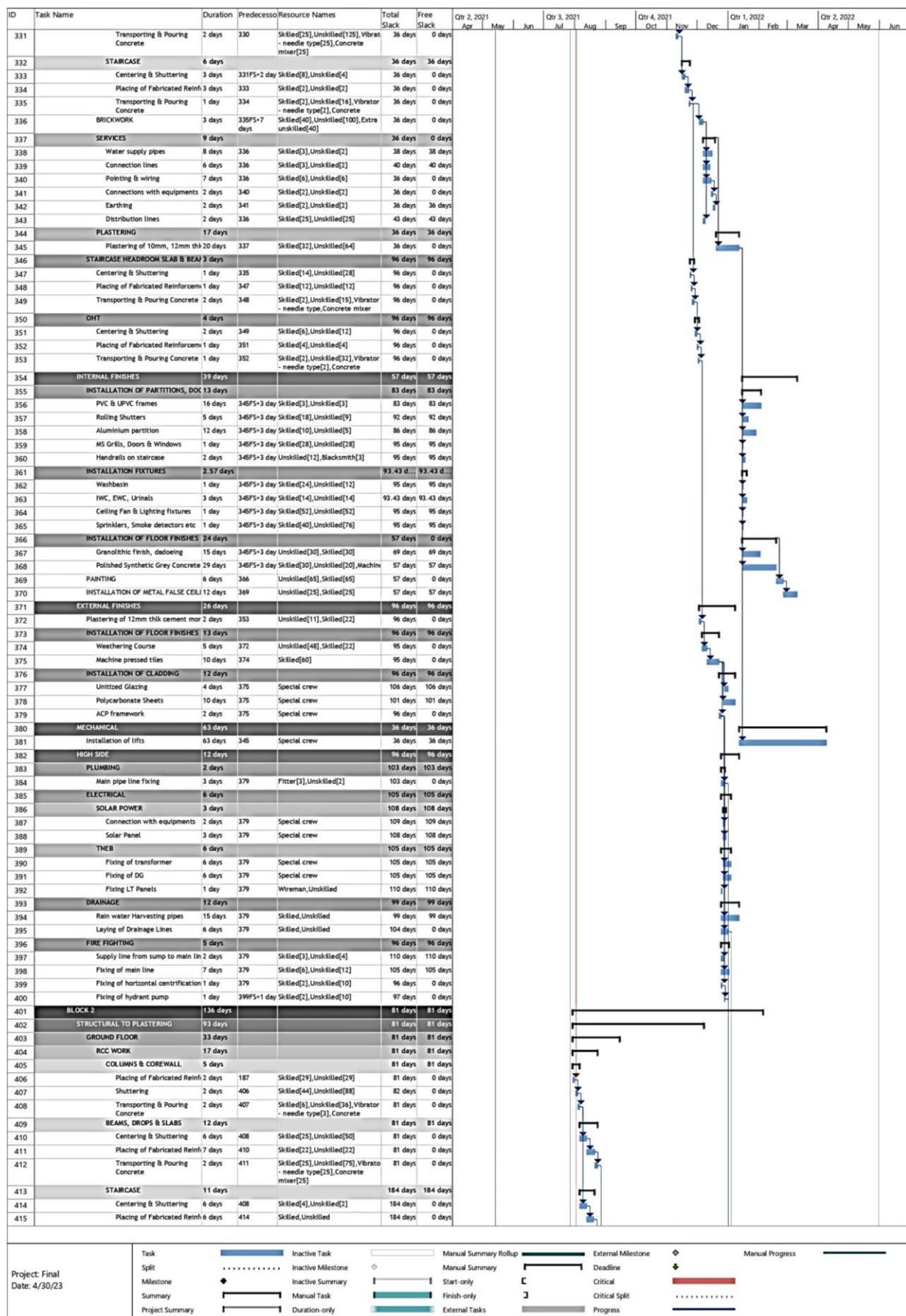
The schedule for the project is given below:











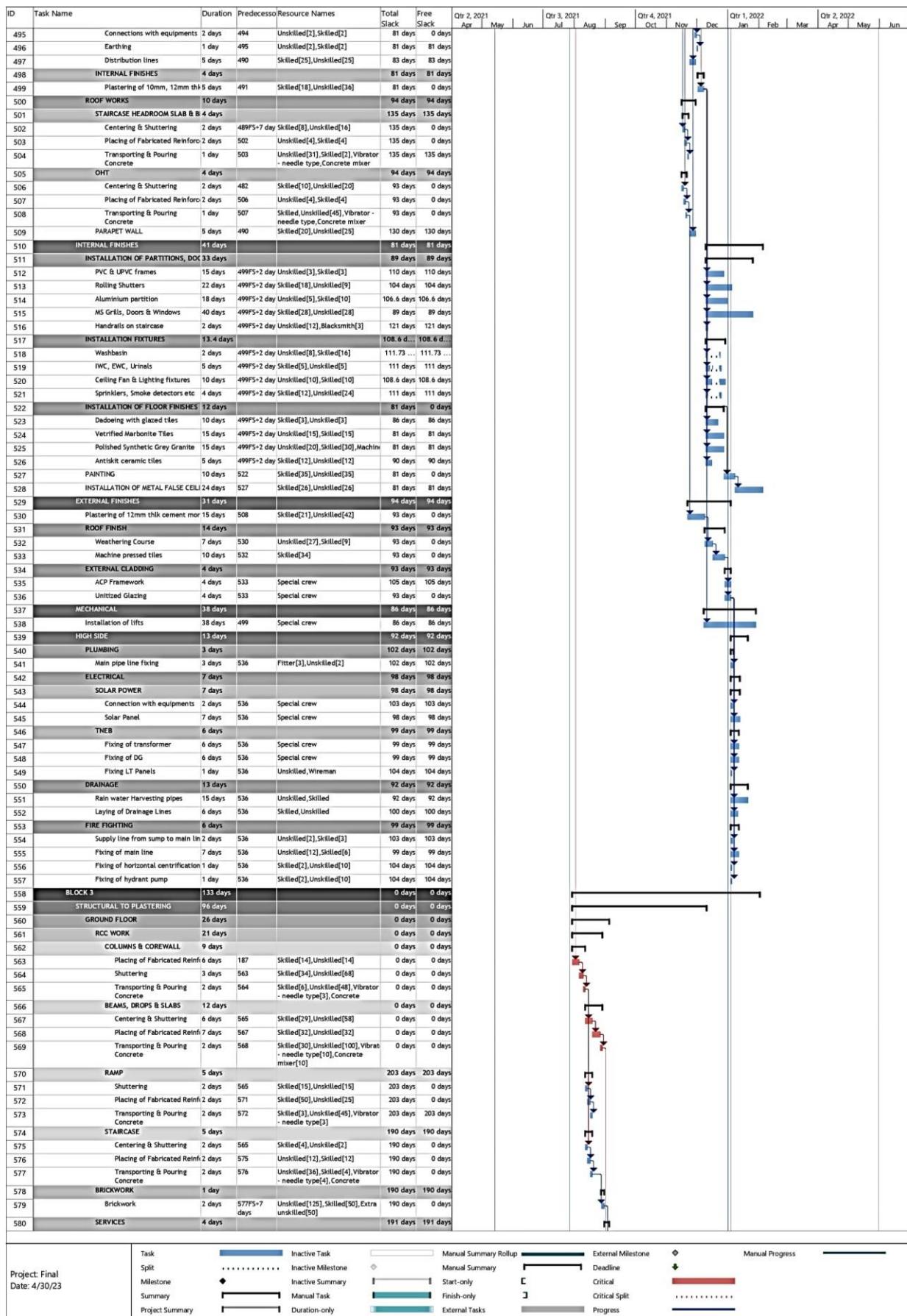
Project: Final Date: 4/30/23

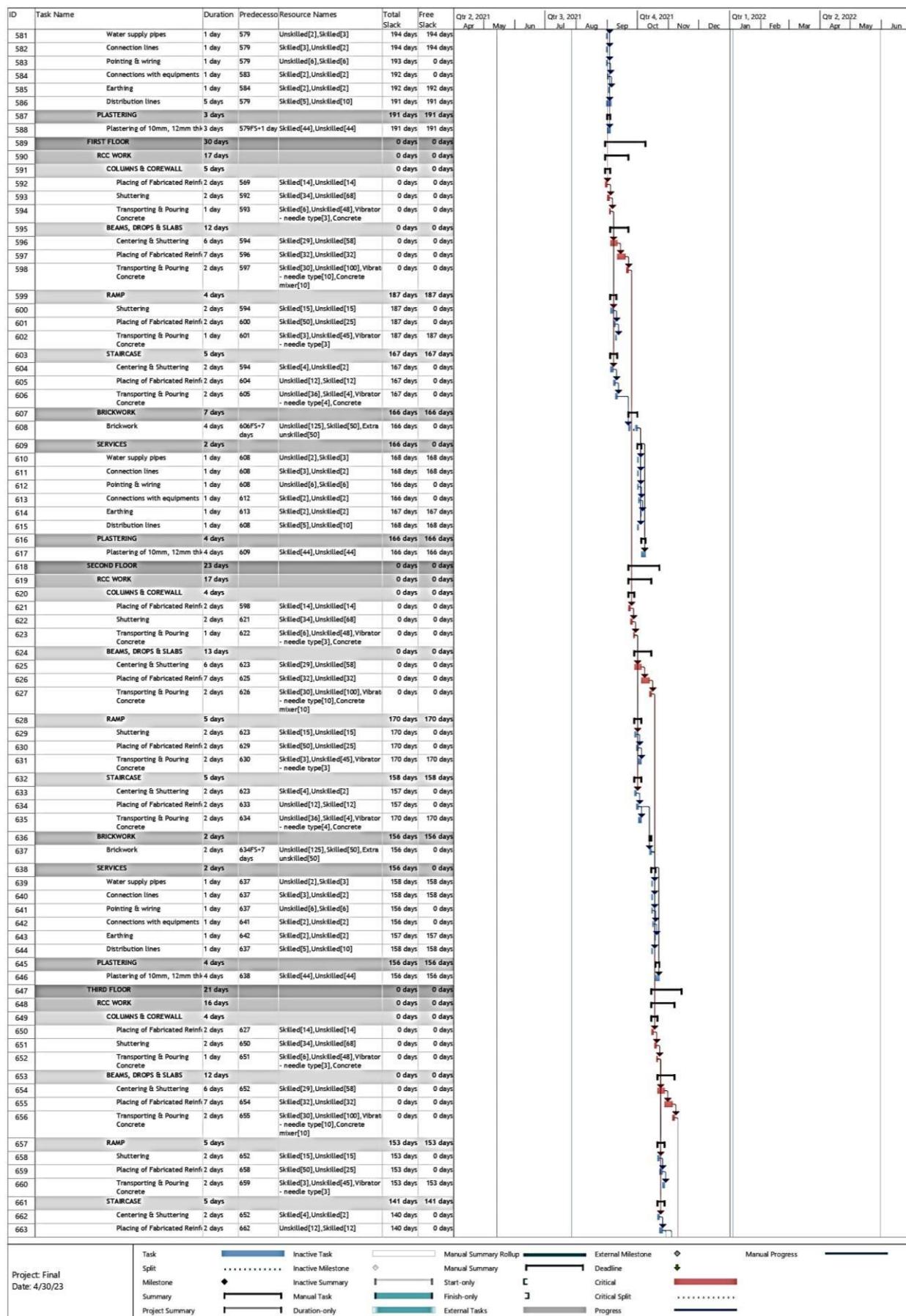
ID	Task Name	Duration	Predecessor	Resource Names	Total Slack	Free Slack	Qtr 2, 2021	Qtr 3, 2021	Qtr 4, 2021	Qtr 1, 2022	Qtr 2, 2022											
							Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
416	Transporting & Pouring Concrete	1 day	415	Skilled[2],Unskilled[16],Vibrator - needle type[2],Concrete	184 days	0 days																
417	BRICKWORK	6 days	416FS+2	Skilled[24],Unskilled[60],Extra unskilled[24]	184 days	0 days																
418	SERVICES	6 days			184 days	0 days																
419	Water supply pipes	1 day	417	Skilled[3],Unskilled[2]	189 days	189 days																
420	Connection lines	1 day	417	Skilled[3],Unskilled[2]	189 days	189 days																
421	Pointing & wiring	4 days	417	Skilled[6],Unskilled[6]	184 days	0 days																
422	Connections with equipments	2 days	421	Skilled[2],Unskilled[2]	184 days	0 days																
423	Earthing	1 day	422	Skilled[2],Unskilled[2]	184 days	184 days																
424	Distribution lines	5 days	417	Skilled[25],Unskilled[15]	186 days	186 days																
425	PLASTERING	4 days			184 days	184 days																
426	Plastering of 10mm, 12mm thi 5 days	418		Skilled[18],Unskilled[36]	184 days	184 days																
427	FIRST FLOOR	33 days			82 days	82 days																
428	RCC WORK	23 days			82 days	0 days																
429	COLUMNS & COREWALL	5 days			82 days	82 days																
430	Placing of Fabrica	2 days	412FS+2	Skilled[29],Unskilled[29]	82 days	0 days																
431	Shuttering	2 days	430	Skilled[14],Unskilled[88]	82 days	0 days																
432	Transporting & Pouring Concrete	2 days	431	Skilled[6],Unskilled[36], - needle type[3],Concrete	82 days	0 days																
433	BEAMS, DROPS & SLABS	18 days			82 days	82 days																
434	Centering & Shuttle	6 days	432	Skilled[25],Unskilled[50]	82 days	0 days																
435	Placing of Fabrica	7 days	434	Skilled[22],Unskilled[22]	82 days	0 days																
436	Transporting & Pouring Concrete	4 days	435FS+2	Skilled[25],Unskilled[75]	82 days	82 days																
437	STAIRCASE	6 days			94 days	94 days																
438	Centering & Shuttle	3 days	432	Skilled[4],Unskilled[2]	94 days	0 days																
439	Placing of Fabrica	3 days	438	Skilled[2],Unskilled[16]	94 days	0 days																
440	Transporting & Pouring Concrete	1 day	439	Skilled[2],Unskilled[16], - needle type[2],Concrete	94 days	0 days																
441	BRICKWORK	6 days	440FS+7	Skilled[24],Unskilled[60]	165 days	0 days																
442	SERVICES	6 days		unskilled[24]	165 days	0 days																
443	Water supply pipes	1 day	441	Skilled[3],Unskilled[2]	170 days	170 days																
444	Connection lines	1 day	441	Skilled[3],Unskilled[2]	170 days	170 days																
445	Pointing & wiring	4 days	441	Skilled[6],Unskilled[6]	165 days	0 days																
446	Connections with equipments	2 days	445	Skilled[2],Unskilled[2]	165 days	0 days																
447	Earthing	1 day	446	Skilled[2],Unskilled[2]	165 days	165 days																
448	Distribution lines	5 days	441FS+1 day	Skilled[25],Unskilled[25]	166 days	166 days																
449	PLASTERING	4 days			165 days	165 days																
450	Plastering of 10mm, 12mm thi 5 days	442		Skilled[18],Unskilled[36]	165 days	165 days																
451	SECOND FLOOR	33 days			82 days	82 days																
452	RCC WORK	18 days			81 days	0 days																
453	COLUMNS & COREWALL	5 days			82 days	82 days																
454	Placing of Fabricated Reinf	2 days	428	Skilled[29],Unskilled[29]	82 days	0 days																
455	Shuttering	2 days	454	Skilled[24],Unskilled[88]	81 days	0 days																
456	Transporting & Pouring Concrete	2 days	455	Skilled[6],Unskilled[38],Vibrator - needle type[3],Concrete	81 days	0 days																
457	BEAMS, DROPS & SLABS	13 days			81 days	81 days																
458	Centering & Shuttering	6 days	456	Skilled[25],Unskilled[50]	82 days	0 days																
459	Placing of Fabricated Reinf	7 days	458	Skilled[22],Unskilled[22]	82 days	0 days																
460	Transporting & Pouring Concrete	2 days	459	Skilled[25],Unskilled[75],Vibrator - needle type[25],Concrete mixer[25]	81 days	81 days																
461	STAIRCASE	6 days			88 days	88 days																
462	Centering & Shuttering	3 days	456	Skilled[4],Unskilled[2]	88 days	0 days																
463	Placing of Fabricated Reinf	3 days	462	Skilled,Unskilled	88 days	0 days																
464	Transporting & Pouring Concrete	1 day	463	Skilled[2],Unskilled[16],Vibrator - needle type[2],Concrete	88 days	0 days																
465	BRICKWORK	6 days	464FS+7	Skilled[27],Unskilled[60]	142 days	0 days																
466	SERVICES	6 days		unskilled[24]	142 days	0 days																
467	Water supply pipes	1 day	465	Skilled[3],Unskilled[2]	147 days	147 days																
468	Connection lines	1 day	465	Skilled[3],Unskilled[2]	147 days	147 days																
469	Pointing & wiring	4 days	465	Skilled[6],Unskilled[6]	142 days	0 days																
470	Connections with equipments	2 days	469	Skilled[2],Unskilled[2]	142 days	0 days																
471	Earthing	1 day	470	Skilled[2],Unskilled[2]	142 days	142 days																
472	Distribution lines	5 days	465	Skilled[25],Unskilled[25]	144 days	144 days																
473	FINISHES	4 days			142 days	142 days																
474	PLASTERING	4 days		Skilled[18],Unskilled[36]	142 days	142 days																
475	Plastering of 10mm, 12mm thi 5 days	466		Skilled[22],Unskilled[64]	142 days	142 days																
476	THIRD FLOOR	33 days			81 days	81 days																
477	RCC WORK	17 days			81 days	81 days																
478	COLUMNS & COREWALL	5 days			81 days	81 days																
479	Placing of Fabricated Reinf	2 days	452	Unskilled[20],Skilled[20]	81 days	0 days																
480	Shuttering	2 days	479	Unskilled[88],Skilled[44]	82 days	0 days																
481	Transporting & Pouring Concrete	2 days	480	Skilled[6],Unskilled[38],Vibrator - needle type[2],Concrete	81 days	0 days																
482	BEAMS, DROPS & SLABS	12 days			93 days	0 days																
483	Centering & Shuttering	7 days	481	Unskilled[50],Skilled[25]	93 days	0 days																
484	Placing of Fabricated Reinf	6 days	483	Unskilled[22],Skilled[22]	93 days	0 days																
485	Transporting & Pouring Concrete	2 days	484	Skilled[25],Unskilled[75],Vibrator - needle type[25],Concrete mixer[25]	93 days	93 days																
486	STAIRCASE	6 days			81 days	81 days																
487	Centering & Shuttle	3 days	481	Unskilled[2],Skilled[4]	81 days	0 days																
488	Placing of Fabricated Reinf	3 days	487	Unskilled,Skilled	81 days	0 days																
489	Transporting & Pouring Concrete	1 day	488	Unskilled[16],Skilled[2],Vibrator - needle type[2],Concrete	81 days	0 days																
490	BRICKWORK	6 days	489FS+7	Skilled[24],Unskilled[60]	81 days	0 days																
491	SERVICES	6 days		unskilled[24]	81 days	0 days																
492	Water supply pipes	1 day	490	Unskilled[2],Skilled[3]	86 days	86 days																
493	Connection lines	1 day	490	Unskilled[2],Skilled[3]	86 days	86 days																
494	Pointing & wiring	4 days	490	Unskilled[6],Skilled[6]	81 days	0 days																

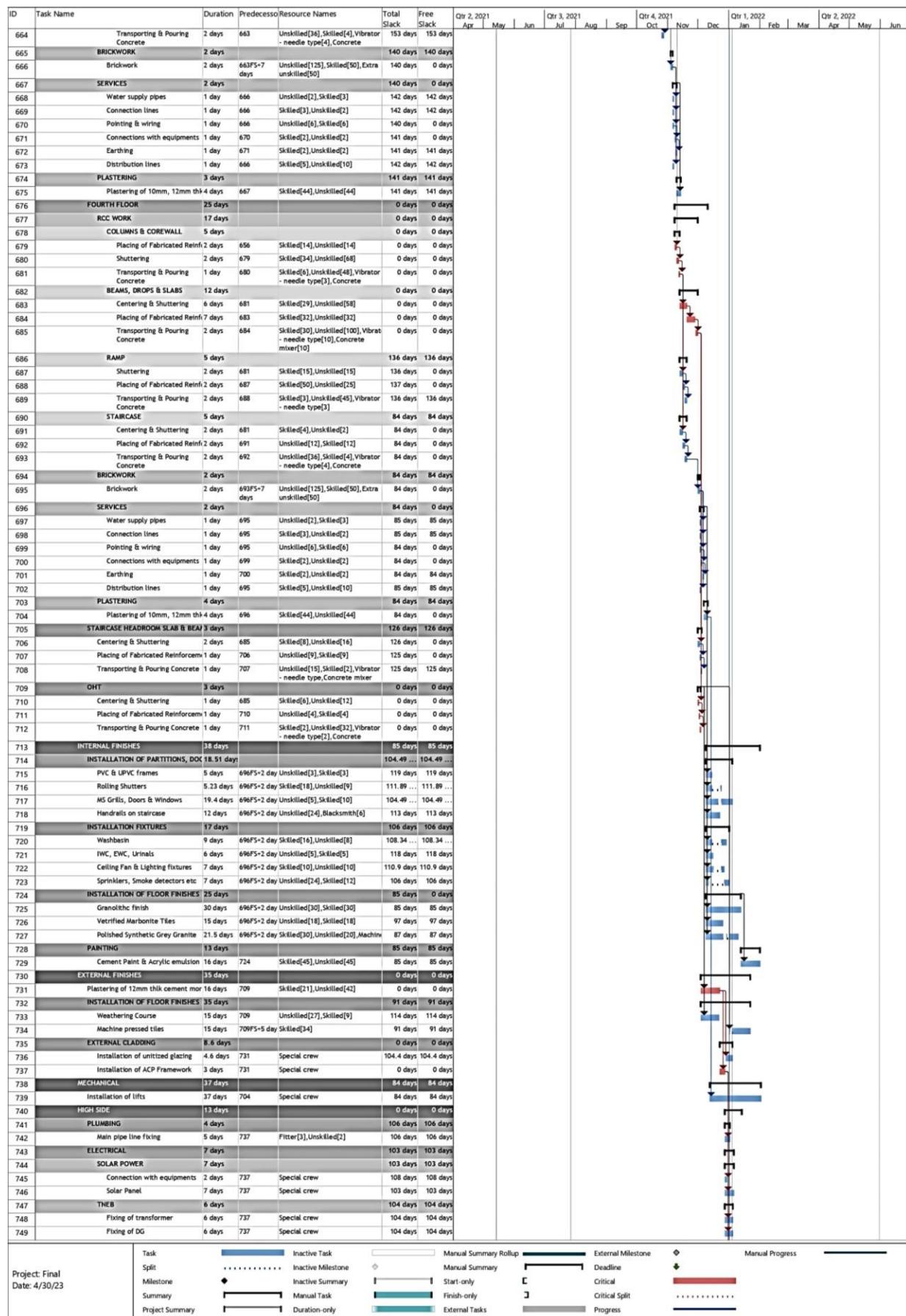
Project: Final
Date: 4/30/23

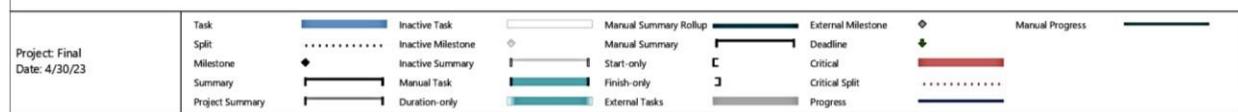
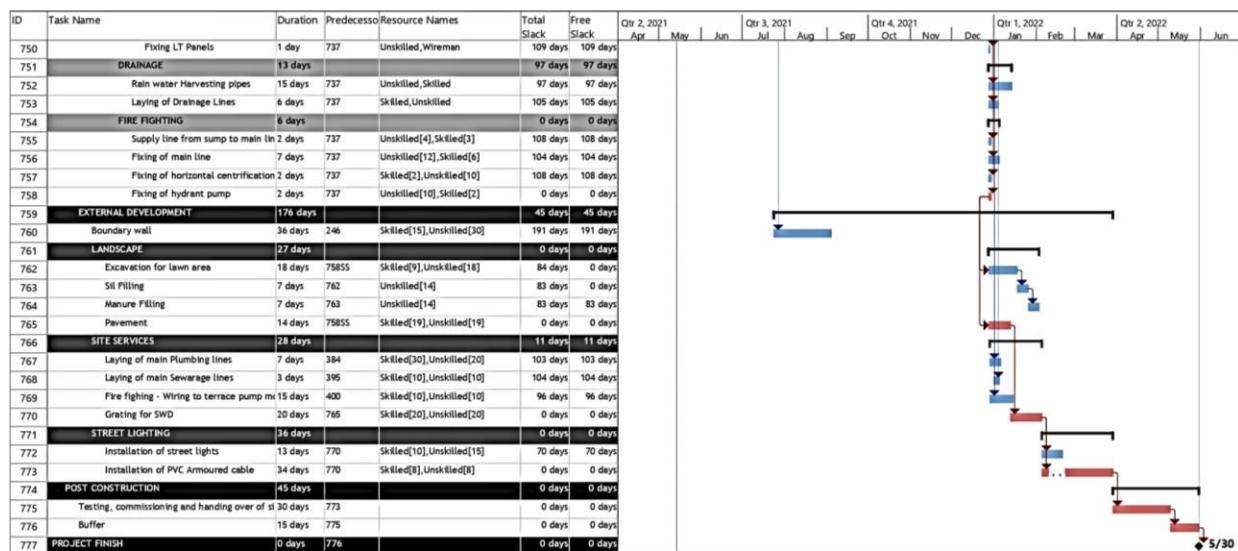
Project Summary











6. RESOURCE ALLOCATION

6.1 RESOURCE SHEET BEFORE LEVELLING

Before levelling there are 7 resources which were over allocated, this over allocation is avoided by various series of steps which includes:

- Resource Levelling
- Introducing Lags
- Providing Gaps in activities

Depending on the type of activity whether it can be broken into parts or within available slack or sometimes increasing the duration of critical path.

	<i>i</i>	Resource Name	Type	Initi:	Max.	Std. Rate	Ovt. Rate	Accrue At	Base
1		Poclamp	Work	P	1	₹4,000.00/hr	₹4,000.00/hr	Prorated	JATAYU
2	♂	Skilled	Work	S	300	₹700.00/day	₹100.00/hr	Prorated	JATAYU
3	♀	Unskilled	Work	U	460	₹400.00/day	₹75.00/hr	Prorated	JATAYU
4		Tree transplantation machine	Work	T	1	₹2,000.00/hr	₹2,000.00/hr	Prorated	JATAYU
5	♀	Hydraulic excavator	Work	H	4	₹9,500.00/day	₹1,500.00/hr	Prorated	JATAYU
6	♂	Loader	Work	L	8	₹6,500.00/day	₹1,000.00/hr	Prorated	JATAYU
7	♀	Vibrator - needle type	Work	V	30	₹120.00/hr	₹120.00/hr	Prorated	JATAYU
8	♀	Concrete mixer	Work	C	30	₹2,000.00/day	₹500.00/hr	Prorated	JATAYU
9	♀	Extra unskilled	Work	E	80	₹350.00/day	₹50.00/hr	Prorated	JATAYU
10		Machines	Work	M	20	₹150.00/hr	₹150.00/hr	Prorated	JATAYU
11		Blacksmith	Work	B	6	₹750.00/day	₹75.00/hr	Prorated	JATAYU
12	♀	Special crew	Work	SC	98	₹1,500.00/day	₹200.00/hr	End	JATAYU
13		Fitter	Work	F	3	₹750.00/day	₹150.00/hr	Prorated	JATAYU
14		Wireman	Work	W	1	₹800.00/day	₹150.00/hr	Prorated	JATAYU

Figure 7: Resource sheet before levelling

6.2 RESOURCE SHEET AFTER LEVELLING

After levelling the peak labour are determined and are crossed checked with the thumb rule for allocation of labour as per the cost of works on a peak day. And average labour needed is also determined so that number can be permanently employed, and extra labour can be hired on temporary basis. Along with equipment which are to be hired or bought is known.

	<i>i</i>	Resource Name	Type	Initi:	Max.	Std. Rate	Ovt. Rate	Accrue At	Base
1		Poclamp	Work	P	1	₹4,000.00/hr	₹700.00/hr	Prorated	JATAYU
2		Skilled	Work	S	330	₹700.00/day	₹100.00/hr	Prorated	JATAYU
3		Unskilled	Work	U	550	₹400.00/day	₹75.00/hr	Prorated	JATAYU
4		Tree transplantation machine	Work	T	1	₹2,000.00/hr	₹2,000.00/hr	Prorated	JATAYU
5		Hydraulic excavator	Work	H	5	₹9,500.00/day	₹1,500.00/hr	Prorated	JATAYU
6		Loader	Work	L	10	₹6,500.00/day	₹1,000.00/hr	Prorated	JATAYU
7		Vibrator - needle type	Work	V	35	₹120.00/hr	₹120.00/hr	Prorated	JATAYU
8		Concrete mixer	Work	C	35	₹2,000.00/day	₹500.00/hr	Prorated	JATAYU
9		Extra unskilled	Work	E	80	₹350.00/day	₹50.00/hr	Prorated	JATAYU
10		Machines	Work	M	30	₹150.00/hr	₹150.00/hr	Prorated	JATAYU
11		Blacksmith	Work	B	6	₹750.00/day	₹100.00/hr	Prorated	JATAYU
12		Special crew	Cost	SC				End	
13		Fitter	Work	F	3	₹750.00/day	₹150.00/hr	Prorated	JATAYU
14		Wireman	Work	W	1	₹800.00/day	₹150.00/hr	Prorated	JATAYU

Figure 8: Resource sheet after levelling

6.3 RESOURCE LEVELLING

6.3.1 SKILLED



Figure 9: Skilled resource before levelling

RESOURCES: 300

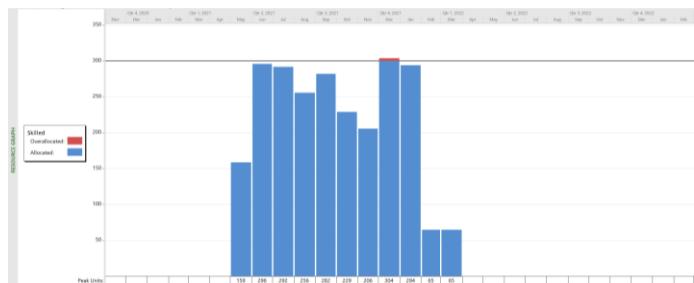


Figure 10: Skilled resource after levelling

REOSURCES: 330

Allocation: The No of Skilled Labour Employed is dependent on Critical Activities Such as Concreting, flooring, Block Work, Hard Scape, Driveway etc, The Allocation of Peak Amount of Skilled is based on these activities only.

6.3.2 UNSKILLED LABOUR

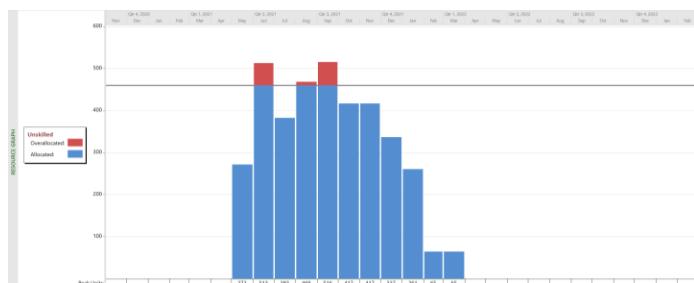


Figure 11: Unskilled resource before levelling

RESOURCES: 460



Figure 12: Unskilled resource after levelling

REOSURCES: 550

Allocation: In Workers the Major Contribution is of Unskilled Labour. The No of Unskilled Labour Employed is dependent of Major Critical Activities such as Concreting.

6.3.3 HYDRAULIC EXCAVATOR

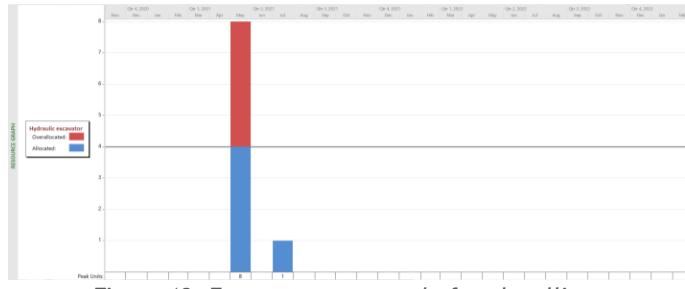


Figure 13: Excavator resource before levelling

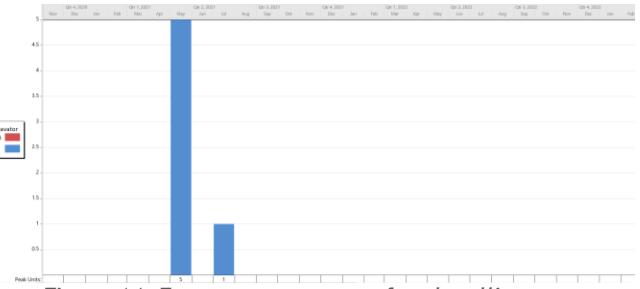


Figure 14: Excavator resource after levelling

RESOURCES: 4

REOSURCES: 5

6.3.4 LOADER

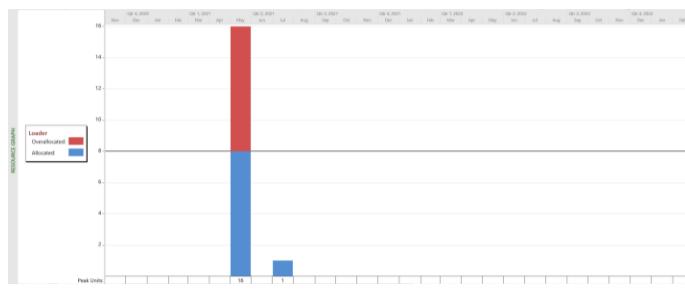


Figure 15: Loader resource before levelling

RESOURCES: 8

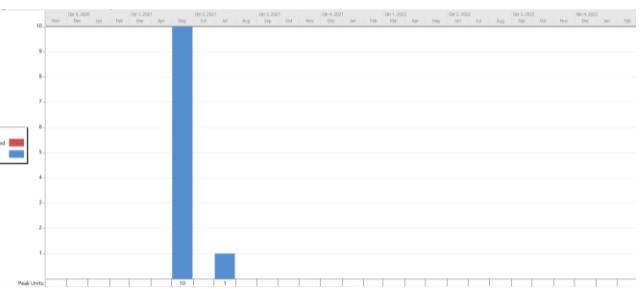


Figure 16: Loader resource after levelling

REOSURCES: 10

Loader & Excavator are mutually dependent, so they are having same day of overallocation, and since the excavation work is a critical activity, no float was available, so to decrease No. of Peak units in a day, total working days are increased in critical Path to avoid uncertainty in levelling & allocation.

6.3.5 NEEDLE TYPE VIBRATOR

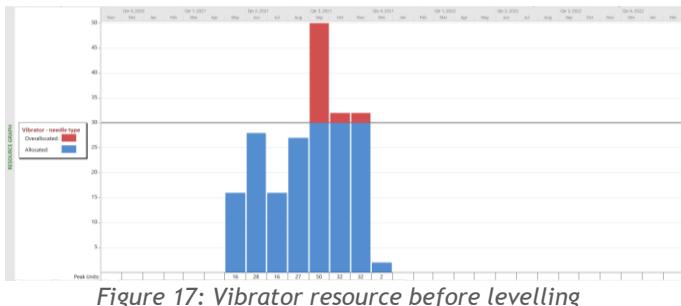


Figure 17: Vibrator resource before levelling

RESOURCES: 30

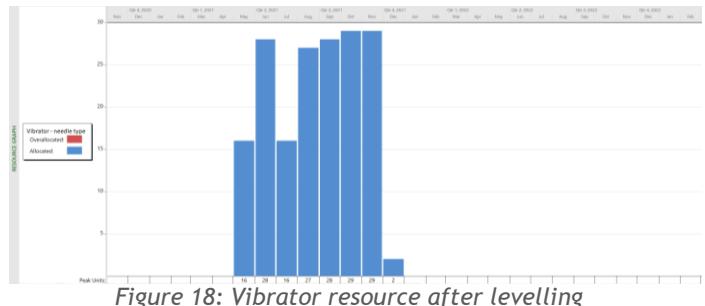


Figure 18: Vibrator resource after levelling

REOSURCES: 35

6.3.5 CONCRETE MIXER

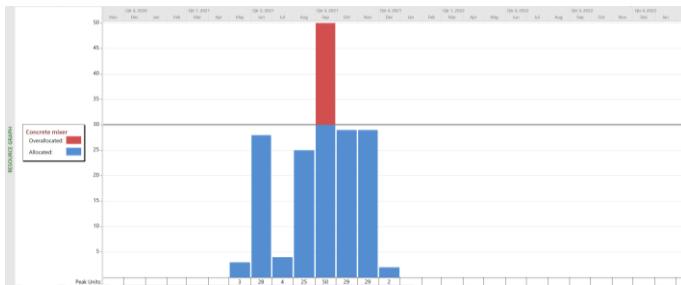


Figure 19: Concrete Mixer resource before levelling

RESOURCES: 30

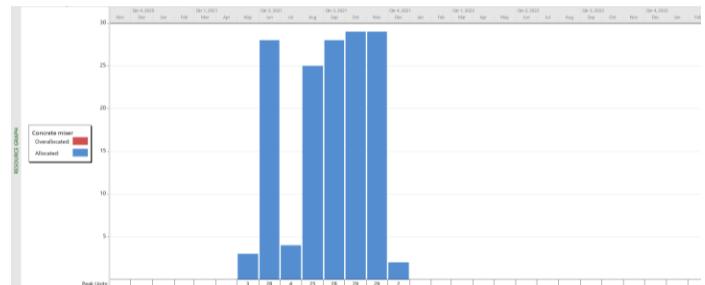


Figure 20: Concrete Mixer resource after levelling

REOSURCES: 35

For Needle Type Vibrator and Concrete Mixer,

Allocation: All the these are Dependent Equipment; they cannot be decreased by increasing No. of days since governing factor for these is the Concreting time. They have very low Procurement Cost.

Levelling: They are used during Concreting only, and No of equipment required is based on Peak amount of Concreting, so levelling can't be done to these machineries/Equipment.

Over allocation is avoided here by avoiding the overlapping two major concreting activities on a same day. Lags are been introduced after shuttering & placing of reinforcement and pouring of concrete is been delayed.

7. COST OF RESOURCE

7.1 COST VARIANCE OF THE PROJECT

PROJECT START	₹0.00
JATAYU MALL	₹51,137,420.04
PRE CONSTRUCTION	₹215,200.00
CONSTRUCTION	₹50,922,220.04
SUB STRUCTURE	₹10,703,680.00
EXCAVATION TO SUB BASE SOIL PREPARATION	₹612,000.00
SUB BASE SOIL PREPARATION	₹496,100.00
STRUCTURAL TO PLASTERING	₹9,595,580.00
SUPERSTRUCTURE	₹37,995,640.04
BLOCK 1	₹17,188,707.79
STRUCTURAL TO PLASTERING	₹13,718,220.00
GROUND FLOOR	₹3,258,620.00
FIRST FLOOR	₹4,046,520.00
SECOND FLOOR	₹3,558,520.00
THIRD FLOOR	₹2,786,520.00
STAIRCASE HEADROOM SLAB & BEAM	₹38,320.00
OHT	₹29,720.00
INTERNAL FINISHES	₹2,850,937.79
EXTERNAL FINISHES	₹545,300.00
MECHANICAL	₹0.00
HIGH SIDE	₹74,250.00
BLOCK 2	₹10,703,630.00
STRUCTURAL TO PLASTERING	₹6,324,380.00
GROUND FLOOR	₹1,536,580.00
FIRST FLOOR	₹1,596,480.00
SECOND FLOOR	₹1,762,480.00
THIRD FLOOR	₹1,238,420.00
ROOF WORKS	₹190,420.00
INTERNAL FINISHES	₹3,645,900.00
EXTERNAL FINISHES	₹644,200.00
MECHANICAL	₹0.00
HIGH SIDE	₹89,150.00
BLOCK 3	₹10,103,302.25
STRUCTURAL TO PLASTERING	₹6,732,320.00
GROUND FLOOR	₹1,303,440.00
FIRST FLOOR	₹1,334,040.00
SECOND FLOOR	₹1,339,020.00
THIRD FLOOR	₹1,339,020.00
FOURTH FLOOR	₹1,339,020.00
STAIRCASE HEADROOM SLAB & BEAM	₹44,260.00

OHT	₹33,520.00
INTERNAL FINISHES	₹2,500,632.25
EXTERNAL FINISHES	₹783,500.00
MECHANICAL	₹0.00
HIGH SIDE	₹86,850.00
EXTERNAL DEVELOPMENT	₹2,222,900.00
POST CONSTRUCTION	₹0.00
PROJECT FINISH	₹0.00

Table 6: Cost Variance of Project

7.2 COST AS PER WBS IN CONSTRUCTION PHASE

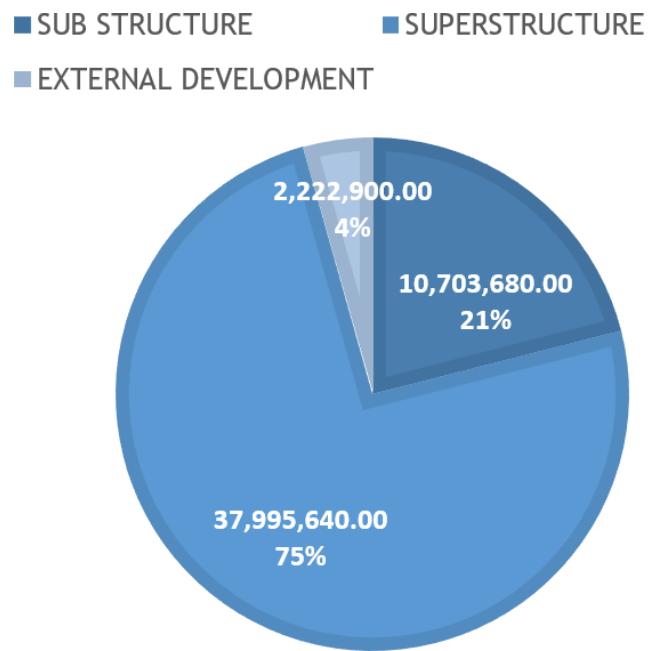


Figure 21: Cost as per WBS

7.2.1 COST INCURRED IN SUBSTRUCTURE PHASE

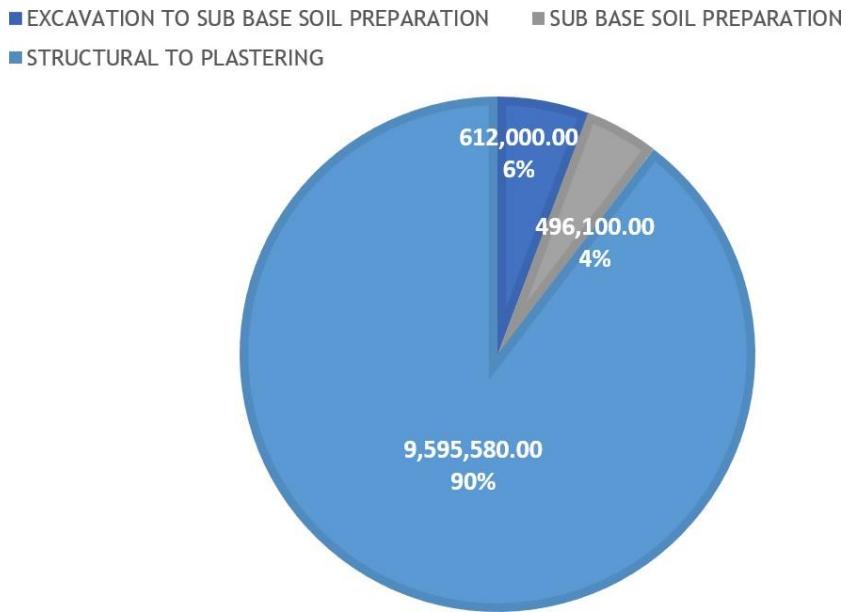


Figure 22: Cost incurred in Substructure Phase

7.2.1 COST INCURRED IN SUPERSTRUCTURE PHASE

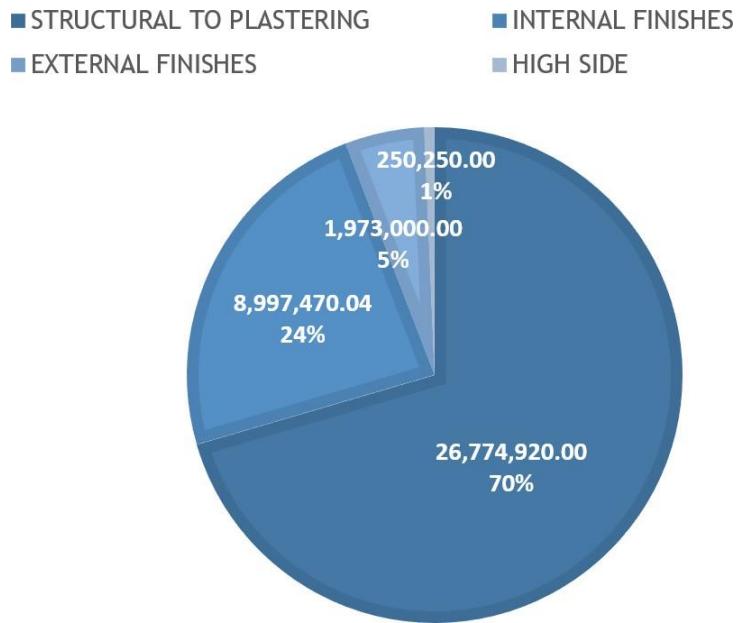


Figure 23: Cost incurred in Superstructure Phase for 3 Blocks