

CAREER EPISODE 3

INTRODUCTION

CE 3.1 This episode covers my Ground + 5p + 16 Typical Residential Building project as a Project Consultant Engineer working for Marina Engineering Consultant located in Al Nahda Sharjah, United Arab Emirates from 2016 – 2018. M/S Marina Engineering Consultant is providing professional consultant services since more than 15 years, and accomplished many domestic, Govt. and international investor funded projects. It is a having about 15 years of experience in Consultant Industry with the full time working staff about 50 including design and Site Teams. This company is having a very good relation with international clients and continuously progressing towards brighter future.

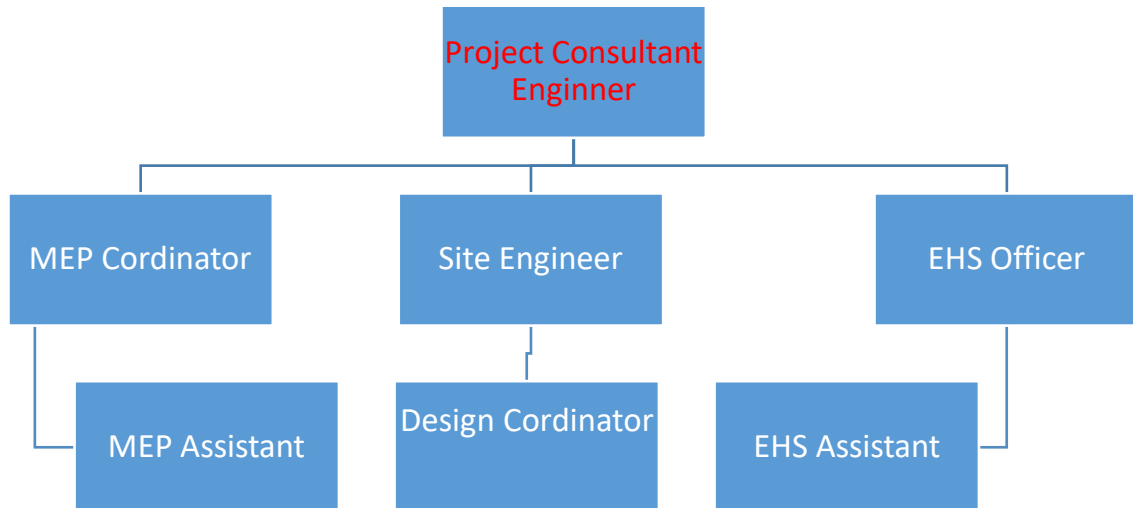
BACKGROUND

CE 3.2 A Qatar based investor was looking for to options to build a residential building in Sharjah came to our office with his idea. Our manager gave the investor great hope about the location, selection of area and assist him in all government matters to initiate the project.

CE 3.3 Project location after a few survey was selected in one the densest residential areas in Sharjah Al Nahda, which was a walking distance to the Dubai border, which makes this project more important in its worth. Area of the project is about 730 square meters. The project accommodates residential complex + commercial shops as well in ground floor.

CE 3.4 After many meetings with this international investor on design and elevation we finalized the design and received the work order letter from investor to start the physical work in ground. The project is worth about 56 million Dirham and has all updated life luxuries, which attracts the tenants for rent. Currently project is complete and building is fully occupied by tenants.

CE 3.5 The project t hierarchy is enclosed below:



CE 3.6

As part of part of this project I performed many task assign by project manager.

- Check and make a smooth path for the main contractor to work is in theme according to client and project drawings
- Check all quantities of work and resource that has been using in this project
- Checking the IR, (Payments) of main contractor according to progress of the project.
- Manage the Project Priorities to ensure the effective application of resources to achieve the task and coordinate with main Contractor about the work activities
- Preparing probable estimate to complete the work (re measurable contract)
- Coordinating with the MEP team to check the work quality and standards.
- Work Scheduling and plan with respect to activities proceeding and MEP work progress
- Dealing with client representative and meeting with main contractor about the progress of the project
- Ensuring all structure inspection and activities are as per approve drawings and approval process of the running work to avoid conflicts
- Scrutinize the variations in project to check and approvals
- Ensuring the health and safety standard with main contractors.
- Drawings of many internal work, shops drawings of Tiles, Blocks and ceiling was main task
- Generate the progress report weekly and update the project details on going activities, to the client and coordinate with Main contractor and head office of own company

PERSONAL ENGINEERING ACTIVITY

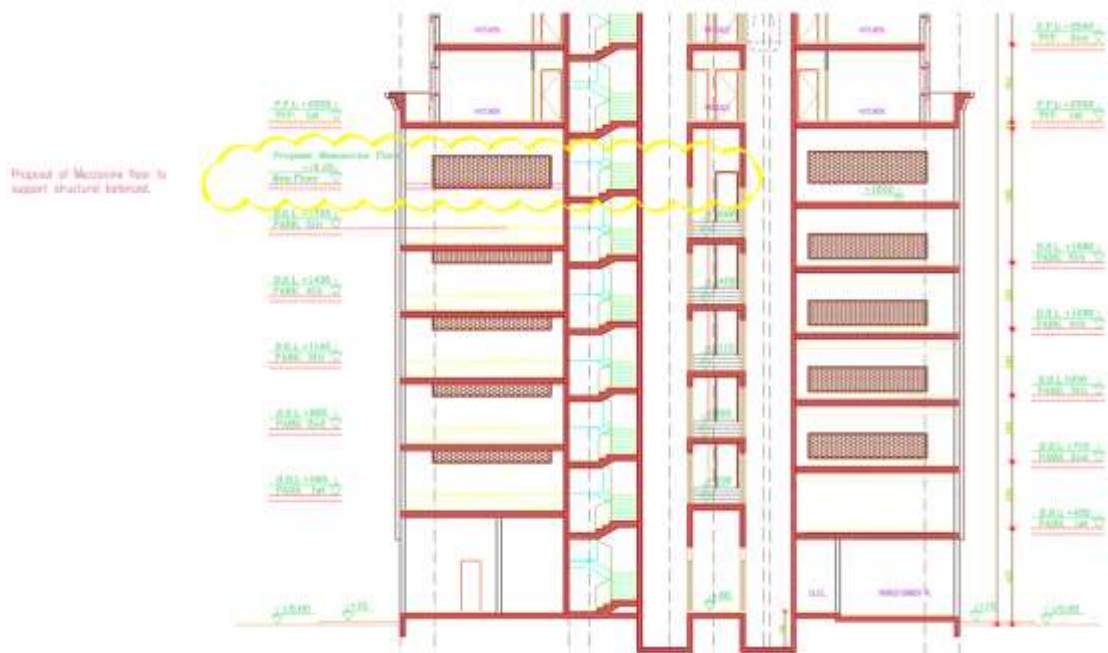
CE 3.7

The nature of the project is residential and the work started with piling work. The first problem we faced is at very initial stage were the existing government services lines. Because it's a huge risk, any small damages would

have resulted in a big fine imposition. To encounter this problem, I made shop drawings with respect to existing service locations and their new proposed location for shifting so we can carry on with our plan and progress.

CE 3.8 2nd un-predictable issue which I faced during our progress work was shifting slab from parking level to first typical. The 5th parking level and first typical floor is almost having a clear span in height is about 5 m which is critical and unstable in term of column carrying loads of all above structure might be having buckling possibility specially where, we were 20m+ from our ground level.

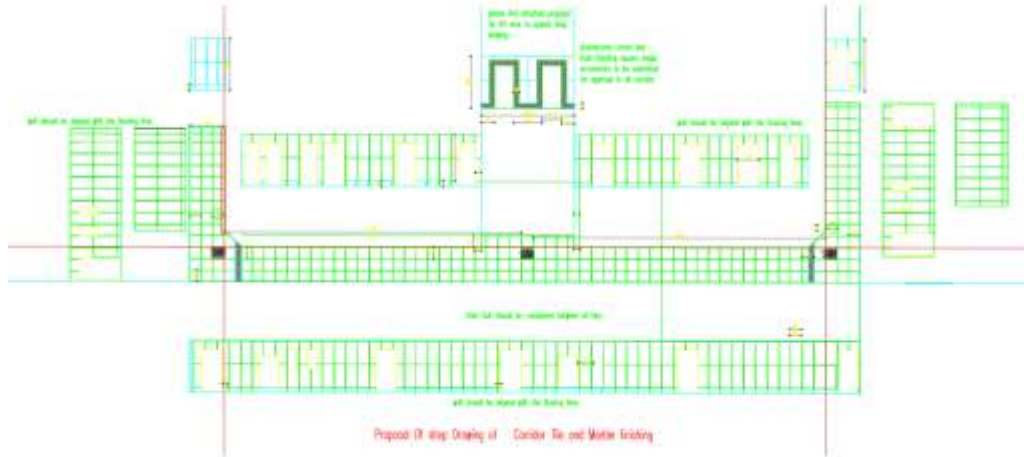
CE 3.9 I proposed to the structural engineer to make a mezzanine floor covering all critical column to give them rest on mezzanine slab to transfer loads. After meetings and client approvals solution has been accepted, which cost an extra 0.5 million but give the structurally stability and more area as mezzanine floor could be used for more parking and for a small prayer hall.



CE 3.10 Another problem which I faced is arrangement of block layouts, tile fixing drawings, and other finishing items, as client was not physically available in the country so we need to coordinate with him through emails and call. So for client satisfaction I made shop drawings with different proposal of finishing design with respect to tiles, granite patterns, wooden flooring and block layouts.

CE 3.11 There is one more decision which I made as per structural requirements, and minimizing the dead load on structure, I proposed to use thermal block with less density as compare to cement block to reduce the dead load in structure as out slab structure was also a post tension slab system. Proposal was accepted and it reduce almost 36% of dead load in term of block works.

CE 3.12 During the work as our client was not physically available and his satisfaction was our first priority to being as Project Consultant engineer I designed all shop drawing with respect to finishing work. I designed Tile shop drawings, marble Shop Drawing, granite shop drawings, and finishing schedule for all structures inside, further more I also made plan for mezzanine floor for adding new parking and prayer hall which was later on is approved by Client.



CE 3.13 As a PROJECT Engineer I perform many test and supervise some with services provider. The test which I perform by myself where the Concrete flow test; the Slum test; the Field density test; the Workability of Concrete test. Also my service providers performed the Steel test, Concrete compressive strength test, Compaction test and the Blocks compressive strength test.

CE 3.14 As a Project Engineer of this project I was involved in calculation and estimation process for Concrete calculation before ordering concrete. I also did steel calculation with respect to Project progress and Filling materials calculation and compression with BOQ. I did the Project Material and requirements scheduling and calculation and the Block and plaster work calculation in order to make Invoices and comparison of with BOQ Marble, Tile and granite calculation with respect to work and BOQ.

CE 3.15 I used AutoCAD and excel for calculation and designing purpose, MS PowerPoint for presentation and MS word for report writing and documentation.

CE 3.16 I was coordinating the Concrete plant, controlling the number of trips made by the trucks and quantity supplied.

- Trucks for bringing the filling material to site,
- Excavator to spread and level the filling material
- Flatbed trailers for getting the machinery to site,
- Bob cat were used to spread the material in the corners and curve portions where pavers cannot reach.
- Grader was used prepare the surface and spread the road base for the full construction works.
- Concrete Mixture for small level of concrete

- I was coordinating the Concrete plant, controlling the no of trips made by the trucks and quantity supplied
- Concrete pumps and T.M. Cars

- CE 3.17 I learnt the skills of arranging and sharing of resources among different sites executing simultaneously was learned from my managers and office colleagues. I also learnt a lot from my Project Manager, Q.C Manager about how project can be controlled in various un-wanted conditions, and how to manage and control the quality with limited resources and accurate calculations.
- CE 3.18 I used the Special techniques in this projects to resolve the issue related to water table and water outrages, via using absolute engineering solutions by the use of sum-pumps and after determining the major weak point of water seepage we made pits to encounter this problem.
- CE 3.19 The Special design of Steel Shuttering for Concrete was used only in this project. We use a special concrete for this project as it is military based project so concrete has to be stronger. For that reason, structure itself was too heavy, and to avoid damages I designed special steel plates shuttering which helped us to give good finishing in concrete to avoid plaster cost and strong shuttering to avoid any damages during concrete pouring.
- CE 3.20 After facing problems with respect to water seepage the emergency exit passage was becoming a big issue because it was disturbing the 2 new proposed pits for water sum-pump. So in a presentation to the officials that came on visit to check the progress of the project I proposed a new emergency exit passage which later on was accepted by the authorities with minor changes.
- CE 3.21 Emergency exit stair case was disturbing at certain point by the location of sump-pump which was not before in design but included after incoming water inside project working area. So new emergency passage had to be designed to maintain the project timeline, after considering all the structural elements and sensitivity of this project I propose a new emergency exit which was as per requirement and later on it was accepted by official with minor changes in its size and elevations. This was very helpful in deciding the fleet required to carry out the work. Our company standardized this and implemented in all the other projects in our division.
- CE 3.22 I used the engineering codes of ASTM, BS and Building Codes. Due to depth of this project execution we followed all the guideline of safety and personal equipment personal to ensure the safety of worker and project. With help to safety advisor we applied some rules and regulation that were compulsory to follow to everyone during construction activities in Premises of construction site.

- CE 3.23 I attended Safety and tool box meeting that conduct by our safety advisor once in month on his visit to site. I also took the Firefighting Basic Training Level A.
- CE 3.24 As there were many areas where works were being executed simultaneously every day I was interacting with each gang to discuss regarding the targets to be achieved, safety procedures to be followed, scope of the work, regarding the allocation of the resources. On a Weekly basis I had a personal meeting with my project manager to discuss the ongoing task and future activities and arrange the resources with respect to time.
- CE 3.25 Twice a week my manager and I had a meeting discussing status of the upcoming works, remaining clearances and resources allocation. I took a gist of the previous completed works and making sure the as built drawings are prepared and submitted to the concern authorities. To get the completion certificate. I ensured timely submission of the invoices as the work order was completed. I analysed the resource allocation sheets and making any changes if required.
- CE 3.26 I was leading team of steel fixture and Concrete in different phases to maintain the work flow as per requirements and standard. Furthermore, I was also managing the Project labour to assign task and check out their work and performance. I was also leading the various sub-coordinators and trainee Engineers who came for an internship. I also following up to sub-contractor about their work activities and task assigning.
- CE 3.27 I prepared Bar charts and pie charts to track and monitor the work and show the percentage completion. I was responsible to maintain the sub-contractor catalogs, labor sheets, and material supplier record and Concrete log. Weekly Progress report was also my task which I had to submit to my project Manager.
- CE 3.28 I give a project progress presentation on an occasion of client visit, about the project progress and future task during his visit. I also propose a new emergency exit to the authorities which was later on approve with minor changes.
- CE 3.29 The Project was successfully completed on time and our company was awarded by another project in other location by same clients. To make some housing units. I was not part of that work as I left the company and move to Dubai. United Arab Emirates
- CE 3.30 The Engineering knowledge helped me in my every decision and ensured best outcome. When I did a calculation I used all my knowledge gain during my course on cost estimation. Making temporary routs for entrance and exit, and routes for Concrete special vehicle I recall my engineering knowledge while

studding transportation engineer. To avoid any structure mistake, I continuously checking all structural design and my knowledge which I received in my studies during structural engineering. I recalled my engineering drawing knowledge from my lecture to make sketches and let the labor understands about the implementation of task.

- CE 3.31 The Learnings from the project were:
- Time crashing techniques, importance of the productivity for the resources used.
 - Carrying out the systematic traffic diversions without causing any inconvenience to the public.
 - Liaising with the authorities for the approvals
 - Massive amount of Concrete managing
 - Steel, wood, finishing work understanding
 - Green area designing and attributes using in this designing
 - Estimation knowledge as per Project requirements and comparison with BOQ
 - Dealing with high profile clients and authorities.

SUMMARY

CE 3.32 Working as a Project Civil Engineer, I was involved in the resource allocation, following the program of works, liaising with the authorities, understanding the scope of the project, attending the client meetings, looking after the project execution. I dealt with labour and sub-contractor. Prepared invoices for their work and handled the machinery that was going to be used.

CE 3.33