



جامعة الجميع الذكية  
EVERYONE'S SMART UNIVERSITY

# Everyone's Smart University

## Project (Spring 2021)

### Course Info:

|                              |                             |        |           |
|------------------------------|-----------------------------|--------|-----------|
| Master of Project Management | Advanced Project Management | PMG506 | Spring 21 |
|------------------------------|-----------------------------|--------|-----------|

### Assignment Info:

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| Advanced Project Management | Eng. Amaal Aburumman | Pro 1 | 18 FEB 21 |
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## Repair and Maintenance of Uqair Beach Road

- **Introduction**

The project is located in the ancient Islamic origin of Uqair in the Eastern Province of Saudi Arabia. With the help of a Project Initiation Document (PID), I will capture the project's scope, purpose, and objectives.

The project's **scope** entails the maintenance and repair of the section of Uqair beach road measuring 9 Km and running along the Persian Gulf, excluding the region along the First Reef Lake. The major activity entailed re-installation of culvert and drainage systems and repair of road signs along the road to boost drainage, the region's coveted aesthetic beauty, and enhance navigation ease. The project's **purpose** is to enhance drainage, aesthetic appeal, and direction finding along the 9 Km section of Uqair Road running along the Persian Gulf coast in the East. Finally, the **objectives** are to maintain and repair the Uqair road by repairing and re-installing culverts, drainage systems, road sign directions between 10<sup>th</sup> June 2021 and 27<sup>th</sup> July 2021 at a cost of SAR 250000. Collectively, the project's scope, purpose, and objectives offer a graduated focus on delivering quality projects.

- **Literature Review**

The field of construction is highly significant as an employer of persons. Like all other projects, construction projects must adhere to quality, cost, and time constraints to ensure adequate client satisfaction (Rever). Several legislations govern project management in Saudi Arabia. They entail the *2005 Saudi Labor Law* that sets out particular health and safety procedures that employers must observe ("Workers' Health and Safety Regulations"). The field is also governed by the Government Tenders and Procurement Law approved as "Procurement Law" by the Council of Ministers in 2019. The law demands, among other things, value for money when public tenders are involved. According to OSHA, compliance with the health and safety measures on the part of employer is also advised.

- **Methodology**

The assessment I present here on how to undertake the project employs a qualitative research design. Print and online secondary sources offer data and other sources of information. The choice of secondary sources emanates from its ease of access and cost-effectiveness. However, they are prone to biases through the perspectives taken by the other writers. Still, adequate care is taken to ensure quality data is used.

- **Results and Discussion**

### **Project Outline Delivery**

To ensure that everything is clear from the project's onset, I will employ a Project Initiation Document (PID). The tool ensures a successful project start by supporting the right communication to team members. The document will capture the project's scope, overall success criteria, management and ways in which the team can refer back to understand if they within the scope and earlier arrangements. A PID document is a highly comprehensive document that establishes a common perspective.

### **Dealing with Team Members**

Amongst the strategies to enhance cooperation with team members entails the use of respectful tones, inclusivity, online collaboration tools, and transparency. The idea concerns winning members commitment, uplifting workplace productivity, noting and eliminating performance barriers, and gaining an all-round work progress view. Notable team members and stakeholders will entail our client, enlisted engineers, consultants, architects, and material sub-contractors. The communication approach recognizes the different team member and stakeholder backgrounds, as about one-third of the Eastern Province is made of expatriates from different world parts. "Saudi Arabia's Population Statistics" depicts that about 10 million people out of the nation's 35 million residents are expatriates. Maintaining respectfulness, supporting engagement, boosting virtual communication, and supporting openness will result in higher collaboration levels and understanding amongst project participants.

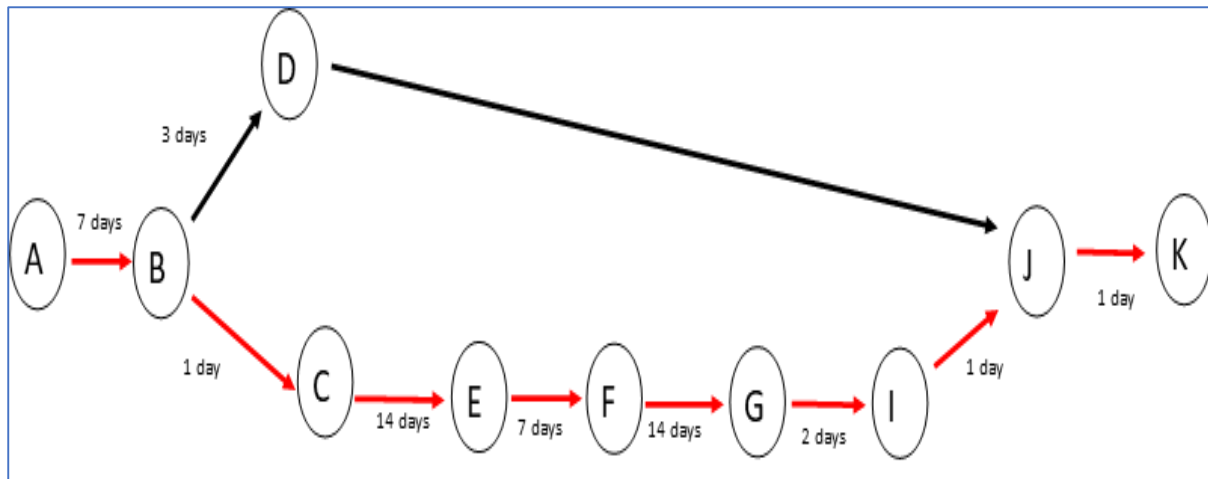
## Monitoring Goals, Time Frames, and Milestones

Mostly, the critical path will support goals, time frame, and milestone monitoring. The longest sequence of tasks that the team must complete successfully to implement the projection, from the initiation to the closeout phase. For example, using the following critical path analysis (CPA), the entire project will last 47 days if all essential activities are implemented. The tool captures the major construction activities and related dependencies, helping the team to discern the most essential activities to implement before others come into play. Moreover, each of the activity serves as timed milestones helping the implementing team to understand how effective they are in attaining set objectives.

*Table 1: Activity Scheduling*

| Coding | Dependence | Critical activities                                                               | Duration |
|--------|------------|-----------------------------------------------------------------------------------|----------|
| A      |            | Initiation                                                                        |          |
| B      | A          | Planning                                                                          | 7 days   |
| C      | B          | Site survey                                                                       | 1 day    |
| D      | B          | Material procurement and stocking                                                 | 3 days   |
| E      | C          | Cross falls digging                                                               | 14 days  |
| F      | C          | Repair road shoulders                                                             | 7 days   |
| G      | F          | Repair culverts, side ditches, outlet ditches, and stone wall dewatering surfaces | 14 days  |
| H      | G          | Setup road signposts                                                              | 7 days   |
| I      | H          | Site cleanup                                                                      | 2 days   |
| J      | D          | Audit                                                                             | 1 day    |
| K      | I          | Handover                                                                          | 1 day    |

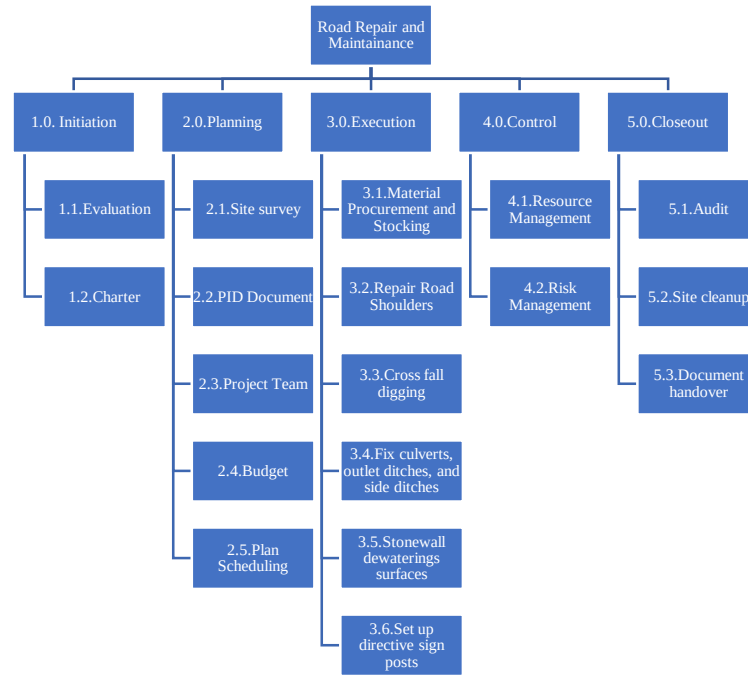
As shown in fig.1 below, CPA offers a graphical view of the repair and maintenance project and supports my team's ability to identify the most essential tasks to manage first, decreasing timelines and saving time. The critical path discerns dependencies with clarity, supports scheduling and controlling of activities and makes it possible to compare planned and actual performances.



*Note:* self-made depiction of the critical path (in red) essential to ensure all processes are considered.

### **Milestone and Activity Identification**

In identifying milestones and related activities, I will employ a work breakdown structure (WBS). The tool captures a hierarchical view of the project's outcomes. The method organizes and defines the particular activities and establishes communication points. Moreover, the tool will come in handy in designing the project's budget and allocating resources. Beginning with the initiation phase, the repair of Uqair Beach Road will proceed to the planning, execution, control, and end with the closure phase. Each stage captures a family of related activities and advances towards the final objective.



## Budget Consideration

The project's budget of SAR 243900 is split across the project's life to ensure funds are available as and when needed. In the first week, SAR 15000 is spent on the project's initiation and planning. A majority of the funds goes to the execution phase, which begins in the second week. Adding a 20% markup brings the project's cost to SAR 250000. Since, resource management and risk controlling is a continuous process, the funds allocated to these roles are spread out for most of the project's

lifetime.

| Milestones                             | Week 1            | Week 2           | Week 3           | Week 4           | Week 5           | Week 6           | Week 7          | Week 8   |
|----------------------------------------|-------------------|------------------|------------------|------------------|------------------|------------------|-----------------|----------|
| <b>1. Initiation</b>                   |                   |                  |                  |                  |                  |                  |                 |          |
| 1.1. Evaluation                        |                   |                  |                  |                  |                  |                  |                 |          |
| 1.2. Charter                           | SAR 5000          |                  |                  |                  |                  |                  |                 |          |
| <b>2. Planning</b>                     |                   |                  |                  |                  |                  |                  |                 |          |
| 2.1. Site survey                       |                   |                  |                  |                  |                  |                  |                 |          |
| 2.2. PID Document                      |                   |                  |                  |                  |                  |                  |                 |          |
| 2.3. Project team formation            |                   |                  |                  |                  |                  |                  |                 |          |
| 2.4. Budget                            |                   |                  |                  |                  |                  |                  |                 |          |
| 2.5. Plan Scheduling                   | SAR 10000         |                  |                  |                  |                  |                  |                 |          |
| <b>3. Execution</b>                    |                   |                  |                  |                  |                  |                  |                 |          |
| 3.1. Material procurement and stocking |                   | SAR 35000        |                  |                  |                  |                  |                 |          |
| 3.2. Cross fall digging                |                   |                  | SAR 20000        |                  |                  |                  |                 |          |
| 3.3. Repair road shoulders             |                   |                  |                  | SAR 20000        |                  |                  |                 |          |
| 3.4. Fix culverts & ditches            |                   |                  |                  |                  |                  |                  |                 |          |
| 3.5. Stone wall surfaces               |                   |                  |                  |                  |                  | SAR 50000        |                 |          |
| 3.6. Setup roadside signposts          |                   |                  |                  |                  |                  |                  | SAR 40000       |          |
| 4. Control                             |                   |                  |                  |                  |                  |                  |                 |          |
| 4.1. Resource management               |                   |                  |                  |                  |                  |                  |                 |          |
| 4.2. Risk management                   |                   |                  |                  |                  | SAR 15000        |                  |                 |          |
| <b>4. Closeout</b>                     |                   |                  |                  |                  |                  |                  |                 |          |
| 5.1. Audit                             |                   |                  |                  |                  |                  |                  |                 |          |
| 5.2. Site Cleanup                      |                   |                  |                  |                  |                  |                  |                 | SAR 5000 |
| 5.3. Document handover                 |                   |                  |                  |                  |                  |                  |                 |          |
| <b>Funding</b>                         | <b>SAR 15000</b>  | <b>SAR 50000</b> | <b>SAR 20000</b> | <b>SAR 20000</b> | <b>SAR 50000</b> | <b>SAR 40000</b> | <b>SAR 5000</b> |          |
| <b>Total</b>                           | SAR 200000        |                  |                  |                  |                  |                  |                 |          |
| Markup 20%                             | SAR 50000         |                  |                  |                  |                  |                  |                 |          |
| Project cost                           | <b>SAR 250000</b> |                  |                  |                  |                  |                  |                 |          |

## Task and Resource Distribution

I intend to use the RACI to divide tasks and resources amongst my team members. The model champions for responsible, accountable, consulted, and informed approach to conducting projects. The tool clarifies and communicates roles and responsibilities for deliverable and tasks. In the following chart, the project director maintains a control over most of the crucial aspects of the project, especially in the planning and controlling phases. Accordingly, the mechanism is highly effective in role allocation.

| <b>Milestones</b>                      | <b>Project Director</b> | <b>Project Engineer</b> | <b>Finance Leader</b> | <b>Architect</b> | <b>Foreman</b> |
|----------------------------------------|-------------------------|-------------------------|-----------------------|------------------|----------------|
| <b>1. Initiation</b>                   |                         |                         |                       |                  |                |
| 1.1. Evaluation                        | ✓                       |                         |                       |                  |                |
| 1.2. Charter                           | ✓                       |                         |                       |                  |                |
| <b>2. Planning</b>                     |                         |                         |                       |                  |                |
| 2.1. Site survey                       |                         |                         |                       | ✓                |                |
| 2.2. PID Document                      | ✓                       |                         |                       |                  |                |
| 2.3. Project team formation            | ✓                       |                         |                       |                  |                |
| 2.4. Budget                            |                         |                         | ✓                     |                  |                |
| 2.5. Plan Scheduling                   |                         | ✓                       |                       |                  |                |
| <b>3. Execution</b>                    |                         |                         |                       |                  |                |
| 3.1. Material procurement and stocking |                         |                         | ✓                     |                  | ✓              |
| 3.2. Cross fall digging                |                         | ✓                       |                       |                  |                |
| 3.3. Repair road shoulders             |                         | ✓                       |                       |                  |                |
| 3.4. Fix culverts & ditches            |                         | ✓                       |                       |                  |                |
| 3.5. Stone wall surfaces               |                         | ✓                       |                       |                  |                |
| 3.6. Setup roadside signposts          |                         | ✓                       |                       |                  |                |
| <b>4. Control</b>                      |                         |                         |                       |                  |                |
| 4.1. Resource Management               |                         |                         | ✓                     |                  |                |
| 4.2. Risk Management                   |                         |                         | ✓                     |                  |                |
| <b>4. Closeout</b>                     |                         |                         |                       |                  |                |
| 5.1. Audit                             |                         |                         |                       | ✓                |                |
| 5.2. Site Cleanup                      |                         |                         |                       |                  | ✓              |
| 5.3. Document handover                 | ✓                       |                         |                       |                  |                |

## Progress Monitoring

Gantt Charts are highly effective in monitoring project progress. The tool tracks performance visually and by time, helping the team to assess actual implementation against planned measures. Sticking to these timelines helps remain within the project's time constraints.

| Milestones                             | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 |
|----------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>1. Initiation</b>                   |        |        |        |        |        |        |        |        |
| 1.1. Evaluation                        |        |        |        |        |        |        |        |        |
| 1.2. Charter                           |        |        |        |        |        |        |        |        |
| <b>2. Planning</b>                     |        |        |        |        |        |        |        |        |
| 2.1. Site survey                       |        |        |        |        |        |        |        |        |
| 2.2. PID Document                      |        |        |        |        |        |        |        |        |
| 2.3. Project team formation            |        |        |        |        |        |        |        |        |
| 2.4. Budget                            |        |        |        |        |        |        |        |        |
| 2.5. Plan Scheduling                   |        |        |        |        |        |        |        |        |
| <b>3. Execution</b>                    |        |        |        |        |        |        |        |        |
| 3.1. Material procurement and stocking |        |        |        |        |        |        |        |        |
| 3.2. Cross fall digging                |        |        |        |        |        |        |        |        |
| 3.3. Repair road shoulders             |        |        |        |        |        |        |        |        |
| 3.4. Fix culverts & ditches            |        |        |        |        |        |        |        |        |
| 3.5. Stone wall surfaces               |        |        |        |        |        |        |        |        |
| 3.6. Setup roadside signposts          |        |        |        |        |        |        |        |        |
| <b>4. Control</b>                      |        |        |        |        |        |        |        |        |
| 4.1. Resource Management               |        |        |        |        |        |        |        |        |
| 4.2. Risk Management                   |        |        |        |        |        |        |        |        |
| <b>4. Closeout</b>                     |        |        |        |        |        |        |        |        |
| 5.1. Audit                             |        |        |        |        |        |        |        |        |
| 5.2. Site Cleanup                      |        |        |        |        |        |        |        |        |
| 5.3. Document handover                 |        |        |        |        |        |        |        |        |

## Project Documentation and Finalizing

Documentation is an essential aspect of the project's success. The foreman will maintain the project's records in written and virtual or online forms to allow ease of distribution and sharing. Online connections and document accessibility ensures real time access and modification to suit emerging conditions. Team members can view the documents and changes made, and can make direct contributions where applicable.

In finalizing the project, the following auditing criteria will come in handy. Firstly, I will confirm with my team and stakeholders that the project is complete to ensure everyone is onboard and agrees. All stakeholders, including the government's architect, the client, and community representatives will go through the deliverables and agree on their completion. Afterwards, I will review the contracts I had with subcontractors to bring them to a halt. Finally, I will measure the project's performance against time, cost, and quality constraints to rate my team's performance and ensure lessons are learnt.

A number of legislations must be observed to avoid getting entangled in legal suits. They entail the 2005 Saudi Labor Law, OSHA guidelines, and 2019 Saudi Procurement Law. Observing the laws is a matter of legal and ethical compliance.

### • Conclusion

The repair and maintenance of Uqair Beach Road is a highly valuable project that demands a professional approach. My team is tasked with rehabilitating the beach road by repairing its dewatering system and setting up aesthetically appealing road direction signs to ensure tourists find direction with ease. The cost must be done in two months' time and at a cost of SAR 250000. My research has unearthed the right tools to help me implement the project with ease. I am looking forward to a successful implementation.

### • Works Cited:

- "Saudi Arabia's Population Statistics" Global Median Sight, 12 Apr. 2021, <https://www.globalmediainsight.com/blog/saudi-arabia-population-statistics/>. Accessed 8 May 2020
- "Workers' Health and Safety Regulations" Clyde & Company, [www.clydeco.com/en/insights/2015/11/workers-health-and-safety-regulations-in-the-kingd](http://www.clydeco.com/en/insights/2015/11/workers-health-and-safety-regulations-in-the-kingd). Accessed 9 May 2021
- OSHA. "Occupational safety and health country profile: Saudi Arabia" ILO, [www.ilo.org/safework/countries/arab-states/saudi-arabia/lang--en/index.htm](http://www.ilo.org/safework/countries/arab-states/saudi-arabia/lang--en/index.htm). Accessed 9 May 2021
- Rever, Harry. *Quality in Project Management—A Practical Look at Chapter 8 of The PMBOK--® Guide*. Paper Presented at PMI® Global Congress 2007—North America, Atlanta, GA. Newtown Square, PA: Project Management Institute, 2007