

## **Applied Management for FIDIC Contracts**

### **Part 2: Segregation of the Contract Parties Involvement**

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#### **Abstract**

The FIDIC forms of contracts are widely used within the construction projects where it proved significant attainment in Europe and the Middle East. The contract parties are always trying to get into a contract that satisfies the specific contract requirement; hence they choose a form of the FIDIC forms of contract those suites the project, such as the RED Book for construction, Yellow Book for the Plant and design build, and the Silver Book for turnkey projects. Managing the contract in an expert level shall grant successful contract deliverable, subsequently achieving the project objectives within the project constrains. The contract parties duties, roles, obligations, and responsibilities are defined in the FIDIC forms of contract, where it can be considered an action plan to move through the contract scope of work within predefined route and specific stipulated efforts that save the contract parties rights and constitutes the parties obligations, which were segregated in this paper and reviewed for proper implementation with the relevant recommendation based on lessons learned from previous projects and resolved construction claims.

Keywords: FIDIC- Contracts- Employer- Contractor- Engineer - Best Practice

#### **1. Introduction**

The FIDIC different form of contract include separate clauses and sub-clauses that demonstrate the contract parties involvement through the entire contract lifecycle, starting from pre contract phase, moving through the contract sign, contract implementation, and post contract period. The contract parties' roles, duties, and responsibilities imply constitutes a package of performance requirements which are required to ensure smooth and successful contract deliverables. It is worthy if not mandatory to assign competent resources in the contract management domain and it was proved through the historical records that the investment in the cost of the resources provides significant benefits to the project. The benefits include, ensuring achieving the project constraints, avoiding time prolongation, project conflicts, cost overrun, and construction claims. In this paper the involvement of the project parties are reviewed, commented, and recommendation for prudent practical implementation were provided. The paper is providing the analysis of the practical mechanism to manage the FIDIC contract stipulated clauses for the different contract parties, i.e. the Employer, the Contractor, in addition to the Engineer who has a separate service agreement with the Employer considering the Red Book 1999.

## 2. FIDIC forms general conditions

The main part of the FIDIC forms of contract is the general conditions that include 20 clauses divided into 163 sub clauses and sub-paragraphs. The first clause includes the general provisions which were discussed in the part 1 of this applied management for FIDIC contracts series. The core topic of this paper is the contract parties' clauses, no. 2, 3, and clause no. 4 which will be discussed in the following sections.

## 3. The Employer

The first party of the construction contract is the Employer, who assigns an Engineer to supervise the contract work and represent him in the project processes. Clause no 2 of the FIDIC general conditions is for the Employer's role, responsibilities, and obligations as follows:

### 3.1 Right of Access to the Site

The project site is a property or should be under the possession of the Employer<sup>1</sup> and it is his responsibility to give the Contractor right of access to and to enable the contractor to possess and work in the site entirely as stated in the contract documents, probably in the appendix to tender. The site access can be partially and possession of the area can be in consequential phases, pursuant the mutual agreement and as stated in the appendix to tender. The contractor shall submit performance security before the site access which is not only to possess the project area but it can be also agreed in the contract to enable the contractor to use a building, land, structure as in the phases renovation project in a multistory building, the parties may plan to work in some specific floors in every separate phase.

The required tome to give the contractor access to the site is either to be stated in the appendix to tender or to be as per the requirement in the project programme submitted by the contractor and approved by the Engineer as per sub-clause 8.3( programme).

↑↑ Recommendations and best practice

Caution is required by the Employer is necessary to ensure full compliance with the contract to enable site access otherwise the Contractor shall be entitled to claim any extension of time and delay damages with reasonable profit under sub-clause 20.1, should the Employer fails to provide the site to the contractor. In case the Employer's failure was due to any error or failure by the Contractor, the Contractor shall not be entitled to any time or cost reimbursement.

### 3.2 Permits, Licenses or Approvals

The contract parties shall agree for the responsibility of obtaining the required permits, licenses, approvals. Generally the Employer shall provide all the support and assistance deemed reasonable to the Contractor in the following necessary documents:

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<sup>1</sup> International Federation of Consulting Engineers "FIDIC" Conditions of Contract for Construction for building and engineering works designed by the employer, general conditions, First Edition 1 999 ISBN 2-88432-022-91999

- a) Obtaining copies of the relevant Laws of the Country but are not readily available.
- b) Provide the required documents and delegations to the Contractor's for the applications for any permits, licenses, and or approvals necessary for the work including all governmental departments.

### **3.3 Employer's Personnel**

The communication, work interference, and coordination between different parties lie under the Employer's responsibility. He is responsible for confirming that his personnel and any other contractors on the site co-operate with the Contractor's in as necessary to execute the contract and comply with the contract requirement for safety procedures in addition to protection of the environment contract obligations<sup>2</sup>.

↑↑ Recommendations and best practice

The assignment of the Employer's personnel should be clear and documented in the particular conditions to ensure effective involvement in the project work and avoid any miscommunication that may add risk. In addition, the relationship and work interference between the main contractor and other Employer's assigned contractors need care and proactive management to confirm entity compliance to the predefined obligations and to avoid undefined defaults or concurrent delays.

### **3.4 Employer's Financial Arrangements**

As a procedural management and for transparency, the FIDIC obliges the Employer to provide the evidence that he has carried out the financial arrangement necessary to pay for any submitted Contractor's request for payment in order to ensure that the Employer is maintaining his financial abilities to pay for the contract price as estimated at the time of the Contractor's request. The duration of the Employer's response is barred by 28 days to provide the reasonable evidences after receiving the contractor's request. In case that the Employer faces material change to his financial or he is intending to change his financial arrangement, the Employer shall give notice to the Contractor with detailed particulars.

### **3.5 Employer's Claims**

When the Employer is considered to be entitled to any payment from the Contractor under any contractual obligation or in connection with the Contract and/or to if he is entitled to extend the defects notification period, hence the Employer/ Engineer shall give notice to the Contractor as soon as practicably after the Employer became aware of the circumstances giving rise to the claim, the notice should include the detailed particulars of the event<sup>3</sup>. The notice for extending the defects notification period shall be given before the expiry of the period stated in the

<sup>2</sup> Bunni, N. (2005), the FIDIC Forms of Contract 3rd. ed. Blackwell.

<sup>3</sup> Nguyen, L.D. (2004). A Study on Project Success Factors in Large Construction Projects in Vietnam. Journal of Engineering, Construction and Management, Emerald, 11 (6),404-413.

appendix to tender. Every raised claim should be based on a contractual clause and shall include proof of the claimed financial amount and/or other extension for the defects notification period which the Employer considers himself to be entitled. After submitting the detailed particulars, the Engineer shall proceed in the determination process as per sub-clause 3.5 of the general conditions to evaluate the amount due that shall be paid by the Contractor to the Employer and the Engineer also shall decide the extension (if any) of the defects notification period in conjunction with sub-clause 11.3 (Extension of Defects Notification Period). The approved amount by the Engineer can be deducted from any Contractor's payments certified in a payment certificate, or else it may be claimed against the Contractor based on sub-clause 3.5 (Employer's claims).

↑↑ Recommendations and best practice

The Employer should serve the claim notice as soon as practicably supported with the documented evidences and particulars, the timely notice will add confidence and credibility to the submitted claim and it encourages the contractor to keep contemporary records that provides the challenge may be submitted in form of defense or counter claim by the contractor. The Engineer is requested to prepare detailed review and evidenced evaluation to support his justified decision on the Employer's claim in order to withstand the potential rejection and or challenge by the Contractor.

#### **4. The Engineer**

In FIDIC Red Book 1999 the definition of the Engineer is stated under sub-clause 1.1.2.4 "Engineer" as defined as the person appointed by the Employer to act as the Engineer for the purposes of the Contract and identified and named in the appendix to tender, or the Engineer can be the replaced under sub-clause 3.4 (replacement of the Engineer) from time to time and notified to the Contractor. The Engineer can be a person or an entity as stated in the appendix to tender.

##### **4.1 Engineer's Duties and Authority**

In the Red Book 1999, Clause no. 3- sub-clause 3.1 the Engineer has a dual role; the first is the exclusive role towards the Employer and the other role is that related to the contract parties' rights and obligations. The Engineer is deemed to act for the Employer when performing his obligations under the contract unless otherwise explicitly mentioned in the general conditions, such as in sub-clause 3.5 (determinations) where the Engineer is obliged to give a fair decision for the matter before hand submitted by either of the contract parties. Another critical situation is apparent with the sub-clause 2.5 (Employer's claim) where the Engineer may be preparing the claim for the Employer and further he has the obligation to fairly carry out the determination under sub-clause 3.5.

For the contractual responsibilities and obligations, the Engineer has no authority to change any obligations, duties, and responsibilities imposed on either party. For example in the cases when the Engineer is performing his role in approval, check, certificate, consent, Examination, inspection, instruction, notice, proposal, request, whether the act is acceptance, rejection, or

advice that shall nor relive the Contractor from any contractual responsibility stated in any of the contract documents.

↑↑ Recommendations and best practice

The responsibilities implied on the Contractor do not decrease or are limited by the Engineer's action, because the Engineer's approval will not transfer the contractual responsibility from the Contractor to the Engineer including responsibility for errors, omissions, discrepancies, and non-compliances. In this context, many claims may arise that the Contractor submitted a material for approval with the supporting data and the Engineer approved the submission without any comment or restriction. The Contractor must carry out his technical duty in professional manner to ensure complete compliance with the contractual requirements, while the Engineer should act his role through providing the competent resources to ensure proper review, study, and decision. The Engineer still may be questioned for negligence or defaults under the professional responsibility and the applicable law, although his decisions do not relieve the Contractor from his contractual obligations.

#### 4.2 Delegation by the Engineer

FIDIC general conditions sub clause 3.2 included that the Engineer may assign assistance and representatives with identified duties and written delegation the assignment shall be in written and it can be for certain duration and may be cancelled at the Engineer's convenience through written notice by the Engineer which takes effect after each party receives his copy of the written notice for assignment or cancellation. The Engineer can get the assistance for any of his duties and obligations except for the determination as per sub-clause 3.5 (Determinations) unless otherwise agreed by both parties. Such assistance can be managed through the assignment of a resident engineer or inspectors working in an on call basis for testing and inspection of the work. Each assistant role and responsibility shall be restricted by the defined scope in the written delegation by the Engineer as the action will be considered as if it was carried out by the Engineer himself. The assistant's decision may be questioned by the contractor through a notice to the Engineer who shall promptly give his decision to confirm or vary the assistant instructions or determination. The Engineer also has the right to reject the work, plant or material in case the assistant's failure to disapprove any work.

The replacement of the Engineer is managed in sub-clause 3.4 (replacement of the Engineer) and the Employer is obliged to notify the Contractor before 42 days from the intended date of replacement of the Engineer with all details relevant to the intended replacement Engineer, including name, address and relevant experience. The Contractor can notify the Employer with any objection and the supporting particulars against an Engineer whom the Employer is intending to assign as a replacement Engineer, by then the Employer cannot assign such person who is debated by the Contractor.

↑↑ Recommendations and best practice

The Engineering firm that is awarded the contract of and Engineer role in a construction project usually assigns a team of engineers to carry out the work as per the service agreement with the

Employer. In such contracts the competency and size of the team are the core element affects the service agreement implementation success, as the agreement value and the identified no of engineers necessary in each trade, whether implied or explicitly mentioned in the contract drives the competency and experience can be tolerated by the engineering firm. It is recommended for either the Engineer and the Employer to work together to identify the scope of the service agreement prior any proposal submission by the Engineer to align the Employer's need with the proposal of the Engineer and Ensure proper technical and commercial proposal. The Employer should be quality oriented in the selection criteria for the potential proposal submitted by different Engineering firm because the assignment of incompetent Engineer may cause additional, unnecessary cost on to the project. The Engineer proposal should identify enough experienced personnel, having similar project experience, familiar with the work and contract language, and possessing the relevant academic and professional certificates.

#### ↑↑ Pitfalls

Some of the services agreements are signed and come into effect with in appropriate cost and or incomplete scope of work, hence the Engineer assistant assigned to the project will probably consist of incompetent resources or even incomplete resources. This critical situation is a fertile ground for Engineer mismanagement and potential contractor's claims.

### 4.3 Instructions of the Engineer

During the contract duration, the Engineer may issue additional information, including; written instructions, drawings, clarifications, interpretations, in order to enable the proper execution of the works and or making good any defects provided that information is as per the contract documents. The Contractor shall take such new or additional written information from the Engineer under this sub-clause and shall comply with such matters that are in conjunction with the contract, if the instructions or information constitutes a variation, this variation shall be managed under clause 13 (variations and adjustment). When an oral instruction is issued by the Engineer and the Contractor sends a written confirmation to the Engineer within two working days, then the Engineer should issue a written rejection or modification within another two working days otherwise the confirmation sent by the Contractor shall constitute the written instruction of the Engineer.

#### ↑↑ Recommendations and best practice

The Engineer and his delegated assistants should carefully manage the site communication to avoid unintended conflicts or discrepancy in the instructions. The Contractor's shall comply with the engineer's instruction as per the contract and the oral instructions must be confirmed in written to get the final feedback from the Engineer or his assistants in a total duration of four working days from the time of the Engineer's oral instruction issuance.

### 4.4 Determination

Sub-clause 3.5 in FIDIC Red Book 1999 implies a very critical duty to the Engineer as he is requested to determine, evaluate, decide any submittal of payment, cost, time, damages, or any

impacts either by the Employer or submitted by the Contractor. The Engineer shall precede pursuant this Sub-Clause 3.5 to agree or determine any matter. General the Engineer shall review and check the matter with each party in order to agree and reach a decision. In case of failing to reach agreement with the concerned party, the Engineer shall make a reasonable and fair determination in accordance with the Contract relevant documents which will constitute the Engineer's determination and shall be part of the supporting documents to construe and justify the determinations. The decision or determination by the Engineer shall be notified to the contract parties who must promptly comply with unless and until revised under the clause 20 of the FIDIC general conditions (claims, disputes, and arbitration).

↑↑ Recommendations and best practice

Determination is the prime critical role of the Engineer as he is required to provide high competency, fairness, and proficiency. Failing to provide proper determinations associated with the supporting particulars shall generate different claims, dispute in the project, and the Engineer may be challenged under the applicable law and the professional Entities.

## 5. The Contractor

The Contractor in the FIDIC forms of contract is defined in sub-clause 1.1.2.3 **"contractor"** means the person/entity named as contractor in the letter of tender and hence accepted by the Employer. The contractor duties, role, and obligations are included in sub-clauses 4.1 to 4.24 and will be discussed and summarized in this section of the paper.

### 5.1 Contractor's General Obligations

Although the Red FIDIC 1999 is considered for the work designed by the Employer, the Contractor is requested to carry out the part of design identified in the contract if any, in addition to executing and completing the work and remedying any defects in accordance with the contract documents and the Engineer's instructions as per sub-clause 4.1. The Contractor is also obligated to provide the Plant documents, personnel, goods, consumables, and all other. As a general obligation also the Contractor shall maintain stability and safety of all site operations. The Contractor shall provide his proposed methods of statement for the execution of the works. The Contractor shall submit to the Engineer the "as-built" documents, operation and maintenance required data/manuals to operate prior to the commencement of the Tests on Completion, such part is considered completed only the Contractor submittal of these documents and manuals.

### 5.2 Performance Security

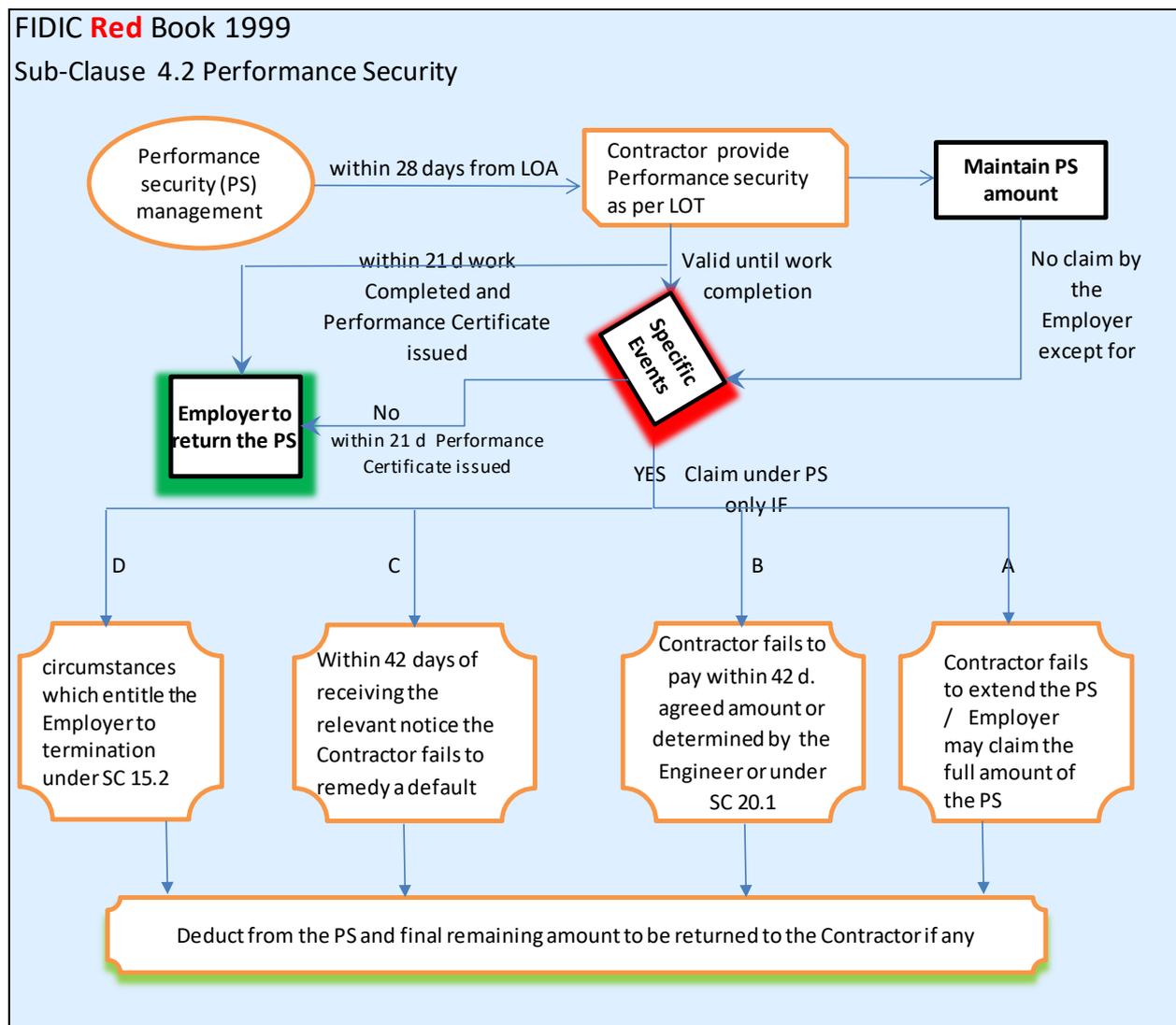
The Performance security is stipulated in the FIDIC forms to ensure serious and competent performance by the Contractor. The Contractor shall acquire a performance security in the amount stated in the appendix to tender within 28 days after receiving the letter of acceptance, in the form included in the particular conditions or approved by the Employer. Some Employers

refrain from requesting the performance security and it is not included in the appendix to tender, hence this sub-clause does not apply, and for example ARAMCO does include the performance security in its bid documents. The performance security shall be provided in 28 days and to be enforceable and valid until the completion of work and remedying the defects otherwise the performance security shall be extended until the works have been completed and also the defects should be remedied if any.

↑↑ Recommendations and best practice

The performance security documentation and application is somehow complicated and have different routes which needs inclusive awareness by the contract parties, it can be summarized in practical application as shown in figure 1 below.

**Figure 1: Performance Security Management in FIDIC Red Book**



### 5.3 Contractor's Involvement in FIDIC

The Contractors involvement, obligations, and contribution in the contract is described in different sub-clause up to sub clause 4.24, for the limitation of this paper, the sub-clauses are mentioned and briefly discussed in table 1 below.

**Table 1: The Contractor in FIDIC Red Book Clause 4 Summary**

Red FIDIC 1999 Sub-Clause	Project Characteristics	Remarks
4.1 Contractor's General Obligations	Limited design, provide plant and Contractor's documents specified and Contractor's personnel, goods, consumables, and necessary requirements	Main design by the Employer, Limited design by the Contractor
4.2 Performance Security	To be submitted in the form and amount in in appendix to tender.	Claim only under specific circumstances
4.3 Contractor's Representative	Appointed by the Contractor and authorized to work on his behalf under the contract. Consent of the Engineer is required for the appointment and for replacement. He may delegate and must be fluent in the language	Shall be replaced if revoked or in case of failure to act his role- he shall receive instructions
4.4 Subcontractors	The Contractor shall not subcontract the whole of the works. Contractor is responsible for the acts or defaults of the subcontractor; consent by the Employer is required for subcontractors and not for suppliers or nominated subcontractors. The Contractor shall notify the Engineer not less than 28 d. of the intended date of the commencement of each Subcontractor's work. The subcontract shall include that the Employer may utilize Sub-Clause 4.5 and termination as per sub-clause 15.2	Extended to the Employer after defects notification period- Termination clause is valid
4.5 Assignment of benefit of Subcontract	If the defects notification period is ended before the Subcontractor's obligations end date, these obligations may be transferred to the Employer and the Contractor is relieved.	
4.6 Co-operation	The contractor shall allow the opportunity to carry out the work for the Employer's personnel, any other contractors employed by the Employer, public authorities personnel, and any employed in the execution on or near the Site of any work not included in the contract except for any work constitutes a variation.	These activities may constitute a variation if the Contractor to incur additional cost
4.7 Setting Out	The Contractor shall set out the Works in e contract original information	Employer is responsible for errors/ Contractor to verify

**Table 1: The Contractor in FIDIC Red Book Clause 4 Summary-continued**

Red FIDIC 1999 Sub-Clause	Project Characteristics	Remarks
4.8 Safety Procedures	Contractor shall comply with all applicable safety regulation by reasonable efforts. - Persons- material equipment- environment- provides necessities.	
4.9 Quality Assurance	The Contractor shall submit project quality plan for approval, to demonstrate compliance with the requirements of the Contract. Contractor remains responsible under the Contract.	The Engineer shall review, audit any aspect of the system/plan
4.10 Site Data	Prior the base date, Employer shall provide the Contractor all available relevant data on sub-surface, hydrological conditions, and environmental aspects. Contractor shall be deemed to have inspected and examined the Site.	The Employer shall continue providing any additional data that becomes available- Contractor has considered nature of the work and goods necessary for the work, laws, labor practice, etc.
4.11 Sufficiency of the Accepted contract Amount	Contractor is deemed to be satisfied to the correctness and sufficiency of the accepted contract amount, in accordance with 4.10	Contractor has based the amount on the data. Interpretations, necessary information. Inspections, and examinations
4.12 Unforeseeable Physical Conditions (UFPC)	Except for climatic conditions the UFPC includes natural physical conditions, manmade, hydrological conditions, obstructions, and pollutants- If any UFPC is encountered, the Contractor shall notify the Engineer, describing the physical conditions, justifying why it is considered UFPC- submit variation request as applicable- shall not result in a net reduction in the contract price.	Notice is to be as soon as practicable- continue the work with necessary measures and Engineer's instructions. If Variation justified, time and cost will be granted and the Engineer my decide reconciliation with easier encountered conditions.
4.13 Rights of Way and Facilities	Costs and charges for special and/or temporary rights of way which he requires- shall also obtain at his risk and cost any additional facilities outside the Site.	
4.14 Avoidance of interference	Contractor shall not interfere unnecessarily with the convenience of the public or access to, use of all roads and footpaths.	Contractor shall indemnify the Employer for any damages
Red FIDIC 1999 Sub-Clause	Project Characteristics	Remarks
4.15 Access Route	The Contractor is deemed satisfied for the availability and suitability of routes to site, The Contractor shall provide at his cost and risk, maintenance, protection, signs and directions, and authorities requirements.	Employer shall not be responsible for any claims which may arise from the use or otherwise of any access route

4.16 Transport of Goods	All fees and efforts are the Contractor's responsibility. The Contractor shall notify the Engineer 21 days prior the delivery of any major item.	No cost or claim on the Employer
4.17 Contractor's Equipment	The Contractor shall be responsible for all Contractors' Equipment is for the works.	Excluding vehicles for personnel, good transporting
4.18 Protection of the Environment	The Contractor shall take all reasonable steps to protect the environment on/ off site	Eliminate damage and nuisance ( pollution, noise)
4.19 Electricity, water and Gas	The Contractor is responsible for the provision of all power. water and all services he needs for the work	The Contractor can use services available on the site at his cost and risk
4.20 Employer's Equ. and Free-Issue material Facilities	, the Employer shall make available all Equipment and free issue material as may be stated in the contract- the Contractor shall promptly notify any defects/ shortage	Contractor is responsible for the Equipment while under his control.
4.21 Progress Reports	To be as per particular conditions, monthly reports are to be within the first seven days of the presented period, 1st one is at the end of 1 <sup>st</sup> calendar month.	It continues until the work completed on the date stated in the taking over certificate <i>caution for the contents</i>
4.22 Security of the Site	Contractor is responsible to organize the site access for the authorized persons only	Contractor personnel, Eng. Employer, those notified by the Employer & Contractor.
4.23 Contractor's Operations on Site	The Contractor shall limit the work operations to the Site and areas approved by the Engineer as working areas. He shall keep Equipment and personnel within the Site. Maintain the site free from obstructions surplus, wreckage, rubbish, and temporary works upon completion.	Upon issuance of taking over certificate, the Contractor shall leave that part/ site and the works in a clean and safe condition. Maintain those necessities for defects notification period
4.24 Fossils	The Contractor shall place under the care and authority of the Employer, fossils. Coins, all items of geological or archaeological interest found on the Site. The Contractor should refrain from removing or damaging any of the findings.	Contractor serves a notice, complies with the Eng. Instructions, and submits a claim Sub-Clause (20.1) for time and cost if justified.

↑↑ Recommendations and best practice

The Contractor's involvement is dispersed all over the project boundaries, scope, phases, and all processes. The accompanied responsibilities imposed by the contract shall be considered by the Contractor starting in the bidding stage/ pre-contract stage and he needs to diligently evaluate all elements and particulars lies under his risk and cost. In the post contract and execution stage the Contractor has to assign competent team to manage the contract in a proactive manner to successfully complete the project within its constraints and the target objectives.

## 6. Conclusion

The International Federation of Consulting Engineers “FIDIC” forms of contracts provided separate clauses and sub-clauses to explain and demonstrate the contract parties’ involvement in the contract management processes. The Engineer, who is assigned by the Employer, has got a separate Sub-Clause no 3 describing his roles, duties and responsibilities. Some clauses and sub-clauses were discussed in detail and the recommendations for diligent contract management and implementation were provided. The pitfalls that may be experienced by the different parties were highlighted as were recorded in past projects lessons learned. The paper recommended and ensured assignment of competent personnel to avoid conflicts and successfully achieve the projects objectives.

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