

# **Contracts Risk Management for Large Landscaping Contracts Involving Construction and Maintenance**

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## **Abstract**

This research paper is an attempt to point out all major issues related to the high value Landscaping Contracts which a learned Contractor can encounter during various phases of the Contract. The recommended Risk Mitigation measures have been chosen based on the extensive study and conversation with industry professionals. However, the same are to be modified as per the Contractor's and the Employer's understanding of the environment of the place of executions as it plays an important role in risk mitigation for the Landscaping Contracts due to involvement of living media.

**Keyword:** Landscaping Contracts, Risk Mitigation, Contract Management, Construction management, Plant maintenance.

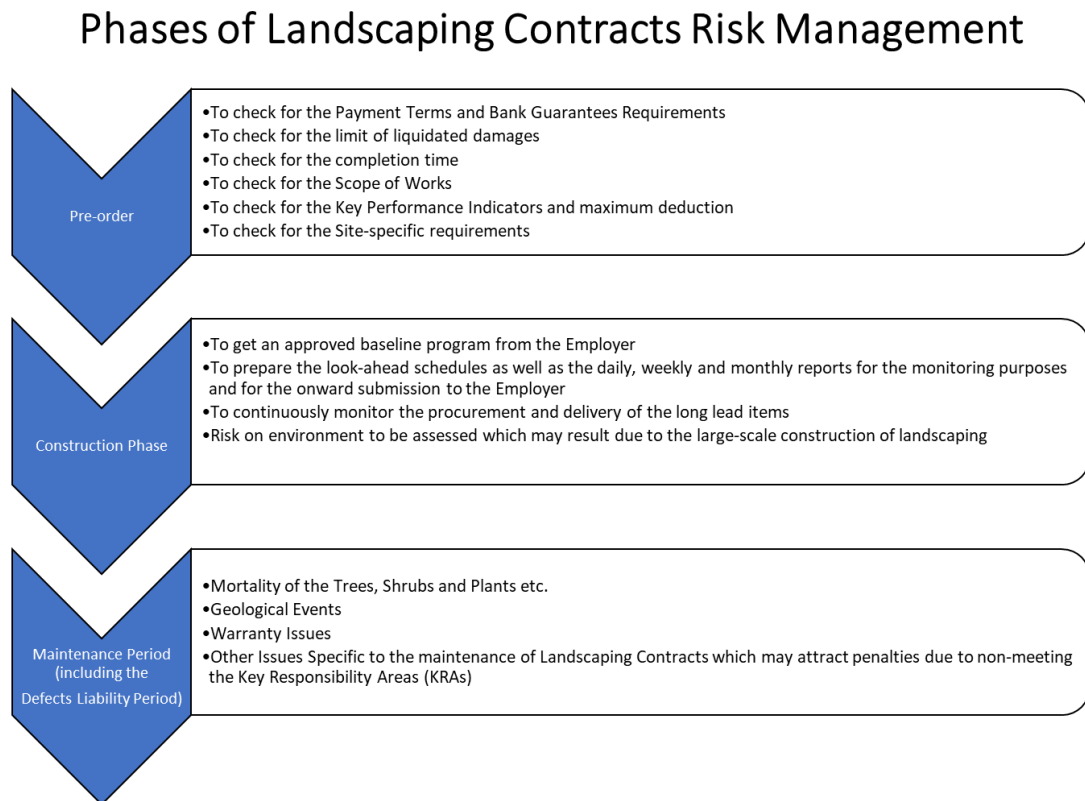
## **1. Introduction**

Landscaping Contracts can be broadly categorized into two major categories viz. the Landscaping Construction Contracts with or without provision of maintenance and the pure Maintenance Contracts. For the ease of reference, we'll limit our findings to the first category which involves the Landscaping Construction Contracts with provision of Maintenance.

The research paper is outcome of the personal extensive experiences by the Author in early carrier and interactions with the industry experts. The research paper is an important benchmark for the risk mitigation steps to be taken for Landscaping Construction Contracts.

## 2. The Three Phases of the Landscaping Contracts Management

The Contract Risk Management for these types of Landscaping Contracts can be divided into three phases as below:



**Figure 1.** Phases of Landscaping Contracts Risk Management (Developed by Author).

### 2.1 Pre-order Stage Contract Risk Management

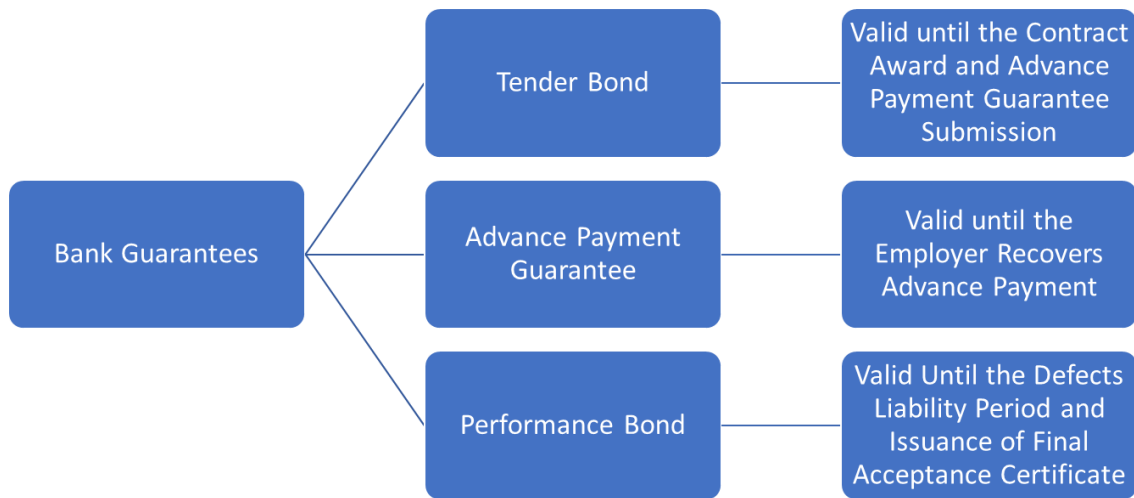
The following checks to be done at the pre-order stage of the Contract:

#### **To check for the Payment Terms and Bank Guarantees Requirements**

The Payment Terms may include four (4) stage of Payment viz. Advance Payment, Interim Monthly Payments against the Executed Works, Final Payment, and Release of Retention amount (if any). The Contractor needs to ascertain the number of day's duration from its submission of Payment Applications, in order to have good cash flow during currency of the Project. It can also seek a Clause for Payment of interest on delayed Payments.

Further, most Employers require the Contractor to submit an Advance Bank Guarantee before release of Payment and a Performance Security. The Contractor should be aware that these Guarantees are facilities of the banks and are chargeable. Should there be prolonged delays beyond the responsibility and control of the Contractor, it could add up to a considerable cost without any value to the Contractor.

## Type of Bonds/ Bank Guarantees



**Figure 2.** Types of Bonds/ Bank Guarantees (Developed by Author).

### **To check for the limit of liquidated damages**

Should there be delays to the completion of Contract works, there are delay damages applied on the Contractor commonly called as the Liquidated Damages. However, the same cannot be a non-defined amount and therefore, a limit of such contra-charges is to be pre-defined in the Contract.

### **To check for the completion time**

The Time for Completion of the Contract must be in line with the time actually taken for each activity. However, it is pertinent to note that especially in the “Landscaping Contracts”, the living media (e.g. Plants, Shrubs and Trees etc.) are involved and these take their own time to come to a maturity stages which might be specified in the Contract terms and conditions. Sometimes there are plants which can be planted in a particular season only irrespective of the schedule of other activities, which may disrupt the whole planning. All these points must be taken into consideration while submitting the bids of Landscaping Contracts.

### **To check for the Scope of Works**

The Scope of Works must be carefully observed at the tendering stage itself. The Tender being usually comprising of the Bills of Quantity, Technical Specifications and the Tender Drawings. There can be an ambiguity in these 3 documents and the Contractor might overlook these ambiguities before entering the Contract. At a later stage, when it’s the time of actually works, the Contractor might find its additional cost (Variation Order) request being rejected on the grounds of the same already being

part of the Scope in any of the Contract documents. Therefore, in order to avoid any kind of dispute, the Contractor needs to examine the documents thoroughly.

### **To check for the Key Performance Indicators and maximum deduction**

Once the Construction phase will be over and the Maintenance period would begin, there would be usually a lump sum amount per month to be paid to the Contractor. However, to keep check on the quality of the maintenance, several parameters may be fixed by the Employer on a performance matrix based on which there may be provision of deductions. Such an arrangement is called the Key Performance Indicators or the KPIs. It is quite useful to take note of the maximum limit of these KPIs which were seen to as much as 100% of the monthly Payment amount causing much disappointment to the Contractors.

### **To check for the Site-specific requirements**

The Site where the works are to be carried out may seem to be ready to Work but sometimes the area of Site itself come under various agencies which require just too much clearances from various agencies which can unnecessarily delay the Project. These areas include but are not limited to the defense areas, an area within the Airport limits, an area of archaeological importance etc.

## **2.2 Contract Risk Management during the Construction Phase**

At this stage, the Contract terms and Conditions are already in place and most of the time not in the favour of the Contractor. However, it needs to take measures to safeguard its interest in the event of any unwanted financial implications from whatsoever reasons. The following are most desired Contract Risk Management measures to be taken during the Construction phase:

### **To get an approved baseline program from the Employer**

As early as the Contract is awarded, the Contractor should immediately plan its activities that fits the completion schedule prescribed in the Contract Agreement and get approved a baseline program. This is the document based on which optimum resource utilization can be made. Especially for the Landscaping Contract, many of the activities are done at the final stage of the construction activities (e.g. in a big Hotel, the Landscaping might start after all main building structures are almost ready) which might have been undertaken by other Contractors. In order to coordinate with the other Contractors, the Contractor needs to provide its required dates of the access for completion of the Project activities so as to avoid any clash with them during the Construction phase.

This baseline program must also be updated monthly based on the actual Site conditions so as to be on track.

**To prepare the look-ahead schedules as well as the daily, weekly and monthly reports for the monitoring purposes and for the onward submission to the Employer**

The look-ahead schedule and the reports in a Landscaping Contract provides an overview of the planned vs. the actual activities. Any adverse situations such as weather or any other event affecting the Works progress should be brought into Notice of the Employer. These reports will be the substantiation documents in case of any Claims or disputes at a later stage.

**To continuously monitor the procurement and delivery of the long lead items**

Some of the plants and trees required for the Project might be of the foreign origin and might need a long-term planning for procurement. A continuous monitoring of procurement of such long lead items is required so as to avoid any advance stage surprises.

**Risk on environment to be assessed which may result due to the large-scale construction of landscaping**

It seems odd that a large landscaping Contract will have a negative impact on the environment; however it is to be noted that the existing Site might be part of a forest area which was being notified for commercial use and thus a landscaping project with less trees and more grass is coming which may eventually be disastrous for the sensitive climates.

**2.3 Contract Risk Management during the Maintenance Period (which also includes the Defects Liability Period).**

Most of the time at the initial stage of the maintenance, there is also the Defects Liability Period which means that the Contractor would be responsible for any defects having arisen in Construction quality as well as the maintenance. For the long-term maintenance of the Landscaping Contract, following risks are the major ones to be mitigated:

**Mortality of the Trees, Shrubs and Plants etc.**

The living media used for the Landscaping Contracts is obviously having a life-cycle which must be considered in the estimation of the long-term maintenance Contracts. If the Contractor enters the Site only for the maintenance purpose whereas the Construction (including the Plantation) being done many years ago by other Contractors, the Contractor needs to ascertain the possible remaining life of the tree, shrubs and plants etc. so as to accurately have an estimate on the costs involved.

**Geological Events**

There may be some geological events (e.g. sandstorms, hurricanes etc.) which can occur during the maintenance period. The proper insurance against these events should be included or if not possible, the same to be included as a Force Majeure condition in the Contract.

### **Warranty Issues**

Usually the warranties cover only the replacement of the plants and do not involve any other costs such as the cost of transportation, removing the damaged plants and planting the new ones. These costs must be considered by the Contractor upfront based on the previous experience.

### **Other Issues Specific to the maintenance of Landscaping Contracts which may attract penalties due to non-meeting the Key Responsibility Areas (KRAs) :**

The Contractor needs to carry out certain activities during the maintenance of live plants which involve mainly the weed control, pest and disease control mowing, pruning and mulching etc. A major additional part is the maintenance of irrigation system which may involve a high cost at the time of failure.

### **3. Research Methodology**

The study was based on more than 25 Landscaping Construction Contracts in UAE and India, whilst the risks were measures at different levels and mitigation measures were taken.

### **4. Conclusion**

The Authors are of the opinion that the suggested mitigation measures can help the Large Landscaping Contractor, sustain in the long term while remaining profitable, using the methods as stated.

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