

Economical and Sustainable Landscaping Solutions

Text by Ben Davis, Head Consultant – Asia Pacific for Tropical Landscaping International. Images courtesy of Tropical Landscaping International.

The current situation in the world's financial markets has attributed to a significant reduction in both the availability of finance and investment for the vast majority of the property sector. This reduction in easily available cash has led to a fall in the forecast economic growth of most Asian countries, directly affecting both the amount of new construction being commenced and the available budget for those to be completed.

This general reduction in overall budgets is of great importance to the landscape industry, as generally the landscape phase, and specifically the softscaping such as the planting-out of a project, is one of the last phases to be completed and the client will often try to reduce the landscape/softscape budget to compensate for cost overruns during other phases of the construction process. But are there viable alternatives to reduce the overall landscape budget for a property without reducing the aesthetics of a property and without increasing the ongoing and potentially costly maintenance of the property? There are, however certain steps need to be considered and planned professionally to ensure that a "cheap" result does not eventuate.

Stages of the Landscape Process

Prior to elaborating on the ways to potentially reduce the landscape budget in a non-detrimental fashion it is necessary to identify a basic list of the processes involved when completing a landscape project.

Design – The landscape design is usually performed by a Landscape Architect or Landscape Designer, but also includes significant inputs from the Client, the project Architect, Engineers, M+E designers, Interior designers

and many other specialists to ensure that everyone is on the same page and the design is all inclusive.

Budgeting/Tendering and Value Engineering – Upon completion of the design phase a Bill of Quantities and Tender Document is generally submitted to a landscape contractor for pricing, which is then reviewed by the Client and Landscape Architect to ensure it fits the available budget.

Material Procurement – The procurement of materials for use including hardscape items, trees, plants and other materials.

Landscape Installation – Generally includes grading, hardscape, softscape, irrigation, drainage, lighting etc.

Landscape Maintenance - The maintenance of the landscape.

Each of these individual stages can be optimised to encourage an economical and sustainable landscape through utilising the knowledge of professional and qualified designers, contractors and suppliers.

Economical and Sustainable Design



Planting used for screening instead of large expensive wall.



Existing trees saved during construction and re-used in landscape design.

The design phase is often where disparity between the wants of a Client and the actual available budget are at greatest conflict. Many times Landscape Architects need to work and re-work designs from an initial concept that the Client desires, through various stages until a design that is applicable to the project budget is met. Obviously this is costly as the Landscape Architect will allow, either as a variation or included in the initial lump sum contract, significant pricing scope for the re-design and redrawing of landscape documents to meet the eventual budget. Several ways to promote an economical design process are:

- **Project Information:** By developing an accurate and realistic budget initially, and providing this information to the Landscape Architect, the Landscape Architect can design to the specified budget. If the client or project manager can provide an accurate final landscape budget this potentially reduces the amount of drawings that a Landscape Architect is required to perform, which can reduce the initial lump sum contract for the landscape design. Accuracy is the key as if the contract developed is a "lump sum with variation" contract, any alterations to the initial design can be costly. Availability of irrigation water, drainage etc. should also be included at this stage so the Landscape Architect can design accordingly.

- **Design to a budget:** Once the budget is confirmed the Landscape Architect can design specifically to that budget. Areas that can generally be modified to meet a tight budget include finishing's for walls and floors, the species of plants and trees and the amount of bulk earthworks and grading that is required.

- **Design collaboration:** Often the Landscape Architect can make considerable savings to the overall budget in areas that are related to the landscape design. Some examples are:

- The removal or modification of retaining walls in liaison with the Structural Engineer
- Choice of more economic finishings for internal walls and floorings, as well as external finishings, in discussion with the Interior Designer
- Position and type of lighting and irrigation to be provided in discussion with M+E Engineers, Irrigation and Lighting Designers
- The potential inclusion of the hardscape construction into the scope of the main contractor where possible to enhance "economy of scale" and reduce overall Hardscape construction cost.
- Reusing or saving trees and plants already on site in collaboration with the landscape contractor.
- Use of plants or planting as screening instead of expensive walls or fencing.

Budgeting, Tendering and Value Engineering

Obviously this is a vital step in all projects and particularly important with landscape projects. When submitting documents to be tendered upon, careful consideration

needs to be made on which companies are qualified to perform the landscape installation and a shortlist of at least three potential contractors invited to tender. The landscape contractors should have a proven record in the region and be able to show landscape works they have performed on similar sites. Unproven contractors should not be considered as whilst they may appear initially to be cheaper than established companies, many times these companies are "fly-by-nighters" with little experience or qualifications which can result in an inadequate standard of works requiring costly renovations, reconstructions and higher long-term maintenance costs.

During the tendering process also ensure that all contractors are providing like-for-like comparisons. Actual samples of items such as soils, fertilisers, tiles and photographic samples of actual trees and plants should be requested in the tender and provided by the contractor to ensure that price comparisons are comparing "apples to apples". This ensures that the client gets the best value for money and the contractor is not providing inferior products or items, which are under the designed specification desired at artificially marked up prices.

The Value Engineering process should be inclusive of the experts in the field, the Landscape Architect and the preferred Landscape Contractor. Often the Landscape Contractor will be able to advise of similar finishes, tree species or plants that are readily available and could be substituted without adversely affecting the finished product, at a more economical price to the client. Often the design will specify a certain species of plant or plants that have been chosen by the Landscape Architect purely because of their height or screening ability, and discussion with the contractor can often provide a more economical and sustainable solution.

Economical Material Procurement



Inexpensive onsite client-run nursery for propagation of shrubs and groundcover.

Generally the earlier material can be procured in the timeline of a project, the less it will cost. Many projects run over budget for no other reason than the cost of products has

significantly increased from the initial budgeting phase to when the material is actually required. Storage and security of pre-purchased materials is obviously a factor, as this can incur a significant cost, but many materials can be acquired economically during some stage of the project. Materials can be acquired at a reduced cost if there is a fall in foreign exchange rates for imported materials, by attending yearly or stock clearance sales held by wholesalers or retailers and by the bulk purchase of required materials at one time.

Early purchase of plant materials can also significantly reduce the budget required and improve the quality of plant stock used on a project. The addition of an onsite or client run nursery can often allow for trees to be purchased at the beginning of a project then on-grown until the time of planting, providing a larger more developed specimen for a reduced price. On-site propagation of ground-covers and shrubs can also be performed allowing for a reduced amount of initial plant stock to be purchased then propagated for use around the project or for species already present on the site to be propagated and stored for future use.

Economical and Sustainable Landscape Installation

The key to economic and sustainable landscape installation is simple; do it right and do it once! By sticking to this mantra costly over-runs and delays are avoided and long-term maintenance costs are reduced. Damage to expensive floor tiles due to a poorly laid slab or the failure of a valuable feature tree due to poor preparation and planting are common examples of the unwanted costs that can be incurred due to poor installation. Suitable supervision and management are vital and some key aspects to be aware of are:

- Floorings

- Ensure slabs are suitably prepared and dried prior to adding finished surfaces.
- Ensure that floors slope towards available drainage.
- Ensure that waterproofing and non-slip surfaces are installed in potentially wet areas.
- Ensure finishing is to grade to avoid potential liability.

- Retaining Walls



Retaining wall constructed with sufficient drainage.

- Ensure that retaining walls are engineeringly sound.
- Ensure that sufficient drainage is present to avoid dynamic water pressure.
- Ensure that visual retaining walls are waterproofed to avoid damp-marks appearing on finishes.

- Irrigation

- Determine whether automatic or manual systems are more economic or suitable.
- Ensure automatic systems have sufficient zones available to differentiate irrigation amounts depending upon plant type and position.
- Ensure the irrigation company provides a suitable warranty period to repair any leaks or problems.
- Ensure any irrigation heads are laid at level and protected to reduce costly breakages during landscape maintenance procedures.

-Softscape



Banyan tree excavated from site, rootballed and ready to be replanted.

- Ensure all plant species are in excellent condition prior to planting to reduce failure rate.
- Ensure trees have properly prepared root-balls.
- Ensure trees do not have visible damage to the trunk or branches.
- Ensure all trees and plants are planted in the correct position and orientated the correct way to enhance the perceived value (trees especially are 360° objects and orientation is very important)
- Ensure planting pits are excavated sufficiently and soil for the planting mix is applicable to the specific tree or plant.
- Ensure trees are properly braced against movement from the elements.
- Ensure levels are correct prior to planting.
- Ensure all planting beds and planting pits are sufficiently tamped to re-compact soil to desired levels.
- Ensure soil is ameliorated correctly for planting beds.

- Grading

- Use large machinery to perform the grading during early stages of the project to reduce costs.

- Ensure all top-soil is removed and stored for future use prior to site grading.
- Ensure an accurate “cut and fill” plan is prepared to alleviate the requirement to import or export fill when possible.



Using the available rocks and inexpensive turf to minimize grading and provide stunning landscape solution.

Landscape Maintenance – Getting Value For Money



A correct maintenance programme provides a sustainable and value-adding landscape solution.

The landscape maintenance process is one, which is usually overlooked by most developers when preparing budgets and in the initial planning stage. This lack of foresight often leaves an insufficient budget to employ the services of a proper landscape maintenance company or

a qualified internal team following the completion of the grow-in process. This often leaves unqualified contractors or staff from a different field to try and provide what is a very specialised service. Many golf courses in Asia are witness to this, with great amounts of money being spent during the construction process, after which the course looked magnificent and resulted in high-usage. With a lack of a planned and professional ongoing maintenance programme, the standard of the courses drop, which reduces the amount of play and therefore the cash coming in, which results in less money for maintenance and eventually less and less play. This is also a common occurrence with many other forms of landscaped properties.

The maintenance of a landscape can be compared to that of a car. Properly maintained, a car can look great and provide reliable service for many years and hold a great percentage of its initial value. On the other hand, a poorly maintained car is unreliable, requires many costly repairs and when it finally comes time to sell, the car has lost nearly all of its initial value. The maintenance of a landscape is very similar. Properly maintained, a landscape will evolve and grow and provide the client with an ever-increasing asset without the need for any costly remedial works.

A landscape that is poorly maintained however will result in greatly increased ongoing costs. These include the death of trees and plants that will require expensive replacement due to incorrect fertilization or damage caused by pests and diseases, reduced longevity of items such as timber and tiles, increased need for remedial painting and the reduction in the overall value of the specific property. The old saying “A stitch in time saves nine” could never be truer!

Some Final Thoughts

As can be seen there are numerous methods to potentially provide for an economical and sustainable landscape solution. Early planning and correct budgeting, the selection of suitable professionals such as Architects and Contractors, the correct and early procurement of material, professional installation and a developed on-going maintenance programme all can contribute to an affordable, aesthetic and long-lasting landscape solution. The landscape is often the literal “cream on the cake” of a development, which can effectively hide flaws caused by the site or position and often provides the most notable and significant aspects of a property. And remember, economical does not have to look cheap!



About the author

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