

The 19th

Sustainable GOLF DESIGNS

As the world moves towards more environmentally conscious industry, golf course design and construction has already taken big steps towards sustainability and cost-effectiveness.

BY PAUL JANSEN WITH MARK LAWSON





LEFT COLUMN FROM TOP (Laguna Lang Co): Nick Faldo, Paul Jansen & Mark Lawson; Hole 11 in progress; Landscaping the jungle in Vietnam - Hole 11.

RIGHT COLUMN FROM TOP (Laguna Lang Co): Hole 7; Rice paddy; Hole 14.



In our business, the business of designing and building golf courses that is, we have come to recognise that the end product is only as good as the people that are invested in the design and build process and will continue to maintain the product moving forward.

In other words you can design a great golf course on paper but without the right people building and then maintaining, this golf course will never reach its full potential.

Of course design is important.

All the best golf courses are characterful, have a good variety of everything and are memorable to play at. They also typically make you think from start to finish and are full of interest.

What may surprise many is that there is no correlation between the cost of construction and the quality of the golf course. In fact most of the best golf courses today were built or rebuilt for very little.

There are a number of factors for this occurrence.

The quality of the site stands as an obvious start. A good, sandy base is ideal from a drainage and construction cost perspective.

What is important is that a qualified professional is employed by the client to manage the construction work and together with the golf architect, superintendent and existing staff, they work together towards the end goal learning from each other along the way.

As designers and builders, we may not be able to alter the first two factors of site quality and natural routing - after all we rarely get to choose the site to work on and certainly in the case of a rebuild, the golf route is often fixed with little opportunity to change the path.

Having said that, we can manage the design and construction method and as a result, produce an end product that costs minimal to build, is sustainable moving forward and is still very high in quality.

How do I know? Because that's what my business partner Mark Lawson and I have been doing these last few years in Southeast Asia to great success.

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The quality of the routing comes next. The question begets: Does the golf course route highlight key features on and off site? This would minimise the need to build new features.

Which brings us to the types of new features being built. Bunkers for instance are expensive to build and maintain, particularly on land that does not have a sand sub base. Think about the cost of the shaping, drainage, lining and sand material.

Surprising to some, another factor lies in the architects' level of involvement through construction. One would expect that to be the very least a designer should do but it is not always the case. Nevertheless, like most construction projects, the more time the architect spends on site, the greater the opportunity to fine-tune and improve the design and most importantly, work with the construction crew to minimise costs where possible.

Finally, the method of construction comes into consideration. To keep costs to a minimum, look to complete as much of the construction work in-house using staff who work - or will continue to work - at the facility.

Co. as lead golf architect.

At that time, Mark was involved as project manager tasked with building the golf course at Lang Co. Having spent nearly 150 days on site in Vietnam, I began to respect Mark's unique skill set including his ability to manage the work, the variety of people and just about every bit of equipment possible.

When the opportunity arose to redesign and rebuild the Laguna Phuket golf course in Thailand for the same client - Banyan Tree - but under my own company, Jansen Golf Design and Construction, I was quick to get Mark on board.

At Laguna Phuket, it was not hard to convince the client, having just opened Laguna Lang Co, that the existing golf course should be built using in-house staff where possible. This way, they would have much more control over the budget and schedule and we would have more control of the quality of the work. Moreover, this would be an opportunity to invest in the people that would continue to work at the facility and

LEFT COLUMN - TOP TO BOTTOM (Laguna Phuket): Hole 2; Hole 8; The team behind the renovation at Laguna Phuket; Paul Jansen, Blair Pratt, Mark Lawson, Ravi Chandran.

SECOND COLUMN - CLOCKWISE FROM TOP: Hole 12 during construction; Hole 12 before construction; Hole 11 after construction; Hole 11 before construction.

that was important moving forward.

We only had a budget of US\$3 million to design and rebuild the entire golf course with an 18 month timeline, so we had to be creative in both the design and construction methodology.

From a design perspective, I have always been a big advocate for creating golf courses that are environmentally responsible. When a golf course is identifiable with its surroundings in every way, it typically costs less to maintain and are the most fun and memorable to play at.

To this end, we reduced the grass areas by nearly 30 percent and the bunkers by nearly 70 percent at Phuket. We used native zoysia grass, which requires minimal input for fairway areas, tees and woodchip in the rough areas that we generated from the trees we cleared.

We shaped the ground to help with surface drainage, harvest water and indeed create strategic interest. Instead of building a copious amount of man-made features, we chose to highlight key existing features on site. Where this was not possible, we added small detail and ensured everything we did was in balance with the site.

I would lead the design and landscape work and Mark Lawson would manage most of the work on the ground. The superintendent would manage the staff, procurement, course grow-in and ongoing maintenance. Obviously, a key highlight was the opportunity to invest in the existing crew. In that regard the staff were taught how to build bunkers and greens, install drainage and use survey gear. This investment in the crew was paramount to getting the work done on time and on budget.

For US\$3 million, we were able to transform Laguna Phuket, now known as Laguna Golf Phuket, into a modern layout. It was spent specifically in moving nearly 150 000m³ of dirt (localised cut and fill), reconfiguring and rebuilding 20 greens to USGA specification, installing nearly 20 000m of drainage, installing a new pump station and Irrigation system (800 heads), building a new cart path system measuring nearly 7.5km, re-grassing the fairways and rough with zoysia matrella grass (25ha) and greens with Bermuda tifeagle (1.5ha), changing the far rough areas from cow grass and bush to woodchip (approx. 10ha).

We also moved and rebuilt all 37 bunkers with lining, drainage and new sand, repositioned all tees with new drainage, expanded the water bodies by 10 percent and propagating with existing wetland material, cleared nearly 1,000 trees, rented equipment and extra manpower when required, and covered the salaries of specialised personal.

Laguna Golf Phuket is now a totally new golf course and one that will stand the test of time, at least for another 20 years.

Of course, we understand that many golf clubs will not have the funds to complete an extensive renovation and certainly some golf clubs won't see the need to renovate at all. Having said that, golf clubs need to keep in mind that a renovation could help reduce maintenance costs

considerably, see more customers through the door because it's a much improved course and potentially free up land to develop.

In our experience, it is still possible to improve a golf facility with limited funds on hand. This was obviously the case at Laguna Golf Phuket and is now the case at Laguna Golf Bintan, which had undergone renovation for less than US\$1 million.

Simple tasks, most of which can be completed in-house under the guidance of a designer and project manager, are possible on a limited budget and will make a big difference to the final product.

In the case of Bintan, we firstly cleared overgrown vegetation to highlight special features erstwhile hidden by dense foliage. We then planted low maintenance vegetation in low play areas. Using native flora that requires little maintenance gives the course an identity.

From there, we changed the grass lines to improve playability, reviewed the course strategy and did away with many costly features and replaced them with ground contours, mounds and depressions, that are more sustainable. Finally, we focussed on improving the green areas since so much of the game is played within a 100 yards of the pin.

From the example of Laguna Golf Bintan, a positive change is possible on a budget. Through responsible design and a creative method of construction that involves many of the people that will continue to manage and maintain the facility moving forward, it will continue to bloom and grow. 🌱

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CASE STUDY: LAGUNA GOLF BINTAN, HOLE 12, PAR 3

WORK DONE	APPROXIMATE COST
Vegetation Clearance - using existing staff and day labour.	US\$7,000
Earthworks - including equipment rental and operator.	US\$10,000
USGA Green Construction - Gravel and Drainage cost only since existing sand base was used but removed organic layer. - Had new sand been used, the cost would be about US\$10,000 more.	US\$2,000
Labour - including day labour and in-house salary.	US\$3,000
Irrigation - Reused sprinkler heads and swing arm but new pipe and cable.	US\$2,000
Material sourced on site - Bermuda Tifdwarf from existing greens. - Native grass and ferns propagated on site. - Reused bunker sand.	
Design, project management and shaping fee	US\$15,000
TOTAL	US\$39,000

