

### Zhuhai Lakewood Golf Club, Guangdong China



#### Project Details:

**Director of Course Maintenance**

Tangbin Liu

**Architect**

Greg Norman

**Consultant**

Shenzhen Lo

**Main Contractor**

New Nature

**Irrigation Contractor**

New Nature

**Installation Date**

August 20, 2015

#### Project Goals:

- Target to build a sophisticated high standard 36 holes golf course for tournament. The courses would be designed for the best optimization of water conservation, efficiency, economy and reliability..
- Split into phases with provisions for simultaneous operation concurrent with construction
- Lack of water in particular the dry season, system with water conservation design would alleviate the issue of water in-adequacy to enhance the nourishing of lawn
- Users friendly of new design to simplify maintenance and to improve system reliability

#### PROJECT OVERVIEW:

Zhuhai Lakewood Golf Club, a 36 holes golf course, built in year 1996 and had been awarded as one of the ten (10) most influential golf courses in China. The course situates at Guangdong Zhuhai, the region with tropical and moderate monsoon, the rainy season scatters around April to September each year with annual evaporation rate of 1700mm Vs the rainfall of approximate 2000mm. As the consequences of over-evaporating rate, the water demand in the region becomes critical, in order to replenish the shortfall of water for the golf course, transfer of water at the annual capacity of 30,000 tons to 50,000 tons from other regions is highly demanded to meet the sustainable requirement of water supply. The existing aging irrigation system installed at the premises is getting deterioration, negative impact on the housekeeping and maintenance of the system is quite substantial.

#### CHALLENGES:

Since 2014, upgrading and renovation of course had been started with the ultimate target to achieve high standard golf course for tournament. To align with the objective, the management planned to redesign the landscape, replacement of lawn, upgrading of drainage and irrigation system. The implementation had been divided into two phases:

- ◇ Completion of the 1<sup>st</sup>-21 courses in August of year 2015
- ◇ Completion of the remaining 15 courses in July 2018

In view of the drought during dry season, there was a high hope on the new irrigation system to enhance the water conservation, efficiency, economy and reliability of the system. With the new design of irrigation system, the flexibility and maintenance reliability was expected. As the project was a fast moving construction and the newly completed irrigation system needed to be operated in order to cope with the replacement of lawn at the accelerated pace of which the construction was finally completed in advance covering the entire 36 holes at the early stage, and eventually the early completion of the entire project.

The advanced design of Rain Bird IC system was re-assured through repeated evaluation and verification

The only concern before implementation linked with the complexity of the sophisticated system. As a matter of fact, the system was proven users' friendly after few days training to the operators. The system was tactfully manipulated.

—Tangbin Liu, Director of Course Maintenance



## RESULTS:

The installation of Rain Bird IC system was started in September 2014 and began to operate right after the water jet nozzles of first two golf courses completed. This early operation of system had provided the most flexibility and convenience to the users.

1<sup>st</sup> phase of total 21 holes of the golf course was completed in July 2015 and had provided the admirable flexibility to the users with intelligent control on water conservation and irrigation method. Benefits were encountered Vs the traditional irrigation technology:

### HIGH EFFICIENCY OF WATER CONSERVATION ON IRRIGATION

The new irrigation system with nozzles from Rain Bird was proven seamlessly comparing to the traditional system. The deployment of IC system with high sophisticated control, the water spraying was finely controlled to meet the best optimization of irrigation without over-irrigating or under-irrigating meaning that the high achievement of water conservation. Since the implementation of new system in year 2015, transfer of water from other regions was no longer required, the substantial saving in operation cost at the high flexibility of supply of water internally. After the completion of 21 holes, a two years statistical analysis (Oct 2015 to Oct 2017) indicated a saving of 45% water consumption, a further saving on water consumption was anticipated after the total growth of lawn. The deduction of water consumption at 25% was also recorded comparing to other golf courses in the region. The most water saving golf course in Guangdong province.

### FLEXIBILITY OF OPERATION

The operation team had quickly adapted to the system after one-week application. The change of operational concept based on the Rain Bird IC system with simple basic operation mode. The command to individual water jet nozzle rendered the direct control to eliminate unnecessary human error

### SIMPLER INSTALLTION TECHNIQUE

With the Rain Bird IC control circuits, the installation lead time was greatly reduced, thanks to the deduction of 80% hardwire connections, the more reliability of the system and hence the quick diagnostic trouble shooting

The pursuit of installation of remaining 15 holes golf course speculated further 30% saving on water consumption. The applause and aspiration to the grand completion of the IC system

*“Lakewood has introduced the world-class advanced Rain Bird IC irrigation system for simpler installation, reliable operation and maintenance friendly. Most importantly, the substantial saving on water consumption with 50% reduction relative to the traditional system, being one of the most saving of water consumption throughout Guangdong province”*

—Lakewood Club Magazine