

### Royal Bled, Slovenia



*A New Course Layout and Challenging Climate Require a Flexible Irrigation System*

#### Property Details:

##### **Client**

Ms. Gordana Šolak

##### **Golf Course Architect**

Swan Golf Designs

##### **Water Engineers, Contractor and Rain Bird Authorised Service Partner**

In-Aqua, Zagreb

##### **Rain Bird Europe Personnel**

Henrik Lund and Stuart Tate

##### **Rain Bird Products**

Stratus™ II Central Control

IC System™

MI Series™ Mobile Control

WS-PRO-LT solar weather station

Rain Gauge

XFS Dripline

700/751 Series Rotors

EAGLE 351 Series Block Rotors

PEB Valves

#### CHALLENGE

The prestigious Royal Bled golf resort in north western Slovenia is described as 'Heaven on Earth'. The Julian Alps give way to the picturesque tranquility of the destination's courses, the King's, the country's oldest and largest in Slovenia dating back to 1937, and the wooded Lake's Course.

Over a three year period, the King's course was extended to Championship length, the greens, tees and bunkers were redesigned and reconstructed, and ten new lakes added to create a dramatically changed layout. The region has a warm climate, with summer temperatures reaching the mid-thirties degrees Celsius. The area is prone to lightning, recorded as often as three or four days of the week. The golf club pays for irrigation water and on very free-draining land more than 2,000m<sup>3</sup> can be applied each night during hot spells. This, coupled with a 6mm+ per day evapo-transpiration loss, presents significant challenges for conserving, harvesting, recycling and optimising the use of water on the golf course.

The owner also plans to redesign and reconstruct the adjacent Lake's course. A bridging solution was required to enable control of the course's current decoder system in the short-term. The King's course system had to be fully expandable to accommodate all the requirements of the reconstructed Lake's course once the project is complete.



## SOLUTION

A Rain Bird IC System was specified, enabling the Course Superintendent to run a status poll and voltage check of the whole site in three minutes – invaluable for fault detection and rectification after a lightning strike. Having the IC System in the ground during construction also provided an invaluable way of monitoring the site, flagging up if machinery hit cables. Once the system was integral again, contractors could move on to the next hole. This time-saving, problem solving monitoring wouldn't have been possible with a decoder system.

A Rain Bird Stratus II Central Control operated via PC at the facility and on mobile interface is enhanced with soil sensing system, a weather station and a Rain Watch rain gauge feeding data to the control system in real time.

The use of a bunker liner meant that not enough moisture was retained on the face of the sand in the bunkers. Rain Bird's XFS subsurface dripline was installed to run at low pressure during the day.

## RESULT

Golf Course Superintendent Steve Chappell, appointed after the installation was complete, used 2018 as an evaluation season. He and his team use all aspects of the system to ensure optimal turf health and playability and to reduce water costs. In order to fully understand the characteristics of the new greens they programmed the sensors - trained them, by saturating each green then draining and evaluating it, seeing how long it took to hydrate the profile and drain it down. The placement and depth of the sensors is varied to monitor moisture levels throughout the profile.

Rainfall can be sporadic so the weather station and Rain Bird's Rain Watch feature ensures the course only receives what it needs. All data feeds into the Superintendent's course management reports, detailing water needs and usage. It also plays a part in other turf management decisions, such as when to apply nutrients when coming out of winter.

*"Our client at Royal Bled took our advice in recommending that In-Aqua, the regional service provider for Rain Bird Europe, be given the opportunity to work with us in designing and installing the state-of-the-art irrigation system for the highly acclaimed King's Course for which we were responsible as golf course architects. The brief was to produce a system which maximised the best practice of water management to the golf course - sourcing water, storing water and using it in the most economic and efficient way - to ensure that it was possible to guarantee the health and sustainability of the grass throughout all 18 holes. The design of the course, and that for the future development of the neighbouring Lake's Course, necessitated that the system took maximum advantage of the opportunity to circulate water throughout the land, conserving its quality through its multiple water features.*

*In-Aqua's expertise and Rain Bird's modern systems fitted the bill wonderfully well in providing what we wanted for the future of this great golf resort."*

— Howard Swan  
Principal Architect  
Swan Golf Designs