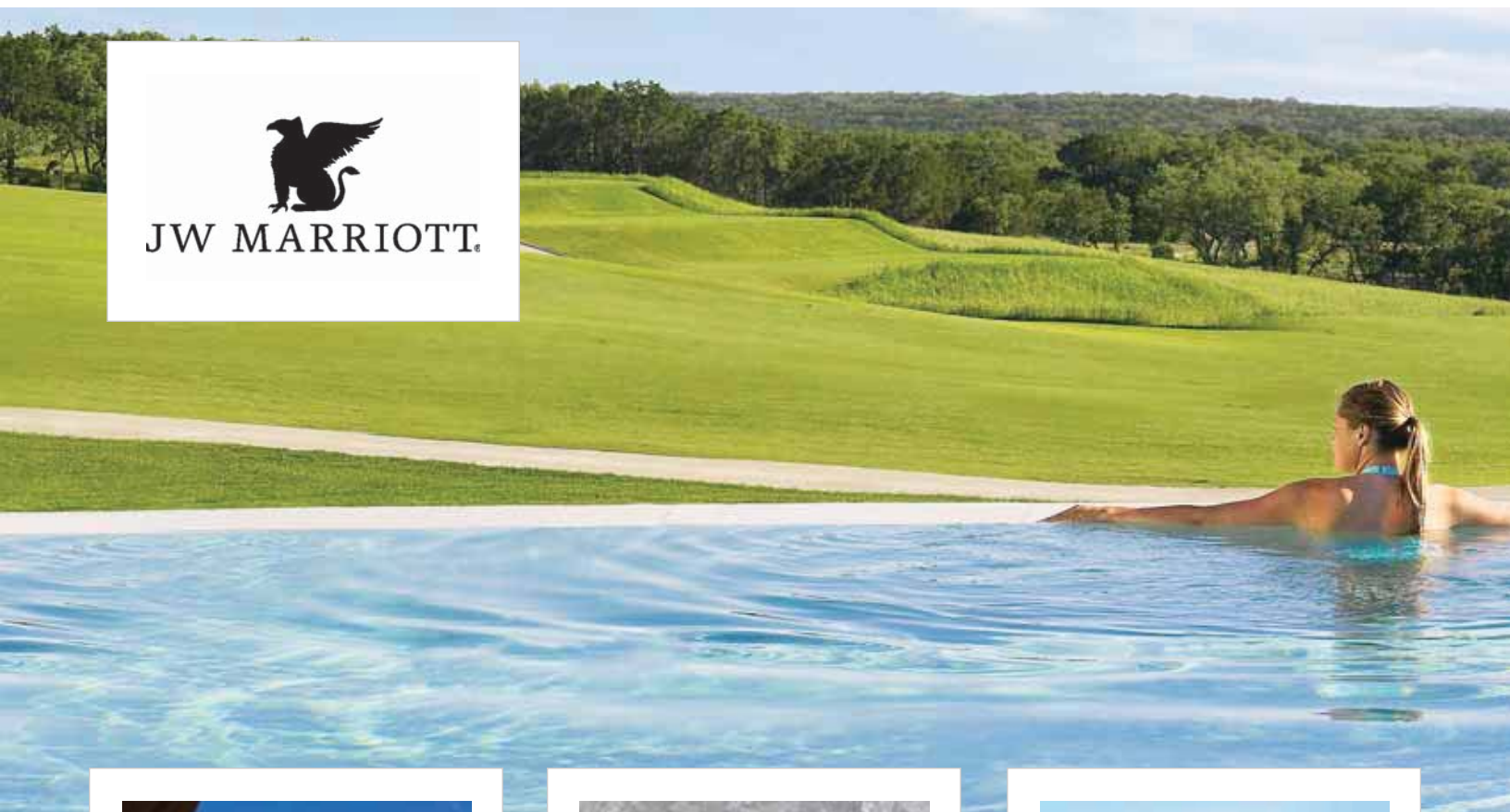




JW MARRIOTT.





The learning

curve of fun



JW MARRIOTT®

The River Bluff Water Experience at the JW Marriott San Antonio uses technology to manage costs.

BY KEVIN LEWIS

Carve out six premium Texas Hill Country acres. Throw in 1,200 feet of wandering leisure river, a few hundred feet of action river fed by a twisting, winding waterslide.

Drop in a 13,000-square-foot activity pool. Now slip in a 30-foot double slide tower and plunge pool.

Just so the youngsters don't feel neglected, throw in a kid's pool with three slides, water sprays, waterfalls, interactive water features and blasters.

For those intent on relaxation, include a 60,000-gallon, adult-only infinity edge pool overlooking a golf course and hide a relaxing, 3,000-gallon hot tub in a quiet, sheltered corner.

Put it all together with 1,002 guest rooms, including 85 suites, reflecting the comfortable style and hospitality of the Texas Hill Country and the world renowned JW Marriott service, and you get The River Bluff Water Experience at the JW Marriott San Antonio Hill Country Resort and Spa.

The name may be long, but it takes a Texas-sized moniker to encompass all the park has to offer.

Something for all

Adults can relax and enjoy the views while listening to the waterfall created by the infinite edge along one side of the adult leisure pool or from the adjacent adult whirlpool.

The zero-depth beach entry provides easy access for guests to cool off in the 262,000-gallon leisure pool. The leisure pool's size allows guests ample room to swim in water to 4 feet deep and provides numerous bench locations to sit in the cool water while still taking in the sun's rays.

Overlooking the leisure pool area is the grand cabana

terrace, an expansive raised patio, perfect for celebrations or enjoying the beauty of the Texas Hill Country terrain. Sun worshippers will be pleased with the generous deck space surrounding the oversized leisure pool.

Grab a tube and enjoy the 1,200-foot leisure river! This is a perfect opportunity for guests to take a leisurely float around the grand cabana and leisure pool deck areas.

Guests can ascend the "Water Tower" adjacent to the children's pool to access the "Acequia Tube Slides." At the 35-foot high start platform, guests will not only have a great view of the surrounding landscape and Water Experience, but also a view of the twists and turns of the two 275-foot long "Acequia Tube Slides."

The "Pedernales River" is an innovative and very unique custom water-ride experience. Utilizing lower gradients and higher volumes of water, the slide is very similar to a natural river. The hydraulic dynamics of the "Pedernales River" produces a fast-moving, powerful ride experience that literally carries rider and tubes from one curve to the next.

Created for activity and child's play, the Children's Pool area features a zero-depth beach entry pool with two kiddie slides, one 4 feet about the water and the other one a 6-foot drop. Multiple spray activities provide hours of enjoyment. From this area, guests can interact with others floating along the rapids river ride.

The rapids river ride is 350 feet in length and features multiple areas of water "interaction." Guests on the deck above aim the Water Blaster to hit targets which activate the moving mechanical parts and water sprays along the rapid river's edge.

Guests along the children's pool, with good site lines into the river, will take delight in pumping the detonators and causing

Opened in March 2010, the hotel encompasses 600 acres of picturesque landscape.



The River Experience includes a 1200-foot leisure river with interactive spray features.

the water excitement in the rapid river below.

Topping it all off is unmatched convention and meeting facilities incorporating 265,000 square feet of customizable meeting and event space.

With our first, very successful, year under our belts, we've reviewed a lot of data and studied many of our systems and processes looking for what stays in place and what gets re-vamped for the coming year. Here are some reviews and descriptions of a number of our key systems in the process.

Cost of Operations

Water Temperature

As we neared the end of the 3rd quarter of operations, it was apparent that the cost to heat our 850,000 gallons of water was a substantial and probably representing a significant opportunity for savings. All of our heat is provided from two centralized mechanical rooms.

The larger one serves our waterpark and the smaller one serves the Lantana Spa, with a total of seven 3-million Btu modulating natural gas boilers on a closed loop with each individual body of water heated by a shell and tube heat exchanger.

We launched with an 86-degree set point on all pools. Some of our initial research indicated that we might realize as much as a 30 percent savings for each degree of temperature reduction below 80 degrees. We weren't able to find good data support that supposition but we did (re)discover the old Department of Energy "Energy Smart Pools Software."

We also need to give a special thanks to R. L. Martin & Associates, Inc. for hosting the "Reduce Swimming Pool Energy Costs" website. The site was originally a DOE creation, but no longer has funding or staffing. We found the data extremely useful. Check it out for yourself at www.rlmartin.com/rspec/index.html.

There are a few drawbacks to the actual software. I'm not sure when the program lost its funding, but it will only run on a Window 98 machine. (I still think members of the IT department smirk and shake their heads at me when we pass in the hall. All I wanted to know was if they had any old machines piled in a corner that had Win98 OS. It wasn't that funny. In the end I built a virtual machine with Windows 98 and installed the software there.)

It is the best operations costs analysis software I have been able to find. The program takes in to account the many variable factors that impact heat loss/retention in swimming pools and can also be used to quantify savings in pump run-time reduction and pool cover ROI.



JW Marriott Filter Room showing Neptune-Benson's Defender Filters.

We discussed the impact of a temperature reduction on our guest satisfaction. We had received a few comments that our water was actually too warm, so it was decided that we could reduce our pools to 82 degrees and not impact our guest experience.

The 4-degree reduction is estimated to save more than \$300,000 this year. We are maintaining temperature and Btu trend logs and will have solid data to verify our estimates after this year's data.

Activity Pumps

We observed that activities were under-utilized during our off-season. (We keep our park open year around, but with reduced hours during the cooler weather months.) I discovered several great tools to assist in this area. One can be found at www.pumpcalcs.com. We determined that we could save at least \$30 per hour by simply changing our procedures to allow unused attractions to be activated on-demand.

Covering Hot Tubs

Some of these "initiatives" may be overly simplistic, but they work. Adding an insulated cover to our outdoor hot tubs during the overnight hours showed a payback of less than six months. Sometimes things just make sense! This is another cost analysis provided by the DOE software mentioned earlier.

Pool lighting

It takes 212 pool lights to illuminate our pools at night! Considering that 180 of these are 500-watt incandescent bulbs, the ROI on a conversion to LED is another "it-just-makes-sense" initiative. Much of the work and research on this one is thanks to Leslie's Pool Supply and J&J Lighting.

We have found that in addition to the substantial savings, the color rendering of the LED bulbs is far superior to the incandescent we are removing. There has been a fair amount of debate on the stability of LED bulbs, specifically as it relates to light output over time. The bottom line to us is that our vendor was



DETAILS



JW Marriott San Antonio
Hill Country Resort and Spa –
River Bluff Water Experience

23808 Resort Parkway, San Antonio, Texas
www.jwsanantonio.com
210-276-2500

Admission prices:
Open to all registered guests up to 4 per room
Dates open: Year-round
Size/Acres: 6 acres
Future expansion plans:
Additional pools & food/beverage service

SUPPLIERS

Development/Design: Neuman Group; Water Technology
Consultants: Neuman Group
Construction: Neuman Group
Waterslides: ProSlide Technology
Children's interactive play structure: Funtraptions
Children's equipment: Funtraptions
Filtration equipment:
Defender Filters by Neptune-Benson
Pumps: Aurora; American Turbine; Hayward
Chemical: Sulfuric / CO2 for PH control
Chemical controllers: Chemtrol

Defender
by Neptune-Benson™

Proud Supplier to
JW Marriott
San Antonio, TX

Superior Filter, Responsible Choice

- Saves 90% of backwash water
- Removes particles down to 1 micron
- Reduces chemical consumption
- Reduces energy and motor requirements
- Saves valuable plant room space
- Rapid payback on capital investment



Since 1956

www.neptunebenson.com * www.defenderfilter.com



existent, which leads to the broader topic of water quality.


During normal operations we “manually” test water quality at least four times daily. Chlorine and PH are of course tested each cycle, with total chlorine, TA and hardness checked at least daily. Sanitizer (Cal-hypo) is managed by Chemtrol controllers and PPG Chlorinators.

Our Chemtrol controllers maintain an on-board log of ORP, PH and temperature and flow every five minutes. Early on we discovered that managing the volume of paper logs created was time-consuming and less than conducive to effective trending and analysis.

We developed a custom iPhone app on the iFormBuilder platform (www.iformbuilder.com) to capture all of our water quality data at the point of testing. Each set of readings is uploaded, archived and an email summary sent to the engineering team.

While I can't say that we've never closed a pool due to cloudy water, or out-of-range chemistry, it is rare.

Conclusion

The JW Marriott San Antonio Hill Country Resort and Spa River Bluff Water Experience is a first-of-its-kind contribution to the Marriott family and has been well received by our guests. We hope to see future resort development include the water experience for the enjoyment of guests. 

Kevin Lewis currently serves as the Assistant Chief Engineer at the JW Marriott San Antonio Hill Country Resort and Spa. During the initial year of operation, waterpark operations was his primary area of responsibility. He has over 25 years of facility maintenance and management experience with a focus on process development and automation. He is a NSPF Certified CPO instructor.

willing to offer a three-year warranty ensuring light output would be maintained as specified or the bulb would be replaced.

At the three-year mark, we will have far exceeded our ROI basis. We also will be considering the impact and ROI of converting our landscape lighting and expect to find similar cost savings potential there as well.

Water Maintenance

Most of our 850,000 gallons of water is filtered through Neptune-Benson SP Series DE filters. We couldn't be more pleased with the performance of these units. Maintenance costs have been low, water use (flushed to waste during recycle/regenerating) is acceptable, and the end result has been beautiful, sparkling, polished water.

Although a little more difficult to quantify, the effectiveness of these filters at removing waste has a definite impact on overall chemical costs. The requirement to hyper-chlorinate to manage chloramines is almost non-

The JW Marriott San Antonio Hill Country Resort and Spa

