

Breathtaking, Challenging & Sustainable



photo: Dave Sansom



JW MARRIOTT®
CAMELBACK INN®
SCOTTSDALE

This golf club is managed by 

Welcome to the JW Marriott Scottsdale Camelback Inn Resort and Spa, home to Camelback Golf Club's newly renovated and sustainably managed, Ambiente golf course.

Ambiente golf course, formerly Indian Bend golf course, is one of two golf courses located at the JW Marriott Scottsdale Camelback Inn Resort and Spa. The newly designed Ambiente golf course from architect Jason Straka of Fry/Straka Global Golf Course Design on behalf of Hurdzan/Fry Environmental Golf Course Design in Columbus, Ohio, features 18 holes at 6,903 yards and a 72 par course. Mr. Straka carefully designed the course to ensure that golfers experience "a distinct challenge where accuracy and a good strategy command the day, as every hole will force even the best players to focus on each and every shot."¹ In addition to creating beautifully complex designs that any golfer of any level can appreciate, Mr. Straka's architectural designs include

techniques that are environmentally, socially and economically sustainable. This particular type of sustainability is known as sustainable tourism and focuses on a tourism destination's ability to manage itself through techniques that are ecologically, economically and socially sustainable as a means of ensuring that it, the tourism destination, has the ability to sustain itself without causing long-term degradation to the environment, the economy and the people found at the venue's location. For Mr. Straka, the use of such techniques is vital to the wellbeing of any and all who are affected by the presence of tourism destinations and therefore such techniques are a key component of the company's designs.

The Challenge

The legacy of Ambiente golf course began in 2011 when Marriott International approached Camelback Golf Club's Director of Golf, Rob Bartley, with ideas of how to enhance the playing experience at the previous Indian Bend golf course. A culmination of ideas and support for a newly designed course whose aim was to enhance the golfing experience through the incorporation of sustainable techniques led to a \$10 million renovation project that took several years to complete. For Marriott Golf, Director Rob Bartley and architect Jason Straka, it was vital that the new course design and development incorporate sustainable initiatives so that the presence of the new course would not cause degradation to Paradise Valley residents, their environment, and their economy.

Jason Straka was given the task of designing an innovative and challenging course that met the sustainable requirements of Marriott Golf. Straka is well known for having developed sustainable golf courses worldwide in a variety of climates and locations.

The former Indian Bend golf course was removed and replaced by Mr. Straka's new course design, a course that embodied many environmental changes including a reduction in turfgrass, an installation of native Sonoran Desert vegetation species, a redesign of the course's Indian Bend Wash, the adoption of Operation Pollinator, the installation of The Toro Lynx Control System, and the use of IPM, or Integrated Plant Management. Furthermore, Mr. Straka completed the course with a number of complex designs that added numerous, state of the art, playing challenges for golfers of any level.

Turfgrass Reduction

A reduction in the presence of traditional turfgrass involves a portion of its removal whereupon its replacement might include hybrid turfgrass and/or plant species native to the surrounding environment. For the newly designed Ambiente golf course, Mr. Straka replaced the original 178 acres of irrigated Bermuda turfgrass with 78 acres of hybrid Bermuda turfgrass and further enhanced the sustainability of the course by incorporating a "special blended mix of native grasses and climate appropriate landscape



photo: Dave Sansom

vegetation" to the remaining 104 acres of the course.² Such environmental changes resulted in a substantial amount of water savings at the course, a reduction in fuel costs by the course, as well as a decrease in the amount of fossil fuel emissions released into the atmosphere.

Native Species

The course's native seed mix was installed using a hydro-seeding method and includes plant species that grow to be three feet tall such as Blue Grama; those that grow to be eight feet tall like acacia; and, a wildflower blend that includes Baby Snapdragon, among many others. This special blend of native seed mix and vegetation was planted throughout the course's out-of-play areas that were once predominately home to bermudagrass and have further aided in the course's aesthetic appeal, its water savings, and its soil health. The importance behind

Sustainable management requires techniques that enable golf courses to function properly **without causing harm** to the **ecological, economical and socio-cultural** resources.



**Operation
Pollinator**



Drainage



**Toro Lynx Control
System**



Native Species



**Turfgrass
Reduction**



Soil Health

installing native flora to the area is that it has enabled the course to lessen its water usage since such species are accustomed to the dryness and heat of the Sonoran Desert and do not require daily watering.

Drainage

From a drainage perspective, Mr. Straka describes the Indian Bend Wash as “a drainage way that starts in the mountains to the far north of Ambiente,” which “generally flows southerly, enters the course at the north end of Marriott’s property,” and then “flows through the middle of both courses and exits at the southern end of the Padre course.”³ Meandering throughout the Indian Bend Wash is a narrow, fifty-foot wide channel known as the low flow channel. It is the path that water from smaller storms takes as it runs throughout the courses. Since much of both courses

Such paramount changes as turfgrass acreage reduction, hybrid turfgrass replacement, incorporation of native Sonoran Desert plant species, a redesign of the Indian Bend Wash, and management’s use of the Toro Lynx Control System, have enabled Ambiente to save around 4,592,000 gallons of water per year. In addition, once the “establishment of the vegetation is complete and less intensive watering is required,” a process expected to take several years, additional water savings are projected to occur and result in a bonus savings of 34,112,000 gallons of water per year. Upon completion of the vegetation’s establishment phase and with continual turfgrass maintenance in effect, Ambiente is expected to save approximately 8-10% of water per year over the previous Indian Bend golf course.⁴

sit within a 100-year floodplain, this makes the proper design of the wash’s flood control system absolutely imperative to the course. Over time, the ability of this flood control system to function effectively was diminished “due to deposits and silt within the wash.”⁵ In order for the new course to function properly amidst flooding, rainfall and irrigation, Mr. Straka collaborated with Marriott’s project engineer, Len Erie, to create a new design for the Indian Bend Wash that “removed built-up silt deposits and reconfigured the channel to ensure that the required volume of water can be accommodated during a storm,” and which allow for the effective “transporting of water throughout the community.”⁶

Operation Pollinator

Operation Pollinator is a program aimed at enhancing the “number of pollinating insects on commercial farms,” and works by “creating specific habitats, tailored to local conditions and native insects.”⁷

Once these specific habitats have been created, the pollinating insects are then able to pollinate a place’s environmental surroundings; such pollination is absolutely vital to the development, regeneration, and sustained annual growth of many common fruits, vegetables, and plants. At Ambiente golf course, Operation Pollinator works to maintain an attractive landscape that utilizes less water through its development, enhancement and sustainment of native plant species, while also working to enrich the local honeybee and butterfly populations.

Toro Lynx Control System

The Toro Lynx Control System is a computer-based irrigation program that has been deemed one of several long-term, sustainable solutions to the common issue of excessive water usage at golf courses. Specifically, the program’s Evapotranspiration (ET) system works by collecting data from an on course weather station. The program uses daily temperature, evaporation, humidity, wind speed, and precipitation to determine how much water the course has lost to the environment. Such information allows Camelback Golf Club’s Director of Golf Grounds, Aaron Thomas, to identify exactly how much water is required for nightly irrigation. Mr. Thomas is then able to input the

percentage adjustments for individual sprinklers on the course for areas that require more or less water. The use of the Toro Lynx Control System continues to be vital to the environmental, social and economical wellbeing of local residents and their resources.

Soil Health

In an effort to promote the health of the soil surrounding Ambiente golf course and to control natural pests, Aaron Thomas makes a continuous effort to incorporate organic fertilizer products that account for 50% of the course’s soil fertility program. Specifically, the grounds utilize IPM or, Integrated Plant Management, as a means of limiting the number of natural pests to the area through practices that are aimed at sustaining healthy soil. This effort to promote and sustain the health of the soil is achieved by minimizing the sole use of traditional pesticides, and instead opting for a mix of both organic and non-organic pesticides. As Ambiente golf course’s natural beauty indicates, the outcome of using both organic and non-organic pesticides results in high quality turfgrass that any golfer will appreciate. For Aaron Thomas, successful IPM “incorporates all aspects of a plant’s environment to give the advantage to the turfgrass, a healthy - thick turfgrass can often outcompete weeds, insects and disease pressure.”⁸

Visual Appeal

To further enhance the visual appeal of Ambiente golf course, Mr. Straka, along with the project civil engineer and the team at Marriott, formulated a number of designs that aimed to “(i) add challenges to course play, (ii) enhance visual interest... (iii) provide a better guest golf experience and (iv) increase the sustainability of the course...” Furthermore, in addition to the added contouring that was meant to generate aesthetic appeal and increase course play challenges, Mr. Straka also redesigned the holes so that each one entails five distinct tee boxes. The new designs allow each tee to be positioned at an angle that helps to “push golfer’s errant balls...towards the interior of the course and away from the yards of adjoining residences.” The course also features golf cart paths that were “reconfigured

to place the rider away from the new, and now deeper, main wash channel...further enhancing guest safety.”

Social Sustainability

The presence of Ambiente golf course has allowed local job numbers to increase at sustainable rates, which has led to an increase in the socio-cultural and economical wellbeing of local Paradise Valley residents and Phoenix area individuals; a result of employment growth that stemmed from the construction of the course itself. Furthermore, since opening in November of 2013, business at Camelback Golf Club has increased and according to Camelback Golf Club’s Director of Golf, Rob Bartley, “average green fee rates are 100% higher than the “old” Indian Bend course. Overall revenue is up almost 70% over the previous year.”¹² Such financial increases have further enhanced and sustained the socio-cultural and economical welfare of individuals living within the area.



Sustainability Achievements

Ambiente’s sustainable achievement includes the course’s recognition as a Certified Audubon Cooperative Sanctuary, a designation all Marriott Golf properties are required to have. Marriott Golf was in fact the “first resort golf operator to mandate every property in its portfolio to become a Certified Audubon Cooperative Sanctuary.”¹³ In order for a golf course to achieve such recognition, a golfing facility must “demonstrate that it is maintaining the highest degree of environmental quality in many areas, including environmental planning, wildlife and habitat management, outreach and education, chemical use reduction and safety, water conservation and water quality management.”¹⁴ In addition, Ambiente golf course also received acknowledgment from the American Society of Golf Course Architects in its 2013 Design Excellence Recognition Program, being “one of 12 courses to be honored for addressing unique design challenges that lead to improved social, economic and environmental benefits.”¹⁵



Marriott Pledge

Marriott International is also planning to implement the Environmental Sustainability Award Program, or ESPA, as well as, e-par EMS for golf throughout its’ properties and golf courses in the near future. The ESPA is an “initiative designed to serve as a benchmark for environmental stewardship across the company’s worldwide golf portfolio,”¹⁶ while e-par EMS for golf, is a type of Environmental Management System that “allows anyone with knowledge of operations to develop an ISO 14001-compliant EMS for the golf course, clubhouse and pro shop.”¹⁷ For Dave Robinson, Marriott Golf’s Senior Director of Golf Grounds and a certified golf course superintendent, the ESPA is “the next step in Marriott Golf’s companywide commitment to environmental sustainability.”¹⁸

E-par EMS for golf encompasses a system capable of monitoring the environmentally sustainable initiatives of each golf course, its clubhouse and its pro shop. Specifically, the program allows each golf course, clubhouse and pro shop to set goals of sustainability for itself and to monitor the progress of each area towards these goals; this allows courses to know how each area is functioning and what steps, if any, should or should not be taken to achieve sustainability. Aaron Thomas, the Director of Golf Grounds at Camelback Golf Club, plans to have e-par EMS for golf in place at Ambiente golf course by the fall of 2014, while Marriott International’s goal is to have all of its golf courses complete the ESPA process by the end of 2014.



Footnotes

¹ <http://www.marriott.com/golf-hotels/phxcb-jw-marriott-scottsdale-camelback-inn-resort-and-spa/camelback-golf-club/5256759/course-overview.mi>

² Indian Bend Golf Course Intermediate Special Use Permit Amendment Application, pg. 30.

³ Jason Straka, Email correspondence, August 2014.

⁴ Indian Bend Golf Course Intermediate Special Use Permit Amendment Application, 30.

⁵ Indian Bend Golf Course Intermediate Special Use Permit Amendment Application, pg. 3.

⁶ Indian Bend Golf Course Intermediate Special Use Permit Amendment Application, pg. 3.

⁷ <http://www.operationpollinator.com/>

⁸ Aaron Thomas, Email correspondence, June 2014.

⁹ Indian Bend Golf Course Intermediate Special Use Permit Amendment Application, pg. 8.

¹⁰ Indian Bend Golf Course Intermediate Special Use Permit Amendment Application, pg. 9.

¹¹ Indian Bend Golf Course Intermediate Special Use Permit Amendment Application, pg. 9.

¹² Rob Bartley, Email correspondence, August 2014.

¹³ The Right Thing to Do, Marriott Golf challenges its superintendents with Environmental Sustainability Performance Award Program, pg. 3.

¹⁴ The Right Thing to Do, Marriott Golf challenges its superintendents with Environmental Sustainability Performance Award Program, pg. 3.

¹⁵ JW Marriott Camelback Inn Resort & Spa Debuts \$10 Million Ambiente Golf Course, pg. 2.

¹⁶ The Right Thing to Do, Marriott Golf challenges its superintendents with Environmental Sustainability Performance Award Program, pg. 2.

¹⁷ Questions and Answer, the EMS Edition, pg. 31.

¹⁸ The Right Thing to Do, Marriott Golf challenges its superintendents with Environmental Sustainability Performance Award Program, pg. 2-3.

¹⁹ The Right Thing to Do, Marriott Golf challenges its superintendents with Environmental Sustainability Performance Award Program, pg. 4.

Sources

Aylward, Lawrence. The Right Thing to Do, Marriott Golf challenges its superintendents with Environmental Sustainability Performance Award Program, May 29, 2014.

Bartley, Rob. Email correspondence, August 2014.

Fletcher, Kevin A., PH.D. Questions and Answers, the EMS Edition, Golfdom, September 2013.

JW Marriott Scottsdale Camelback Inn Resort & Spa, Camelback Golf Club, camelbackinn.com, accessed on August 11, 2012.

Operation Pollinator, <http://www.operationpollinator.com>, accessed on Aug. 9, 2014.

PR Newswire, JW Marriott Camelback Inn Resort & Spa Debuts \$10 Million Ambiente Golf Course, December 17, 2013.

Snell & Wilmer, L.L.P. Law Offices, Indian Bend Golf Course Intermediate Special User Permit Amendment Application, Project Narrative/Statement of Use, 1st Submittal: March 28, 2012, 2nd Submittal: May 11, 2012, 3rd Submittal: May 18, 2012.

Straka, Jason. Email correspondence, August 2014.

Thomas, Aaron. Email correspondence, June 2014.

Copyright © 2014 Lauren Schimmel. All rights reserved. This brochure summarizes information that was collected by Lauren Schimmel as part of an Applied Project requirement for the completion of a Master of Advanced Study in Sustainable Tourism degree from Arizona State University's School of Community Resources and Development, part of the College of Public Programs. This project could not have been completed without the help of the JW Marriott Camelback Inn Resort & Spa crew, specifically; Camelback Golf Club Director of Golf, Rob Bartley; Camelback Golf Club Director of Golf Grounds, Aaron Thomas, and the JW Marriott Camelback Inn Resort & Spa Director of Sales & Marketing, Shane Allor. Special thanks is also given to Jason Straka, Principal at Fry/Straka Global Golf Course Design, LLC and David Robinson, the Senior Director of Golf Grounds for Marriott Golf. Each of these individuals was instrumental in the development of this project and we appreciate their efforts and support in the formation of this brochure.

For those who might ask why Marriott International is taking steps to become environmentally, economically and socially sustainable, Dave Robinson declares that “we know that we’re visible, and we know people are looking at what we’re doing” and, “if that gets other golf courses to begin implementing environmental programs, that’s a great thing.”¹⁹



photo: Dave Sansom



JW MARRIOTT[®]
CAMELBACK INN[®]
SCOTTSDALE

For more information about the JW Marriott Scottsdale Camelback Inn Resort and Spa, and Camelback Golf Club visit www.camelbackinn.com or call 1-480-948-1700.

This golf club is managed by 