

# Sustainable & Environmental Design



One of the hallmarks of WATG is its sensitivity to the influences of the local culture and the environment. As an architecture, design and planning firm, we have a responsibility to preserve and enhance those qualities that give a location its special character: the culture, the natural resources, the people and the spirit of the place. For WATG, this is not a design trend but rather a design philosophy that dates back to the firm's first project in 1945.

As evidence of WATG's leadership in this arena, we have been contributing insights and expertise to the International Tourism Partnership's sustainable hotel guidelines and publications since 1992. In addition, WATG was the only architecture firm invited to advise the US Green Building Council on adapting LEED certification requirements for hotels.

## WATG's environmental policy

We want our legacy to be a positive one—both in our built projects and within our firm. We strive to provide current and innovative solutions for our clients seeking to pursue a sustainable and environmentally responsible design approach. As part of this commitment, we implement the following initiatives:

- Use our skills as architects, designers and planners to improve the way the development community approaches the built environment
- Stay abreast of current "best practices" in sustainable development, and always ask questions
- Promote the potential gains of employing a sustainable approach to our clients and development partners
- Maintain the integrity and quality of the natural environments in which we work
- Respect the culture and the people of the local area, and utilize traditional artisans and building techniques to increase local employment
- Use a site's natural resources and materials and in a way that considers the future
- Encourage responsible use of energy and initiatives to recycle consumables
- Improve awareness of environmental and sustainability issues

WATG has been privileged to be involved in a number of unique projects around the world which incorporate sustainable and environmentally responsible design. A selected listing of such projects includes but is not limited to the following:

## sustainable design

### Bardessono Inn and Spa, Napa Valley, California, USA

WATG is providing full-service architectural services for this boutique hotel scheduled to open in 2009. This 62-room luxury lodge and spa resort will use solar and geothermal energy, sophisticated energy management systems, sustainable building materials, and organic landscape management practices. *The project is seeking Platinum LEED-NC certification.*

### Conrad Bali, Indonesia

Designed in a contemporary Balinese style, the 298-room Conrad Bali Spa is situated on a pristine beach on Bali's southern coast of Tanjung Benoa. The resort successfully benchmarked against key environmental indicators including reduced energy and water consumption, total waste production and community commitment. *The project achieved the prestigious Green Globe Certified status under the global Certification Program to recognize its commitment to operating at the world's highest environmental standard.*

### Hampstead Estate, Dominica

The Hampstead Estate project in Dominica presented a challenge to preserve the site's pristine beaches, teeming rivers and lush forests, while incorporating designs that celebrate the landscape and culture of the island. While playing homage to its history, the Hampstead Estate will transform from the 400-acre plantation it once was to an environmentally-friendly eco-development that celebrates the legacy of the Douglas family and the lush land of this Caribbean jewel. This project has the opportunity to set the standard for responsible, sustainable eco-development in Dominica as well as for the rest of the Caribbean.

WATG strives to preserve the characteristics of special places wherever they are found--whether on a coastal cliff, in a dense urban setting or on a remote island.



Bardessono Inn and Spa  
Napa Valley, California, USA



Conrad Bali  
Indonesia



Hampstead Estate  
Dominica



Hawaii Convention Center  
Honolulu, Hawaii, USA

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## Hawaii Convention Center, Honolulu, Hawaii, USA

Although located within the heart of Waikiki, the project incorporated many sustainable features in the design, including fabric roof forms to provide daylight, control solar gain and protect against the heavy rains experienced in the Islands. The building was oriented to capitalize on prevailing trade winds for natural ventilation, and extensive native planting was used in the public spaces. *Recipient of Hawaiian Electric Company's Energy Project of the Year Award.*

## InterContinental Hotel, Pune, India

Currently under design, this five-star urban green hotel is a contemporary classic that retains a sense of heritage and value of the past while still looking forward. *The project is being designed for Green Globes assessment and rating.*

## New Century Nine Dragon Lake Resort, Ningbo, China

The resort acts as the centerpiece of the development and exists in harmony with surrounding residential villas in terms of both architectural style and the sustainable design approach. The design embraces the natural beauty of the site. Bamboo, a fast-growing sustainable material found on site, is widely used throughout the design, in flooring, structural elements, and screens what also set the stage for natural lighting play. Various bamboo shading devices are applied outside guestroom windows and façades, cooling the spaces and reducing air-conditioning energy costs.

## Ocean Village, Southampton, United Kingdom

Sustainability is a key goal for this project currently under design. Seawater cooling will be used to chill ceilings within guestrooms, resulting in lower carbon emissions than the use of conventional air-conditioning systems. A green waste management strategy has been developed for the hotel that seeks to introduce a means of waste control via compaction, baling and crushing. It also seeks to minimise the amount of waste that is sent to landfill. A rainwater harvesting strategy has been developed for the hotel.

## Playa Pelicano Resort, Costa Rica

Currently in design, this resort incorporates a multitude of sustainable, environmental and energy efficiency considerations. To protect and enhance the existing natural features of the site, the design team avoided placing any buildings on the upper-most ridge bisecting the two beaches, so the profile of this beautiful landform could remain natural and unspoiled. Each building has been carefully sited to avoid damaging protected trees, to minimize grading requirements and to allow the natural land to remain as untouched as possible. Only local materials will be utilized for the construction and landscape features. Natural day-lighting will be provided for the majority of indoor spaces to avoid the need for artificial light. High ceilings and natural ventilation will take advantage of the cooling sea breezes and minimize the need for air-conditioning. Shading devices will reduce the amount of solar heat gain within the interior spaces, and rain-water storage cisterns at each building will reduce the use of potable water.

## Quinta do Lorde Marina and Resort Hotel, Canical, Madeira, Portugal

The design goal was to look to technology for the integration of new and renewable energy sources for sustainable development. The project integrates renewable active and passive energy technologies, including off-site wind generators, solar thermal and fuel cells, water desalination, waste-water treatment and gray-water usage, and rain-water collection. All buildings were designed to consume less energy by using double-block wall construction and concrete roof construction, as well as high efficiency windows, doors and environmental control systems. By designing buildings with small footprints that could be adapted to the topography and arranging them in clusters around courtyards, our client's program requirements were met while minimizing the negative impact on the land. Quinta do Lorde has been *selected to be part of a European Union (EU) sponsored Green Hotel program and received an Environmental Award from the American Institute of Architects.*

## The Ritz-Carlton, St. Thomas, U.S. Virgin Islands

This 150-room resort in St. Thomas was designed to be self-sufficient with its own generators, desalination plant and sewage treatment facility on-site. A gutter and pipe system allows rain water to be saved for irrigation and fire protection. Indigenous shrubs, trees and a fragile salt pond have been preserved for their ecological and aesthetic value. Selected as the number one resort in the Caribbean by *Condé Nast Traveler* magazine.



Quinta do Lorde Resort Hotel  
Madeira, Portugal



Playa Pelicano Resort  
Costa Rica



Ocean Village  
Southampton, United Kingdom



The Ritz-Carlton, St. Thomas  
US Virgin Islands

## **Singita Grumeti Reserves, Sasakwa Lodge, Serengeti, Tanzania**

Sustainability was a key element for this resort destination. The project consists of luxury safari lodges designed to merge with the environment. Buildings were designed around mature trees, many of which were relocated and retained to form part of the mature landscape. A quarry was set up near the project for the stone cladding and slate. Local villagers were trained to quarry, cut and finish the stone. This allowed production to generate local income and job opportunities. Transportation impacts, therefore, were diminished significantly, and local economic generation played an important role throughout the project.

## **Tanjong Jara Beach Resort, Trengganu, Malaysia**

Dating back to 1970, the prime goal in the planning and design of the Tanjong Jara Beach Hotel was an all-encompassing respect for the environment, for local tradition and for energy conservation. Extensive on-site research resulted in a practical design for local weather conditions that makes use of materials plentiful in the area. Cottage-style buildings were constructed of native hardwood, which was allowed to weather naturally. The two-story structures were built three to five feet above the ground for purposes of security, flood protection and air circulation. Other ventilating elements include open-sided rooms, lattice soffits, steep pitched roofs with gable grilles, and bisque roof tiles left exposed on the inside. The resort was *awarded one of the world's foremost prizes for architecture, the prestigious Aga Khan Award*, in recognition of an adaptation of traditional designs, indigenous materials, and encouragement of native crafts.

## **environmentally responsible design**

### **Shangri-La Boracay, Boracay, Philippines**

The design goal was to use local materials and reuse and recycle natural elements like rain fall and compost. Planned and designed in accordance with the highest eco-friendly global standards, the resort lies within one of the country's peaceful nature reserves. Over 36 species of bird and fruit bat make their home here. The master plan reflects the original existing landscape. WATG designed the master plan around ninety-nine percent of the mature trees. The indoor/outdoor ceilings in the lobby and outer buildings used traditional Filipino architecture and building techniques with hardwood harvested from the island. One hundred percent of the wood used during construction came from the Philippines. Two different kinds of coral stone were used from Boracay and a sister island promoting re-use.

All of the water features are part of a rain water recycling system located on the roof of the hotel which filters water into an underground cleaning system recycling the water. Unique water beads hang from the roof line in place of rain gutters and direct the water into collection pots which filter down to the cleaning system. Elements of tropical architecture include open-air buildings and breezeways that allow cross ventilation and reduce energy-use caused by air conditioning systems. The hotel played a role in boosting the economy of the island by employing local islanders during and after the construction of the hotel. Additionally, a solar hot water system and an advanced compost sewage treatment system have been put into place.

### **Failaka Island Destination Resort, Kuwait**

The design goal for this master plan was to transform Kuwait's largest and most historically significant island into a premier world-class destination resort. Intended to be a car-free environment for visitors, it was critical to maintain the environmental, ecological and historical integrity of the island. The project was divided into distinct and recognizable precincts based on compatible land uses and resort amenities.

### **Grand Hyatt Kauai Resort and Spa, Poipu Beach, Kauai, Hawaii, USA**

On 50 oceanfront acres, the 600-room resort hotel is sited among lush gardens and lagoons in a traditional Hawaiian architecture reminiscent of the 1920s and 1930s. The design evolved as a response to the island's climate, terrain and lifestyle. Environmental considerations have played a large part in the design and operation of the resort. At a very early stage in the development and design, hotel personnel collaborated with the design team, community leaders and government officials to address the issue of environmental responsibility. The result is a resort that respects its surroundings and provides opportunities for its visitors to learn. The property is repeatedly rated the best among the more than 100 Hyatt hotels in the world.



Singita Grumeti Reserves Sasakwa Lodge  
Grumeti Reserve, Tanzania



Mountain Destination Resort  
Kazakhstan



Tanjong Jara Resort  
Kuala Terengganu, Malaysia

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## Hilton Hawaiian Village Beach Resort, Honolulu, Hawaii, USA

As part of a multi-phased renovation program, WATG created a village around a central open space by demolishing certain buildings, renovating others, and building new ones. The design team recycled a lagoon-front kitchen, laundry, compressor room and storage room into public spaces and conference rooms that open fully to a landscaped lagoon. The resort was honored for its efforts to develop and implement environmental practices. The property *received a Green Business Award from the State Department of Health and Department of Business, Economic Development and Tourism, along with the Chamber of Commerce of Hawaii*, for conserve energy, water and other resources, and to reduce pollution and waste.

## Hotel Bora Bora, French Polynesia

This project is a prime example of a project that was ahead of its time in terms of environmental sensitivity. WATG designers first began work on the project in 1965 and created an unobtrusive resort using indigenous materials and styles. The 75-room hotel, designed in the traditional style of the Tahitian fare (house), sits over a pristine coral reef and does not overwhelm its surroundings. The open-air buildings, cooled by prevailing trade winds, have bamboo walls with screened openings and roofs constructed of lauhala thatching. The property is repeatedly rated among the top ten resorts in the Asia Pacific region.



Hotel Bora Bora  
French Polynesia

## The Leela Palace Kempinski, Bangalore, India

This 250-room resort hotel evokes the architectural glory of the royal palace of Mysore amidst acres of lush green landscaped gardens. The hotel was *chosen as the Best Eco-Friendly Five-Star Deluxe Hotel in the Country by the Government of India, Ministry of Tourism*.

## Matavai Bay Resort (formerly Tahara'a) Tahiti, French Polynesia

Preservation of a hillside and of the tropical foliage were primary concerns in planning and designing this 190-room resort hotel. Construction is camouflaged by tropical foliage; guestrooms descend on a cliff. For public areas, an indigenous design in the form of a low Polynesian long house was adapted to keep the structure totally Polynesian in flavor.



The Ritz-Carlton, Rancho Mirage  
Rancho Mirage, California, USA

## Pago Pago InterContinental, American Samoa

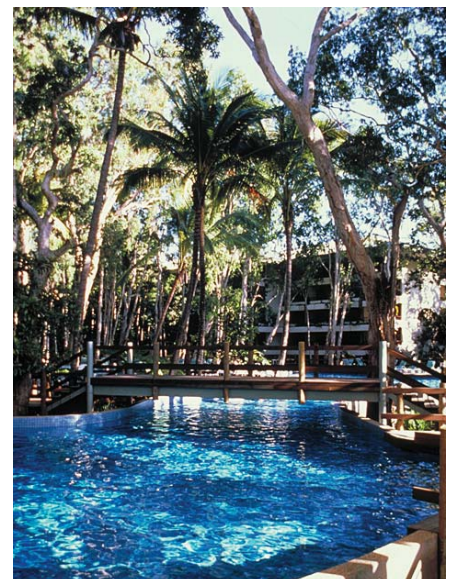
In designing the 100-room hotel, the design team used a time-proven, native solution to local climate conditions. The completed design, based on a Samoan fale (house), has a traditional thatched roof, open sides allowing for air movements, and palm-leaf blinds which can be lowered to protect from rain.

## Ramada Reef Resort, Queensland, Australia

The challenge in designing the Ramada Reef Resort was to develop a 200-room hotel with extensive recreational amenities without disturbing a dense stand of palms and ancient paper bark trees. The innovative design notched the buildings to leave the trees undisturbed and raised the pools, decks and walkways to alleviate damage to tree roots. The project has been used in advertisements to promote Ramada's commitment to the environment.

## Rantau Abang Visitor Center, Trengganu, Malaysia

Rantau Abang Visitor Center, with its sea-life museum, captures the strong traditional link between Malaysians and the sea. It serves, further, to protect the giant sea turtle during one step of its migratory life. The project consists of a complex of Malaysian style buildings that include the sea-life museum/visitor center, bungalows, a bazaar featuring Malaysian crafts, restaurant, and a botanical garden. Before beginning design, exhaustive research was done into the indigenous architecture of East Coast Malaysia. Structures are raised on piers above the river and sand dunes, to avoid disruption of the site's natural characteristics. Buildings, entirely of native hardwoods from nearby forests, are built in the centuries-old tradition of Malaysian construction by local craftsmen. The project is a *recipient of the prestigious Aga Khan Award*, in recognition of an adaptation of traditional designs, indigenous materials, and encouragement of native crafts.



Ramada Reef Resort  
Queensland, Australia

## Sheraton Kauai Resort, Kauai, Hawaii, USA

The resort was honored for its efforts to develop and implement environmental practices and *received a Green Business Award from the State Department of Economic Development and Tourism* for conserving energy, water and other resources, and reducing pollution and waste.

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## The Ritz-Carlton, Kapalua, Hawaii, USA

Following the discovery of nearly 1,000 native Hawaiian burials on the site, it seemed the proposed hotel might never be built. To provide a solution, the state purchased a perpetual easement for the burial ground and the developer agreed to change the placement of the hotel from the burial area toward the mountains. Because of the growing strength of the environmental/cultural commitment, the graves are now recognized, given an identity and are officially protected.

## The Ritz-Carlton, Rancho Mirage, California USA

This 219-room resort hotel is the gateway to a 310-acre wildlife sanctuary for a threatened species, the Desert Bighorn sheep. The sensitive siting, orientation of buildings, integration with surroundings and low profile of the architecture won the support and approval of a variety of interested parties, including the Bighorns. The property was voted as the number one resort in Southern California and number 10 among the top resorts in North America by *Condé Nast Traveler*.



Grand Hyatt Kauai Resort & Spa  
Poipu Beach, Kauai, Hawaii, USA

### other sustainable and environmental projects

	location	rooms/size
Amazon Jungle Lodge, Manaus (design)	Brazil	80
Baru Island Resort (design)	Colombia	1,200
Boracay Resort Beach Club (design)	Philippines	60
Bridge of the Americas Cultural Center Theme Park Resort	Panama	272 acres
Broken Top Golf Clubhouse, Bend	Oregon, USA	30,000 SF
Caesar Beach Resort Hotel (design)	Brazil	240
Calistoga Ranch, Napa Valley (design)	California, USA	80
Coco Palms Hotel	Hawaii, USA	230
Cotton Bay Hotel & Resort, Eleuthera Island (design)	Bahamas	225
Dana Point Headlands Resort (design)	California, USA	100
Debre Zeit Resort, Addis Ababa (design)	Ethiopia	110
Dry Creek Rancheria Resort, Sonoma County (LEED Certified)	California, USA	250
Equatorial Hotel, Bangi	Malaysia	750
Equatorial Hotel, Penang	Malaysia	415
The Fairmont Orchid (formerly Ritz-Carlton)	Hawaii, USA	542
Fairways and Bluewater Resort Hotel & Timeshare	Philippines	220
Falaknuma Palace Hotel (Taj) renovation & addition	India	70
The Fijian Hotel	Fiji	315
Four Seasons Hotel & Resort Punta Mita	Mexico	100
Four Seasons Hotel Chinzan-so, Tokyo	Japan	325
Four Seasons Resort – Aviara	California, USA	330
Four Seasons Resort Maui at Wailea	Hawaii, USA	374
Goa Renaissance Resort (formerly Ramada Goa)	India	300
Grand Hyatt Amman	Jordan	311
Grand Hyatt Bali	Indonesia	750
Green Island Resort (design)	Taiwan	1,000
Green Villa Hotel Cheju	Korea	100
Guamare Polo Turistico Resort (design)	Brazil	200
Hapuna Beach Prince Hotel	Hawaii, USA	350
Hawaii Polo Inn (formerly Driftwood Hotel)	Hawaii, USA	140
Hayashida Kagoshima Hotel	Japan	209
Hilton Maldives Rangali Island (renovation & addition)	Maldives	130
Hilton Mauritius Resort & Spa	Mauritius	200
Hotel Lotte Cheju	Korea	500
Hotel Tahiti	Tahiti	128
Hyatt Regency Cheju	Korea	224
Hyatt Regency Coolom International Resort & Spa	Australia	250
Hyatt Regency Waikiki Resort & Spa	Hawaii, USA	1,260
Ibusuki Iwasaki Kanko Hotel	Japan	466
Ilhas Perynas Resort Hotel, Cabo Frio (design)	Brazil	250
La Punta Papagayo Luxury Resort, Guanacaste	Costa Rica	150
Le Meridien Nirwana Golf & Spa Resort, Bali	Indonesia	278
The Leela, Kempinski, Goa	India	137
The Lodge at Torrey Pines, San Diego	California, USA	175



Four Seasons Hotel and Resort  
Punta Mita, Mexico



Broken Top Golf Clubhouse  
Bend, Oregon, USA



The Ritz-Carlton, Kapalua  
Hawaii, USA

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WATG

Marriott's Newport Coast Villas	California, USA	650
Maui Palms Hotel (addition)	Hawaii, USA	80
Mauna Kea Beach Hotel (new addition)	Hawaii, USA	50
Mountain Destination Resort	Kazakhstan	TBD
Movenpick Dead Sea Resort	Jordan	260
Oak Valley Destination Resort	Korea	750
One&Only Le Saint Geran Hotel (renovation)	Mauritius	163
One&Only Royal Mirage Resort Hotel, Dubai	UAE	253
Orchid Bay Hotel – Great Guana Cay, Abaco (design)	Bahamas	40
Outrigger Waikiki (renovation)	Hawaii, USA	530
Pacific Islands Club, Guam (new addition & renovation)	Guam	796
Pacific Islands Club, Saipan (new addition & renovation)	Saipan	220
Palace of the Golden Horses	Malaysia	539
Palacio Tangará Park Hotel	Brazil	120
Porto Sauipe Beach Village Resort Hotel (design)	Brazil	350
Promised Land Resort, Hualien	Taiwan	750
Resort Spa at Club Playa Carmel	Costa Rica	23.500 SF
The Ritz-Carlton, Bali	Indonesia	375
The Ritz-Carlton, Huntington Hotel, Pasadena (renovation)	California, USA	386
Royal Kona Hotel ( <i>formerly Kona Hilton Hotel</i> )	Hawaii, USA	400
Saggio Hills Resort, Healdsburg, Sonoma	California, USA	130
Sanctuary Bay Resort ( <i>formerly All Pines</i> ), Stann Creek District	Belize	40
Shangri-La Hotel, Garden Wing	Singapore	165
Shangri-La's Barr Al Jissah Resort & Spa, Oman	Oman	680
Sheraton Addis Ababa	Ethiopia	300
Sheraton Hotel Tahiti ( <i>formerly Outrigger</i> )	Tahiti	150
Sheraton Maui Hotel	Hawaii, USA	446
Sheraton Molokai Lodge ( <i>formerly Colony's Kaluakoi</i> )	Hawaii, USA	290
Sheraton Princess Kaiulani Hotel	Hawaii, USA	200
Shilla Cheju Hotel	Korea	400
Sofitel Taba Heights Resort	Egypt	294
The Sterling Grand Resorts, Greater Noida (design)	India	600
Swissotel Naama Bay, Sharm El Sheikh	Egypt	180
Turtle Bay Hilton & Country Club (renovation)	Hawaii, USA	500



Sanctuary Bay Resort  
Stann Creek District, Belize



Amazon Jungle Lodge  
Brazil



Four Seasons Aviara Resort  
Carlsbad, California, USA



Hilton Hawaiian Village  
Honolulu, Hawaii, USA