

# SELECTED PROJECTS

H2O FUTURES EDWIN DAUGHERTY, LIC. ARCH, RLA

## INTERNATIONAL PROJECTS

### **Seawater Farms Eritrea**

Design, construction and management of a 2,500 acre seawater-based farm and housing community on the Red Sea coast of East Africa. Contributions involved: master planning entire project, as well as site specific land planning and architectural design for numerous facilities, such as a 250 acre constructed wetlands, a 10,000 sq. ft. feed mill, fueling station, construction office, and numerous mechanical shops and restroom facilities.

### **Expo 2000 Hanover, Germany**

Design and construction of a 100m<sup>2</sup> national cultural exposition at the World Expo in Hanover Germany. The exhibition highlighted the culture, resources and traditions of Eritrea, East Africa.

### **Int'l Airport Abu Dhabi**

Prepare definitive guidelines addressing applications of seawater technologies for a planned new international airport. The document included site assessment, constraints and opportunities, and suggested strategies from commercial scale development to ornamental halophytic landscaping.

### **Las Fuentes Forest Community Mexico**

Planning and design of a 6,000+ acre seawater-based community on the Sonoran coast of the Gulf of California. The community was designed to utilize pure seawater irrigation for all landscape amenities, as well as seawater plumbing to all structures for supplemental kitchen and bathroom use. Adjacent to the housing community, large mangrove forests were designed to provide microclimate cooling and carbon off-set for members.

### **El Dorado Ranch Sustainable Community Mexico**

Master planning for a 270,000 hectare sustainable community in San Felipe, Baja, Mexico. Use of seawater technologies, constructed wetlands, straw bale and other regenerative building materials, as well as solar, wind, tidal power, and electric vehicles, were implemented.

### **Kayapo Research Center, Brazil**

Feasibility studies, master planning and design research for a facility focusing on the culture, art and spirituality of the indigenous Kayapo people in Central Amazonia. The project was initiated by the Center for the Preservation of Indigenous Art, Science and Culture in Santarem, Para, Brazil. The facility was designed and built using principles and practices of the Kayapo, and provides a place to study, perform research and document and preserve cultural practices of many of the indigenous tribes in Amazonia.

### **Ria Celestun Reserve, Yucatan Mexico**

As a member of a team of international design, tourism, and related professionals, participated in a site visit and planning session for the establishment of development guidelines and management plans for the reserve, one of the few remaining natural flamingo habitats. The area of the Yucatan peninsula in which the reserve is located, is rich in culture, as well as unique flora and fauna, which the guidelines and plan will help preserve and protect.

### **International Research**

A year-long research project, examining indigenous architecture and land planning techniques in developing countries. Twenty eight countries were visited, studying design criteria and planning methods, as well as cultural, economic and spiritual influences. The result is an extensive library of over 2,000 slides, with documentation for publication of a future book on the subject.

### **Habitat for Humanity Mexico**

Community service provided as a professional consultant to the organization. Projects have included ecological planning, master planning, and design for a community park for a low income housing project in Tecate, Mexico. Innovative, ecologically sensitive artificial wetlands and adjacent park were designed to work as a system for water treatment and purification; the wetlands treat effluent from the residences to provide water for irrigating plant material in the park.

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## DOMESTIC PROJECTS

### **U. S. Olympic Training Center**

150-acre Landscape Master Plan. The United States Olympic Committee required a year round, warm weather training facility for athletes. The site is located just south of San Diego. A curvilinear "Olympic Path", representing the path to victory, was designed along the major ridge of the site. At various points, administration, medical, housing and athletic venues are placed for visitors and athletes. Periodically along the path, clusters of distinctive trees and shrubs occur to mark the athlete's event "address" and special visitor facilities. Management and operations were considered through attention to soil stabilization, water conservation, security, and fire resistant plant species which produce low allergy response.

### **California State University San Marcos**

10-acre Master Plan for Phase 1 of the new California State University Campus. Growth of northern San Diego County necessitated establishment of new facilities to accommodate increased student populations. The challenging site is draped on the lower third of a moderately steep hill, 1,000 feet in height. The solution embraced a concept reminiscent of a Mediterranean hillside village. Numerous terraces, stairways, plazas and porticos integrate the natural terrain and architecture, providing convenient access and comforting shade in the warm summer months.

### **Medical Campus University of California**

120-acre Master Plan of a new medical complex. Demands on existing community medical building resources required development of a new 420-bed research hospital and 5 ancillary facilities, including: Ambulatory Care Center, Skilled Nursing Facility, Rehabilitation Center, Psychiatric Clinic and Eye Care Center. The ultimate solution defined a highly visible location at the end of a prominent east/west oriented ridge. The site is flanked on both sides by slopes which conceal terraced parking on the north and a canyon to the south, which serves as a place of respite for staff and patients. The canyon has interpretive trails for walking and scenic overlooks.

### **Interpretive Center Research Facility**

300-acre Master Plan for a historic site in southern Arizona. This nationally significant ghost town, Ruby, was being destroyed by rampant vandalism and the natural impacts of weather. The concept for the project is to establish the property as a joint ecological research station and cultural interpretation center. In doing so, the ecology and two dozen buildings will be restored and the regional economy revitalized. Numerous initial meetings were held with local, state and federal agencies to elicit participation and support. Successful results were obtained in the form of grant awards and generous donations.

### **Interpretive Center U. S. Forest Service**

50 acre Master Plan. The goal of the United States Forest Service at this site in the Laguna Mountains east of San Diego, California, was to preserve and protect a fragile, endangered meadow ecosystem, while simultaneously making people aware of its uniqueness and delicacy. Detailed and extensive site inventories and analyses directed placement of one "passive" viewing plaza adjacent to the meadow, and one nature interpretive center building across an existing roadway, which serves as a buffer. A walking path punctuated with interpretive signage connects the two facilities. The design responds to its regional context through placement of a "Sunrise Amphitheater" as a counterpoint to a proposed Sunset Amphitheater 50 miles due west, at Mission Bay in San Diego. The celestial and prehistoric contexts were acknowledged through alignment of various site elements with astronomical events such as the summer and winter solstices.

### **Los Coyotes Reservation**

Feasibility Study using GIS to determine the optimum location of an organic apple orchard, as a tribal industry for the Los Coyotes Reservation. Initial studies involved the establishment of a digital geographic database and analysis of existing reservation resource attributes, such as soils, water, vegetation, slope aspect and topography. Through analysis, site suitability was determined and a feasibility report, including resource maps, was produced.