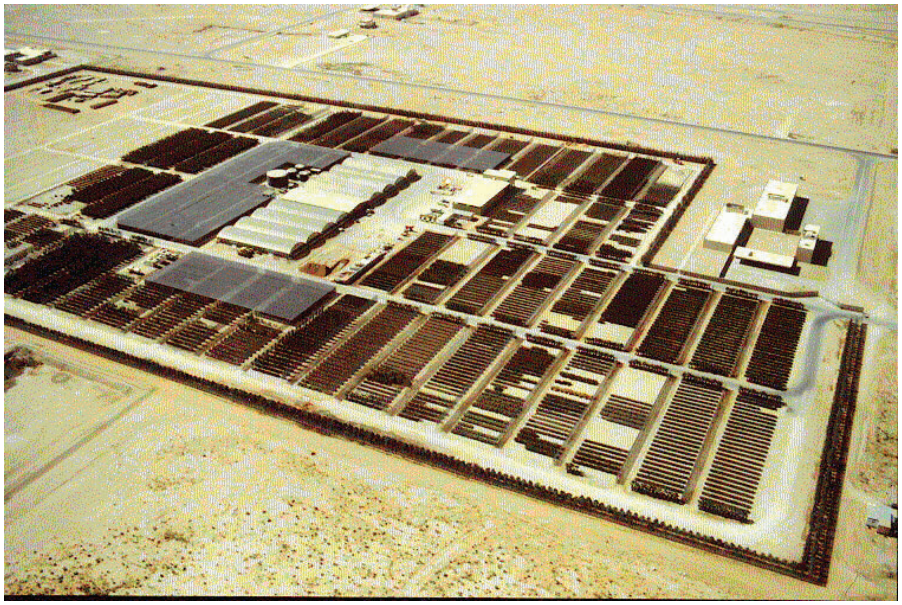
KING KHALED INTERNATIONAL AIRPORT NURSERY COMPLEX
Riyadh, Saudi Arabia

Client
Ministry of Defence and Aviation
International Airport Projects

Project Budget
$100 million Airport
Landscaping

$10.2 million
Airport Nursery Complex



Mr. Wolfe was the senior construction engineer for Arabia Bechtel Company Ltd. to oversee the construction and operation of the nursery complex by direct hire after the contractor was terminated. At the time of construction, the nursery complex was the first and largest modern container nursery built in Saudi Arabia. The nursery complex was based on typical California ornamental container plant nurseries. This 23-hectare complex included the irrigation building; water storage and treatment tanks and equipment; fertilizer injection equipment; soil, water, and plant pathology laboratory; offices; propagation facility; greenhouses, shade houses, stores/ warehouses, and the container beds used for the production, procurement, and cultivation of the plant material needed for the airport interior and exterior landscaping.

The nursery included approximately 58 1,040-square meter outside container growing beds and eight 1,040-square meter shade house container growing beds. Such beds were used to grow 1-gallon ground covers, 5-gallon shrubs, and trees from 5-gallon to 48-inch box sizes. An additional 16,000 square meters were set aside for -ground growing beds. Internal windbreak structures and the perimeter shelter belt provided protection from the wind. Beds were both drip and sprinkler irrigated.

The greenhouse complex consisted of four 925-square meter climate-controlled greenhouses surrounding a 500-square meter headhouse. One greenhouse was dedicated to propagation using both mist and bottom heated benches and one was dedicated to growing flowering plants under photocontrol. The headhouse housed reverse osmosis equipment, fertilizer injection equipment, and space reserved for propagation and potting equipment. Water tanks adjacent to the headhouse stored 1,300 ppm raw well water, 10 ppm reverse osmosis water, and 450 ppm blend water, the latter two used for mist propagation and container bed irrigation.

Importation restrictions required the initial plant material be imported bareroot from California as liner, 1-gallon, and 5-gallon sizes. Such material was used as propagation stock for cuttings for mist propagation of ground covers and shrubs or grown on as finished plants. Certified seed was imported for propagation of trees. Mr. Wolfe was responsible for developing propagation protocols, planting soil mixes, and all other nursery procedures. Over the three years of operation the nursery produced approximately 250,000 groundcovers and shrubs and 20,000 trees meeting the deadline for airport dedication and opening. Excess production of trees, including approximately 3,000 two-meter palms, were used to landscape the airport access road.

Lee-Wolfe & Associates