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landscaping | golf | sports turf



Amendoeira Golf Resort

Oceanico Developments – Algarve - Portugal

Description and Location

Amendoeira Golf Resort is located in the western region of the Algarve, close to Silves, 5km from the coast. It occupies a wide valley, including both slopes. The resort golf facilities include two championship golf courses, by Faldo Design and Christy O'Connor, an extensive academy and training facilities, and a 9-hole par 3 course.

Initial Assessment and Main Problems

- ◇ 21 of the total 36 holes were located in a flood plain. All earth movement in this area was legally conditioned.
- ◇ The stream had been filled in by the previous land owners, increasing the frequency and severity of flooding, to the point that it usually affected the whole width of the valley.
- ◇ 3 holes were located over a protected "maximum infiltration area" of aquifer recharge.
- ◇ The main water source, an aquifer, was classified as the strategic water reserve for western Algarve. Extraction was severely restricted and could be totally blocked during drought years.

“This highly skilled and professional team found practical, well thought out, solutions to any issue which emerged. Importantly, they worked cohesively with our entire team and, together with them, produced a quality result.”

Gerry Fagan, Chief Executive Officer at Oceanico Developments

GEOdesenho Proposal

The proposal that GEOdesenho presented to Oceanico was designed to address all these situations. It included several main components:

- ◇ Development of the Environmental Impact Assessment.
- ◇ Water Logistics Study and the development of a Water Management System.
- ◇ Integrated drainage and lakes design.
- ◇ General Support for the project – both agronomic and engineering design.

Developing the Solutions

The most important decision taken by GEOdesenho was that the problems were too serious for half measures so, a strategy for addressing each problem head-on and working directly with the relevant authorities was selected.

The final solutions included inputs from the GEOdesenho team specialists, the environmental authorities (CCDRAlg), the water authorities, the golf architects and Oceanico’s project management team.



The Solutions in Detail

- ◇ The most serious problem was stream recovery and controlling floods. Natural engineering solutions were applied. The stream bed was widened and redesigned, recreating the previously lost meanders. The new stream bed could cope with normal flood conditions. A series of retention basins, wet areas and lakes, connected by spillways and integrated with the drainage system, was created to cope with more severe floods. The excavated volumes were used to raise the golf holes above flood level.
- ◇ The “maximum infiltration area” was re-surveyed, at a more detailed scale and, with the authorities’ agreement, its extent was redefined. The 3 affected holes were just slightly adjusted to avoid it entirely, with the collaboration of the Faldo team.
- ◇ The Water Logistics study determined exactly how much irrigation water was required and established the base guidelines for water reserves (in lakes), the irrigation and drainage designs, and the future Water Management System. In order to limit the water requirements, and in cooperation with the architects, irrigated areas were limited. An agreement for reclaimed water supply was established with a local water treatment plant (on planning stage at the time). Finally, given all the previous work, an agreement of the water authorities was obtained in order to allow bore hole use for irrigation while the treatment plant was being built, and as a complement to the reclaimed water in the future.

“It was an incredible experience to work alongside so many qualified and experienced professionals, in bringing practical and effective solutions to the many technical challenges that faced the team.”

Steve Richardson, Director of Golf Course Maintenance at Oceanico Group and Project Manager for the Amendoeira golf courses construction

