

## **Holistic Environmental & Sustainability Planning**

When establishing the developmental framework of a large project, Panorama addresses as part of the planning process all environmental and sustainability issues that need to be considered. This is done at the beginning of the process to ensure all required elements are anticipated and planned for from the very beginning. This also ensures that the issues are addressed holistically across the entire development, and are not addressed in an isolated or piecemeal fashion.

Generally, the approach to any development will include the definition of goals and objectives with regard to energy reduction, CO<sub>2</sub> emissions reduction, reduction of the output of all waste products, and the reduction of water consumption. This typically includes the sub-goals of reducing A/C requirements via structural design concepts – such as shading from building elements and overhangs, shading from the planting of trees and shrubs, and improving natural air circulation -- and addressing operational issues up-front during the design process. This includes providing areas for sorting and recycling, eliminating chemicals and harsh cleaning products, and similar measures.

In the context of the project scope, an initial environmental assessment is performed to identify what should be accomplished to preserve the existing environment, plant life and wildlife and for a coastal development the seabed and underwater life.

A plan is then developed to protect and to enhance these areas. This is a design and planning priority, is holistic, and is proactive enough to head-off any negative perceptions that might otherwise occur

All devices, processes and methodologies useful in providing solutions to environmental challenges are identified, including new and cutting-edge techniques. For water generation needs, for example, desalinization is considered. For golf course and landscaping needs secondary uses of tertiary treated sewage and rainwater are evaluated. Harvesting rainwater via rooftops is also considered.

Electricity needs can be met by traditional sources as well as by wind, wave, tidal, solar and thermal means, and even energy cells.

Sewage disposal needs are met by addressing recycling and re-use, advanced-technology package plants, and other new processes that become available, given how rapidly the technology is changing .

Garbage disposal must be looked at holistically, including reducing the use of materials requiring disposal and by integrating materials that must be disposed of into resort-wide operations, such as composting.

Irrigation needs are met by collecting, storing and re-using surface and rainwater; by re-using gray water; and by minimizing golf course and landscaping water

needs. This includes using appropriate plants and the appropriate use and re-use of all available water resources.

A marina, if involved in a project, is an especially sensitive component. All aspects -- including water supply, electricity supply, sewage disposal, garbage disposal and fuel spill prevention -- need to be looked at carefully to meet the increased risk of water contamination.

In the development of a project to LEEDS standards, we always ask ourselves: Should these standards be tougher? Should they be modified in any way? Blind acceptance of LEEDS standards should not occur; each project needs to be viewed in the context of its unique setting and circumstances.

Finally, maintenance and operational issues need to be addressed and planned for from the very beginning. Maintenance manuals must be written that address responsibility for all of the issues mentioned above. Tangible measurement programs and progress reporting systems must be developed that take into consideration sustainability issues. Perhaps most importantly, employee education and pride must be enhanced and nurtured so that all team members understand and embrace the objectives established. The goal should be to maintain the highest standards of environmental responsibility.