Gulf of Mexico developers weighing impact of treatise

By ANDREW WHEELER

BAY ST. LOUIS, Miss. — Golf course developers in the five states bordering the Gulf of Mexico are still assessing the potential impact of a federal and state initiative to protect coastal areas.

At a December 1992 conference, government officials from all five states, environmentalists, business people and the Environmental Protection Agency signed on to the Gulf of Mexico Program (GMP). According to the directive, its goal is to protect, restore, and enhance the coastal and marine waters of the Gulf of Mexico and its coastal natural habitats, to sustain living resources, to protect human health and the food supply, and to ensure the recreational use of Gulf shores, beaches and waters... in ways consistent with the economic well being of the region.

The agreement sets forth a series of nine environmental challenges to be accomplished from 1993 to 1997. While their impact on existing and future golf course projects remains unclear, the GMP goals bear a striking resemblance to restrictive conditions protecting other coastal areas: reduction of at least 10 percent the amount of trash on beaches; an increase in Gulf Coast seagrass beds and in Gulf shellfish beds available for safe harvesting by 10 percent; the reduction of the rate of loss of coastal dunes; and the enhancement of Gulf commercial and recreational fisheries.

"I think golf courses can accommodate environmental concerns," said Jeff Brauer, an architect at Golf Scapes in Arlington, Texas, who does not think these measures will affect development significantly. "Golf architects are committed to being

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Intergraph, Nicklaus Design collaborate

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create plan drawings. Through the programming of specific user commands and the bundling of certain hardware and software products, the "golfsation" system was developed.

I begin the computer design process with survey data provided by the project owner in the form of three-dimensional existing contours.

Using the engineering software "Insite," an existing ground terrain model is built and stored in memory. Terrain models consist of a series of connecting triangles that reflect the elevation of contours to form a mesh that the computer can render and smooth.

In the next step, a design associate receives strategy from Jack or Jack II and completes a detailed 1" -100' scale contour plan. After scanning the plan into the computer, I digitize the features and contours accordingly.

From these design contours, a proposed terrain model is created with all the elements of a golf hole—tees, fairway, bunkers, water and a green.

I now have the capability to view the hole from any angle or position. Jack is always concerned about visibility of hazards. These models provide the opportunity to stand on any tee or fairway and examine the playability of the hole. If changes are needed, I lower or raise contour elevations and build another model for design review.

The strength of the Intergraph system lies in the speed available to review a proposed hole design. I can transform a paper contour plan to a reviewable scale computer model in less than one hour.

Once the model is created, Jack or Jack II can move around in it and examine the entire design or add a concerned Greens committee.

As the golf course matures, a data base has been created and updated, storing any changes to drainage, irrigation, landscape, etc. If a superintendent retires or moves on, his years of knowledge and experience on the golf course remain.

Once the designer is satisfied with the model, I use the system to accomplish many tasks. By comparing the proposed design terrain model to existing site model, cut and fill quantities are calculated.

The computer can also quickly generate cross sections and other useful engineering data.

As this stage, I am only limited by my imagination to communicate design ideas.

For example, in ideal situations a dramatic existing natural feature affects the strategy of a hole. By merging a photograph of the feature with the proposed design model, I create photo realistic images to convey golf course design working in harmony with nature.

Another important feature of Golfsation concerns the manipulation of photographs of existing golf courses. The experience and knowledge of Nicklaus design is also available in the renovation and restoration of golf courses. By taking pictures of problem areas, we can alter the photo to demonstrate proposed bunker or green design ideas. Possessing this capability is essential when attempting to communicate with a concerned Greens committee.

Our hardcopy printouts represent realism suitable for any brochure or advertisement. In many cases, various projects have used the computer visualization to attain permitting or help secure financing.

Nicklaus Design currently holds an exclusive association with the Champion's Group, a clubhouse design-build company based in Chattanooga, Tenn. This relationship affords the opportunity to provide real-time animation of a hole flyovers or walk-throughs to Nicklaus Design clients.

Instead of the customary two- to three-month time frame in most cases, we are dealing with only a few weeks.

In my opinion, the secret to perfect animation lies in ensuring the golf course designer creates and refines the model. I do not want an animation company building terrain models of a Nicklaus Design project. Our Intergraph equipment and our association with the Champion's Group represents the ideal scenario. The golf course architect builds and approves the final model. A company specializing in the golf industry then prepares the animation.

The capability exists to model the 18th hole and then place a computer-modeled clubhouse in its appropriate location. The resulting animation is a powerful marketing tool.

In addition to three-dimensional design review, computers are also changing the format of information exchange.

For those who worry about compaction so much, they lose sleep over it.