

Nugent landfill course earns kudos for environmental achievement

CHICAGO, Ill. — Harborside International Golf Center, which sits on the site of two former city of Chicago landfills, has been awarded top honors in the 1996 Superior Achievement for Excellence in Environmental Engineering competition sponsored by the American Academy of Environmental Engineering (AAEE).

Dick Nugent of Nugent & Associates — which created the two golf courses and 58-acre practice facility on the 456-acre property — will speak during the *Golf Course News*-sponsored Public Golf Forum on reclaiming this type of land. In this case, Nugent's firm changed an unsightly dump into an aesthetic community asset.

Shortly after receiving the national honor for environmental engineering, Harborside was awarded the President's Award for the Illinois Chapter of the American Society of Landscape Architects. The award recognizes Nugent & Associates for outstanding advancement of the golf course design profession.

The AAEE cited Harborside for "the manner in which it met environmental and ecological concerns and contributed to an improved environment, utilized available materials to reverse perceived abuses and achieved significant cost reduction and control in course construction."

Portions of the site were used to dispose of municipal solid waste, incinerator ash, wastewater sludge and construction debris. Nugent's role in designing Harborside was to plan and design it and be an active member of the operations oversight committee for the stand-alone golf facility.

The first nine holes of the Starboard Course and the first 15 holes of the Port Course are built on the former sanitary waste landfill. The remaining three holes of the Port Course and second nine of Starboard — plus the practice ranges and teaching facility — are built on a construction rubble landfill.

Harborside, Nugent said, is "the most challenging and satisfying in my more than 35 years of golf course design. We took a totally flat, featureless piece of ground, shaped it, topped it with a growing medium and created an experience sure to please anyone who loves the game of golf. The result is a challenging golf experience reminiscent of playing the seaside links courses that are typically found in Scotland, England and Ireland."

One of the challenges of construction was the Illinois Environmental Protection Agency requirement that the 225 acres that comprised the former landfill be capped with a two-foot seal of impervious clay to prevent runoff and seepage into ground water. To accomplish this, 200,000 cubic yards of clay were dredged from adjoining Lake Calumet. An added bonus was creation of a boat marina on the property.

In the process, a section of the lake was dammed and 200,000 fish removed from the lake while their habitat was deepened and improved. Special provisions were made to protect and relocate approximately 25,000 fish to open water.

After the lake was drained and dredged, the material was brought directly to the site with conventional earth-moving equipment. This saved an estimated \$1 million over customary "dragline" dredging, dewatering and multiple handling and

represents a pioneering use of wastewater biosolids.

Above the cap, a two-foot layer of sand and topsoil formed a growing medium for turfgrass. Some 3 million cubic yards of earth were moved to shape, cap and promote growth on the course.

Meanwhile, on the Port Course, an area of wetlands on three holes had to be moved. About six acres were created and planted with wetland vegetation.

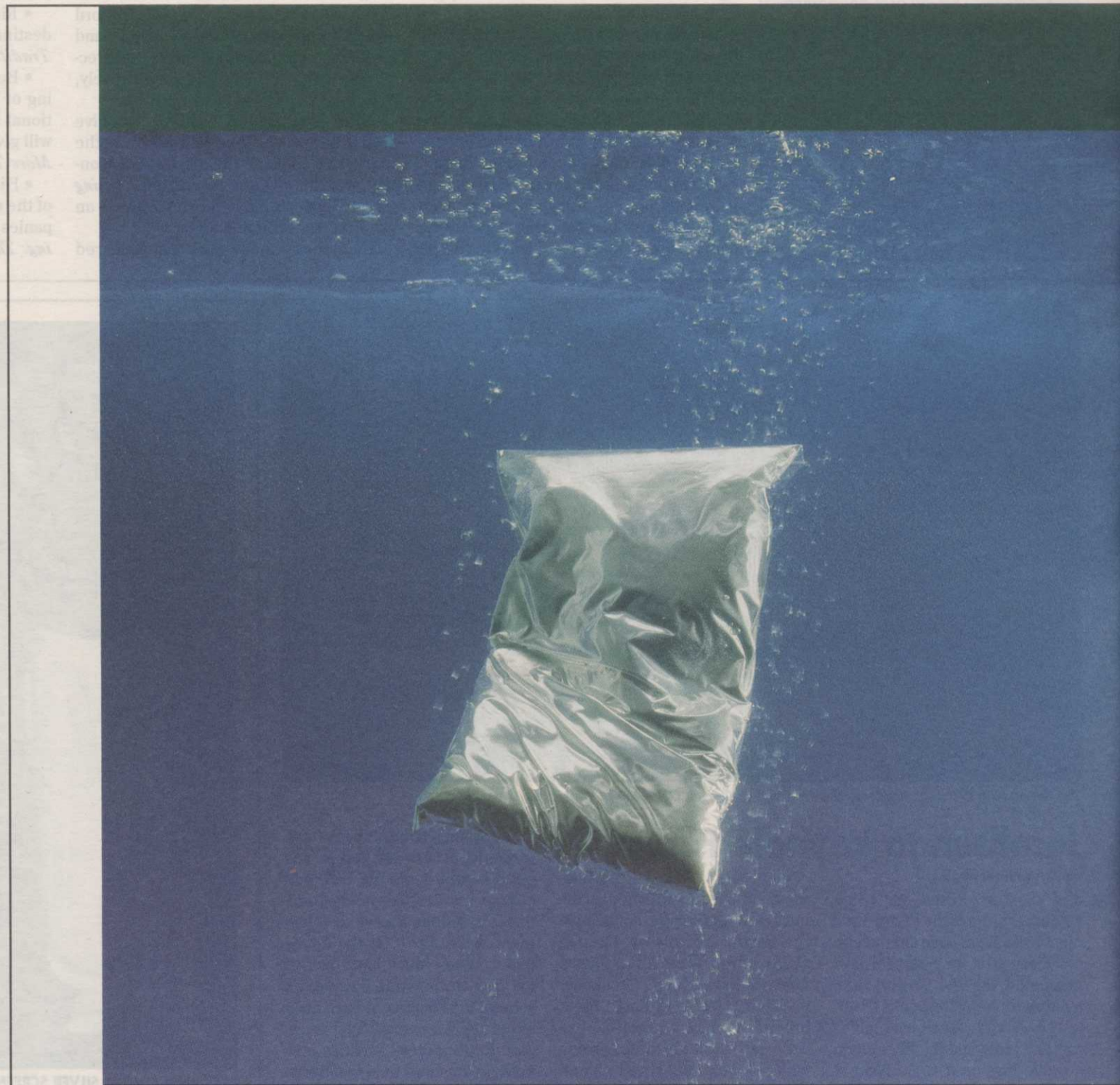
Anthony Ianello, director of the Illinois International Port District, noted that this exten-

sive use of low-cost, locally available materials minimized air pollution and truck traffic. The materials were installed in a complex layering process from the bottom of the subgrade up. Concrete from the former construction rubble landfill was recycled to build roadways, golf cart paths, embankment erosion control and building foundations. Excess material was sold to contractors.

Harborside's water-recovery system, as designed in collaboration by Nugent and project engineer Kudrna & Associates

was also innovative. The course is watered via a special pumping system that draws water from Lake Calumet, while protecting against zebra mussel infestation.

At the same time, a drainage system was installed to keep runoff waters from the sanitary portion of the landfill away from adjacent wetlands and the lake. Ground water is routed to seven collection points and returned through the Chicago Metropolitan Water Reclamation District's sewer system back to a sewer water treatment plant.



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