

## Case Study

### Rehoboth Beach Country Club's Golf Course Wash Pad



Delaware's Inland Bays consist of three interconnected bodies of water in southeastern Sussex County: Indian River Bay, Little Assawoman Bay, and Rehoboth Bay. The bays and their tributaries cover about 32 square miles and drain a land mass -called the "watershed"- of about 320 square miles. The Inland Bays are shallow, with an average depth ranging from 3 to 8 feet. Because they are so shallow, and because they are poorly flushed by tidal movement, they are especially sensitive to environmental changes. Increases in pollutants, changes in salinity and fluctuations in water temperature, for example, can have dramatic effects on water quality and on the plants, fish, shellfish, and microscopic creatures that live in the bays.

The Rehoboth Beach Country Club is located on Rehoboth Bay. It has a gorgeous championship golf course that many Delawareans and tourists enjoy. However, it is also a significant non point source polluter to Rehoboth Bay. To help reduce their pollution to the bay, the RBCC, partnered with the Delaware Pollution Prevention Program, received a 319 Program Non Point Source grant to install an equipment wash pad facility. The cost of the wash pad and installation was \$100,000. The grant was a 50/50 match awarding Rehoboth Beach Country Club \$50,000.

Construction on the project began November 1, 2004. Rehoboth Beach Country Club installed a new concrete pad with appropriate trenches, a chemical storage building, the wash water treatment system and a new building to house the system. Construction of all elements of the project was completed in February 2005. The system was put into operation in March 2005.

The wash-water treatment system, which is a closed-loop, zero discharge unit, cleans the contaminated runoff from the washing operation of all maintenance equipment associated with the golf course and recycles it for reuse.



Wash Pad Facility

The system removes pesticides, insecticides, herbicides, soil, oil, fuels, solvents, hydrocarbons and other contaminants. The system uses a highly effective blend of microbes, called Biostax 900, to naturally convert wastes into harmless water and carbon dioxide. The system is capable of processing up to 1500 gpd of waste water.

Pre-operation and post-operation water sampling was conducted through the Pollution Prevention Office. The sampling was conducted to measure the reduction in nutrients and contaminants being released into the inland bays.

Pre-operation Water Sampling:

Date	Total N	Total P	Dissolved Oxygen (mg/l)
9/22/04	13.7	1.91	8.69
9/30/04	70.7	8.11	0.89
10/07/04	37.2	6.75	0.83
10/13/04	25.2	4.05	1.24



Post-Operation Water Sampling

Date	Total N (mg/l)	Total P (mg/l)	Dissolved Oxygen (mg/l)
4/04/05	1.98	0.12	5.88
5/02/05	14.2	4.33	5.68
6/15/05	7.36	2.63	5.06

The sampling results show a reduction in Total Nitrogen and Total Phosphorus and a drastic improvement in dissolved oxygen. Total N load was reduced from 36.7 mg/l average to 7.85 mg/l average. The Total P load was reduced

from 5.20 mg/l average to 2.36 mg/l average. It is important to note that all the water is recycled back into the system, resulting in virtually zero discharge to the environment.

Rehoboth Beach Country Club's wash pad is the first of its kind in the state. Ed Brown, the superintendent of Rehoboth Beach Country Club, has seen a significant reduction in their water usage and an increase in labor savings with the new system. Also all mixing of pesticides and herbicides is now conducted on the wash pad, which has eliminated any potential spills to the environment during this process.

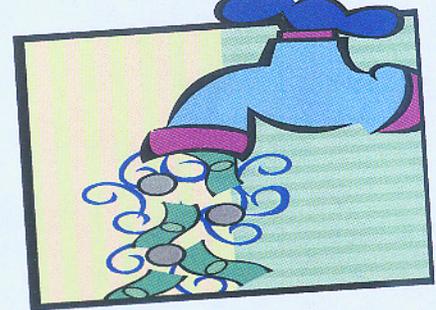
The golf course wash pad at Rehoboth Beach Country Club is an exemplary pollution prevention project. This project has brought both environmental and economic benefits to the country club and the Inland Bays.



Chemical Storage Building

Remember:

P2 Pays



If you have any questions about this project or would like to find out how your business or community can receive assistance from the Pollution Prevention Program, please contact our office at (302) 739-9909.

The Delaware Pollution Prevention Program is committed to reducing the amount of waste generated in conjunction with saving Delaware citizens and businesses money.

www.dnrec.state.de.us/DNREC2000/  
PollutionPrevention.asp  
Phone: (302) 739-9909

