

Every Bunker Has A Green Lining—And It Worked!

By Larry Gilhuly, agronomist, West Region

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In February 2007 the Northwest Region web page update, "Every Bunker Has A Green Lining," detailed the unique use of perennial ryegrass sod as a liner to minimize soil and rock contamination following the Canterwood G&CC bunker renovation. After the recent 3" snow followed by the 5" rain in a 24 hour period, the best test of this unique liner was given. The results—an overwhelming success.

The recent horrific rainfall in the Pacific Northwest (11.5" of rain in Bremerton, WA. in 24 hours!) resulted in the complete closure of I-5 (the main interstate between Seattle and Portland) for 5-6 days while more than 10' of water covered this normally dry freeway. While several golf courses have been severely flooded in western Washington and Oregon, this update focuses on the correct decision by one golf course (Canterwood G&CC) to address a major issue with bunker washouts and contaminated sand.

Golf Course Architect John Harbottle and Contractor Kip Kalbrenner were hired to create bunkers that no longer directed water into the hazards and resulted in washouts after virtually any rainfall. Instead, they created bunkers that withstood the recent torrential rainfall at this Gig Harbor site. To put the amount of rainfall into perspective, Scott Young, CGCS, rented a 1000 gallon/minute temporary pump to assist in the drainage of more than 1,000,000 gallons of water from just one of the lakes on this community golf course - and the lake is still flooded!

The previous bunkers had serious issues with plugged drainage and sand flowing out of the bunkers even when 1" or less rainfall events occurred. After renovation, the same hole after more than 5" of rain had no washouts due to water being moved away from the bunkers with berms and internal drainage added that was

not functional prior to renovation. However, the major risk taken during this renovation was the unique use of perennial ryegrass sod as a liner. This idea has been used successfully at several other golf courses in the Pacific Northwest during the past decade with the primary function of the sod providing a physical barrier between the sand and underlying soil and rock. Those areas that did wash slightly showed no signs of any contamination from soil or rock, thus the sod lining was successful in keeping the sand clean during one of the hardest rainfall events in the history of western Washington.

The importance of completing bunkers with good internal and external drainage cannot be overstated following this first-hand example. Mr. Young reported that last year it would have taken several days to a week with at least 6-8 staff members to move the sand back to the slopes while cleaning all of the debris with the associated wind storm. In this case, only two staff members were necessary to get all 72 bunkers cleaned, raked, and back in play within less than two days. Now that is a definite "silver" lining for the new bunkers at Canterwood!

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