Drainage problems and solutions

We asked field drainage companies to send us examples of specific situations where their products solved problems for turf managers. Here are the responses we received:

The Hamilton Sports Fields, Palatine, IL

Palatine, a suburb northwest of Chicago, is rightfully proud of its generous offering of recreational opportunities. During 2001-2002 the Palatine Park District constructed a park on its last piece of undeveloped land. The site contained the material excavated from the Tom T. Hamilton Reservoir.

This rather rugged looking site had been transformed into a network of well-groomed soccer fields and baseball diamonds on three terraces, and it surrounded tightly by housing on three sides and a stream on the fourth side. Effective drainage was essential on this large and environmentally sensitive bowl shaped tract of land. The fill material was dense and inconsistent. Designer Gewalt-Hamilton Associates chose Multi-Flow from Varicore Technologies as the drainage medium for this complex.

Site work was completed in 2001 and the fields were allowed uninterrupted grass growth during the summer of 2002. The summer of 2003 witnessed the opening of 10 new soccer fields, five new baseball diamonds, a playground, two parking lots, a service building and assorted auxiliary multi-purpose fields.

The Multi-Flow collector lines were installed in narrow trenches at 15-foot intervals across the site. The collectors were attached to an underlying transport system using flexible rubber boots. The boots will absorb the slight settling or shifting that might occur, without interrupting drainage.

Cooling Landscape Contractors installed Multi-Flow vertically, encased in coarse sand. The combination of Multi-Flow and coarse sand effectively prevent system blockage.

The field cancellation board on Palatine Park District’s Web site seldom has a red X on a Hamilton field.

Atlanta National Golf Club, Atlanta, GA

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Atlanta. As one of the most respected golf courses in Georgia, Atlanta National is dedicated to ensuring a world class golf experience. That is why when drainage issues arose, the club wanted to use a highly effective, easily installed drainage product that would have minimal effect on the course.

The problem: Areas throughout the course, including the driving range, started experiencing poor drainage and standing water. These areas were constantly wet, causing balls to embed in the turf, damaging the terrain, and creating poor playing conditions. The driving range was often closed due to standing water. Considering that this was peak season, Atlanta National needed a solution that could be done quickly and effectively without closing down the areas for weeks at a time for renovation.

The solution: JDR Enterprises installed 2,000 linear feet of J-DRain SWD-6, a composite turf drainage system, to incorporate both a main drain line that emptied into a creek as well as storm water basins running to the back of the range. A typical herringbone pattern was used to design the drainage layout. Trenches were excavated only 2-3 inches wide and 12 inches deep in order to install the product. Trenches were dug perpendicular to the slope, so that they would intercept surface run-off as well as drain water from the turf and root zone. J-DRain SWD was placed vertically into the trenches with temporary stakes. Fittings were then connected and taped with duct tape. Once J-DRain was in place, the trenches were back filled with sand (no gravel needed) and the temporary stakes were removed. J-DRain was installed in a fraction of the time of pipe and gravel, without the need for heavy construction machinery. Now, even after a heavy rainfall, there is no longer standing water in these areas.

Richmond Metropolitan Authority's Diamond, Richmond, VA

With the installation of a traditional drainage system, major renovations are generally incurred with extensive disruption to the turf surface. This results in a long period of down time and lost revenue. In unique situations, greater costs are encountered when it is necessary to contract alternative playing venues.

That was the case with The Richmond Metropolitan Authority's Diamond, home of the Richmond Braves a triple-A baseball club associated with the Atlanta Braves. Superintendent Dave Caudill found himself in a tough spot last August when the International League established compliance dates and a fine system related to The Diamond's playability. As a result of poor drainage leading to unplayable field conditions the Braves were forced to play a number of their home games at alternate venues, and missed other home dates all together.

The Braves were facing a $5,000 a day fine for every unplayable date. Extensive renovations, which included a new playing surface and modern drainage system, were already in discussion when WaterWick was called in as a solution. The grounds crew worked Thursday through Saturday to inject 72 tons of subsurface material with the installation of the WaterWick drainage system; this was after the field had been unplayable for the month of August. WaterWick is a non-disruptive drainage system, with immediate results requiring no non-play recovery time. The following Monday Hurricane Charley came through, dumping an additional 12 inches of rain on the Richmond area and by that Wednesday, the Braves were playing a double header at The Diamond on dry turf.