

Safe Yield Analysis: Water Supply Allocation Permit

*Woodcrest Country Club
Cherry Hill, NJ*

Cherry Hill is located in a Critical Supply Aquifer zone of New Jersey. Princeton Hydro was hired to provide water allocation permitting support for a local golf club that violated the terms of its water diversion permit. Our recommended strategy to address water supply emphasized increasing the permitted allotment from surface water and simultaneously eliminating a groundwater diversion source.

Princeton Hydro established and monitored a series of hydrologic data collection stations on Woodcrest Creek, a modest stream that transects the golf club lands. Through use of automated data collectors, Princeton Hydro continuously monitored stream stage at multiple points during a period of extended low rainfall. Through repeated field visits, Princeton Hydro also developed stage–discharge ratings curves at each stream monitoring location to quantify water flow. We then conducted a bathymetric survey of an in-line impoundment to estimate storage potential at the site and generated a water budget.

During several episodes, Princeton Hydro coordinated with the golf course superintendent to irrigate the course in a manner that maximized “stress” on the stream. Based on interpretation of the produced data set, it was demonstrated that the overall irrigation supply could be increased, that the groundwater diversion source was not an essential component of the irrigation network, and that during drought conditions, safe passing flow requirements were sustainable in Woodcrest Creek.

Princeton Hydro’s Safe Yield Analysis Report provided the technical support for a water allocation permit application that requested a doubling of the irrigation diversion limits, yet alleviates stress on a critical groundwater resource.

