Bergen County Parks and Recreation

Site Assessment & Alternatives Analysis for Flood Mitigation for Valley Brook Golf Course

River Vale, New Jersey

Bank erosion along Pascack Brook.

Nature-based solutions to flooding problems at a public golf course will provide a municipal agency with an opportunity to simultaneously enhance flood storage capacity, habitat, stream stability, water quality, and recreational enhancement.

SERVICES
Ecological Restoration
Conservation Planning

On its way to the Hackensack River, in a densely developed region of northern New Jersey, Pascack Brook flows through a popular public golf course known as Valley Brook. Over the decades, the stream had become severely eroded, and during heavy storms, it repeatedly floods two holes on the course. Seeking an innovative, nature-based solution to address the flooding while allowing the course's 18 holes to remain in play, the Bergen County Parks and Recreation department turned to Biohabitats.

Biohabitats began by performing a site assessment. This included an examination of the site's ecological, hydrologic, and hydraulic characteristics, an evaluation of upstream dam releases and downstream reservoir water levels, and interviews with stakeholders and members of the grounds crew.

Working closely with the golf course architect, Biohabitats is currently developing a range of nature-based strategies to mitigate flooding, stabilize eroding banks, and enhance the site's ecology and adaptability. Biohabitats will then perform design calculations and analyses to evaluate and quantify the effectiveness of each alternative in reducing flooding on the golf course, mitigating erosion along the streambank, and improving ecological function of the site. The strategies, which may include wetland creation, raising portions of the course, and conversion of portions of the course to habitat, will not only stabilize the stream system and strengthen its capacity to handle storm flows; they will also add ecological value and beauty to the site, while reducing maintenance needs.