

Underground system maximizes park land

PROBLEM:The Everett Parks & Recreation Department had limited space to create a new park on Silver Lake - less than four acres. Plans included a dock, a pier, a grass play area, restrooms and walkways. Local environmental regulations mandated that the park include a water quality-enhancing wet pond to manage runoff, but park designers didn't want to waste space on an oversized pond

THE CORRUGATED POLYETHYLENE PIPE SOLUTION:

Engineer Ryan Sass immediately turned to corrugated polyethylene pipe for its ease of use and minimal cover requirements. He designed a 160-foot long storm drain of 8" and 12" pipe to channel runoff from the parking lots to biofiltration swales. In addition to its ease of installation, Sass selected HDPE for its cost-effectiveness - for the pipe itself and the manpower required to install it. "I very quickly eliminated products other than polyethylene pipe because of this," he said.

- Sass is planning to add 350 feet of 36" corrugated polyethylene pipe for underground water storage between the pond and the park's biofiltration system. The "U"-shaped storage pipe will provide extra storage space for stormwater runoff and eliminate the need for a larger pond to accommodate the area's frequent rains.

INSTALLATION DETAILS:

Sass selected the 8" to 12" pipe based on its ability to handle a 25-year storm event. "I wanted to keep the diameters relatively small to keep the velocity up and keep the drain self-cleaning," he said. The new storm drain was buried one to four feet below the surface, which provided significant cost advantages during installation.

Project: Stormwater Drainage and Storage System

Location: Hauge Homestead Park, Everett, WA

Engineer: Ryan Sass, P.E., Everett Parks & Recreation

Contractor: Ohno Construction, Seattle, WA

Timing: Phase I, Fall, 1997, Phase II, Spring, 1998

"I use smooth interior corrugated polyethylene pipe almost exclusively because of its good flow characteristics and its ability to be used with only one foot of cover."

Ryan L. Sass, P.E. Everett Parks and Recreation, Everett, WA