SMART POND TECHNOLOGY FOR IMPROVED WATER RESOURCE BENEFITS

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Conventional stormwater ponds are designed and built to hold a predetermined amount of runoff, but these ponds release partially treated stormwater during and immediately after rain events. With large storms, conventional ponds can overflow and flood the surrounding area with untreated stormwater, impacting communities and the environment.

The latest innovation in stormwater technology incorporates live weather forecast data to automatically operate equipment and lower the pond water level before a storm arrives. While the sun is still shining, a smart pond can automatically release treated water into the environment and thereby increase its flood storage capacity and water quality performance.

The improvements to Florida's water resources from the use of smart ponds are tangible, and they go beyond just the benefits of flood control and water quality. Much of Florida is confronted with other water resource challenges, such as overallocated aquifers, and these challenges are forcing engineers, scientists, and community leaders to seek out alternative sources of water. Stormwater is generated in such significant quantities that, if appropriately managed and treated, it can effectively supplement or even replace groundwater as a source of drinking water or irrigation water supply.

The challenge has been how to cost-effectively manage and treat this water so that it may become beneficially reusable. Conventional approaches have involved extremely large stormwater reservoirs and costly treatment processes to get water of the appropriate quality in the right place and time to be reused. Smart pond technology can help lower these barriers to cost-effective stormwater reuse and change the way we think about stormwater. This presentation will examine two potential applications of smart pond technology using stormwater as an alternative water supply. [274 words]

PRESENTER BIO: Jeff Littlejohn is a professional engineer with more than 20 years of experience planning, designing, and implementing programs and projects to improve Florida's water quality. He has particular expertise in water quality regulations and policy, having served as the Deputy Secretary for Regulatory Programs at the Florida Department of Environmental Protection.