

Emergency Pond Treatment at a Japanese Garden

February, 2012

Ken Dunder, was contacted by representatives from a large city park in the Pacific Northwest. An old main line water pipe broke and dumped Chlorine and thousands of pounds of silt into a Japanese Garden filled with prized Koi fish. Ken worked with the city's Civil Engineer and together, they implemented immediate actions to (1) eliminate Chlorine in the water, and (2) remove excess silt from the pond.



Ken testing for Chlorine content in the water, which was originally measured at 0.9 parts per million (PPM). Ken treated the pond with NovAqua Plus, which removed Chlorine from the water while also providing a protective slime coating on the fish epidermis to protect the fish from the effects of Chlorine. Ken also tested and monitored pH, ORP (oxidation or reduction potential) and temperature.



The pond was filled with fine silt, which increased turbidity greater than 50 parts per million (PPM) . Turbidity levels were at 140–140 NTU (Nephelometric Turbidity Units). The city set up a suction piping system and surge tank, and the flow was 350 GPM (gallons per minute). The water from the pond flowed through a Chitosan filter (made primarily from Dungeness crab) and returned to the pond at 3–4 NTU.



Installation of suction pipe



Chitosan mobile treatment equipment



Using criteria for natural ponds, Ken determined that the correct turbidity should be around 1–1.5 feet of water depth. Based on this, the project was completed within 8 days. The Koi survived the onslaught of Chlorine and the pond regained its natural pleasing feel, inspiring its original persona of tranquility, meditation and calm.

In addition to his professional skill as a Chemist at Hydrokinetic Systems in Salem, Ken's experience with aquaculture and pond management has expanded his areas of expertise. Ken was already involved to re-design the water filtration and aeration system at this city park. In 2012, Ken's expertise will help to design a new biofilter system, which will help to maintain the clear, beautiful water and the inviting enjoyment of Koi, at this Japanese Garden.