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Nutrient Recovery Facility To Be Installed At Oregon Wastewater Treatment Plant

March 2, 2011

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Clean Water Services and Ostara Nutrient Recovery Technologies Inc. have partnered to install an innovative nutrient recovery facility at Clean Water Services' Rock Creek Advanced Wastewater Treatment Facility in Hillsboro, Ore. This will be Ostara's second installation of a commercial Pearl Nutrient Recovery System at a Clean Water Services' facility. Upon completion, the Rock Creek facility will be the largest Pearl facility in the world. Ostara's first commercial Pearl Nutrient Recovery System began operating at Clean Water Services' Durham Advanced Wastewater Treatment Plant in June 2009.

The Rock Creek facility will commence construction this summer as part of the plant's expansion, and is expected to be fully operational by fall 2011. The facility will feature two Pearl 2000 fluidized bed reactors, significantly larger than the systems currently installed at the Durham facility in Tigard, and in Ostara's other commercial facilities in York, Pa., and Suffolk, Va.

"Our continued partnership with Ostara is a testament to the success of our first nutrient recovery system at the Durham facility," says Bill Gaffi, General Manager of Clean Water Services. "This technology provides benefits to our ratepayers and the environment by extracting valuable nutrients - which would otherwise clog our pipes - to create an environmentally safe, revenue producing commercial fertilizer."

A common challenge for wastewater treatment facilities such as Rock Creek is the over-accumulation of phosphorus in the equipment resulting in the formation of struvite scale, a concrete-like mineral deposit which congests processing equipment adding significantly to operating and maintenance costs and threatening plant reliability. Ostara's Pearl process will help Clean Water Services overcome these challenges at Rock Creek with the recovery of up to 95 per cent of the phosphorus and 20 per cent of ammonia from the liquid wastewater stream at the Rock Creek facility, which will then be transformed - through a chemical reaction in Ostara's proprietary fluidized bed reactors (Pearl 2000) - into an environmentally friendly, slow-release fertilizer marketed as Crystal Green.

The Pearl 2000 reactors at Rock Creek will have the capacity to produce 1200 tons of Crystal Green fertilizer every year. Combined with the Durham facility, which has an annual capacity of 500 tons, Clean Water Services will become the largest producer of Crystal Green in the world.

With the Ostara process, phosphorus and other essential nutrients are recovered and transformed into Crystal Green which can be used locally by nurseries and other businesses within Washington County. Crystal Green provides a key environmental benefit - the protection of the Oregon waterways - as the fertilizer has limited runoff due to its unique slow release properties.

"Clean Water Services has always been a leader in adopting progressive solutions in wastewater management," said Phillip Abrary, Ostara's president and CEO. "We view Clean Water Services as a partner in reaching cost-effective and environmentally sound goals to recover nutrients for the highest beneficial re-use, and we are looking forward to our continued partnership with Clean Water Services on this state-of-the-art Pearl 2000 deployment at their Rock Creek facility."

The production of Crystal Green is significantly less carbon-intensive compared to fertilizers produced from mined phosphorus. Further, once the recovered nutrients are transformed into Crystal Green, the fertilizer is dried using energy derived from the digestion of wastewater solids, further optimizing the economic and environmental efficiency of the project.

For more on Crystal Green, visit www.crystalgreen.com. For more on Ostara, visit www.ostara.com.

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