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January 29, 2007

Capital Regional District  
PO Box 1000, 625 Fisgard St  
Victoria, BC  
V8W 2S6  
Tel: 250-360-3092

Attention: Dwayne Kalynchuk,  
General Manager, Environmental Services

**Re: Expression of interest - Innovative sewage treatment and resource recovery technology.**

Dear Mr. Kalynchuk,

Ostara Nutrient Recovery Technologies Inc. is pleased to present you with an expression of interest in implementing our struvite recovery technology as part of your planned upgrade to the CRD's sewage treatment infrastructure. Ostara Nutrient Recovery Technologies Inc. is a University of British Columbia spin-off company based in Vancouver using proprietary technology to recover nitrogen and phosphorus from sewage in the form of a highly pure slow release fertilizer. The fertilizer, which we market as Crystal Green™, consists of high purity struvite crystal pellets ( $MgNH_4PO_4 \cdot 6H_2O$ ) with a fertilizer N-P-K rating of 6-29-0 plus 16% MgO and can be used in a number of applications including turf, horticulture, and salmon stream rehabilitation.

Our core technology was developed by researchers at UBC's Department of Civil Engineering starting in 1999. Ostara has licensed the technology from UBC and the technology has been demonstrated at four wastewater treatment plants in Canada and the United States with a fifth site scheduled for the spring of 2007 at an award winning plant operated by Clean Water Services in Oregon. Ostara is currently installing its technology at full scale at the City of Edmonton's Goldbar wastewater treatment plant.

Ostara's technology is used to remove and recover ammonia and phosphate from sludge dewatering liquors (such as centrate, filtrate or supernatant) where nutrients are found in elevated concentration after digestion. The process consists of a unique fluidized bed reactor into which the sludge dewatering liquor is introduced and injected with magnesium chloride and caustic to initiate the crystallization reaction. The crystallization is controlled in a manner that produces struvite pellets ranging in size from approximately 0.5 mm to 5 mm in diameter, which are directly usable as a slow release source of nitrogen, phosphorus and magnesium after air drying. Typical operating conditions result in 75 to 90% phosphate recovery and up to 60 % ammonia recovery from the sludge dewatering liquors, which typically results in a 20-25% phosphate load

reduction as well as up to 10% ammonia load reduction in the main treatment plant liquid stream.

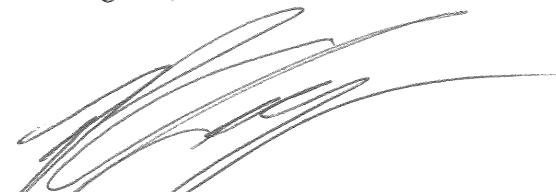
Revenue sharing from the sale of Crystal Green™ fertilizer is provided to the wastewater treatment plant in order to cover operating costs for the equipment and to offer a return on the capital invested. To date we have received active interest from a number of end users for Crystal Green™, including the BC Ministry of the Environment and the Greater Georgia Basin Steelhead Recovery Plan, who are currently testing its use in salmon stream rehabilitation as a replacement for slow release fertilizers currently imported from Japan. The Crystal Green™ is being used as a slow release source of phosphate and nitrogen that replaces the nutrient value from salmon carcasses in streams where spawning populations have declined. This has been found to increase the size, number and viability of fry returning to the ocean, and help rebuild the salmon population on treated streams over a number of years.

In addition, trials conducted at Virginia Tech, and North Carolina State University on turf grasses has indicated that Crystal Green™ was as good as or better than industry standard slow release fertilizers used in the turf industry. The plots grown with Crystal Green™ showed excellent turf density and a deeper green color due to the high magnesium content. Crystal Green is now being tested in a number of horticultural applications with the objective on increasing the potential market size in high value crop applications.

Attached is a presentation outlining Ostara Nutrient Recovery Technologies Inc. and the resource recovery opportunities that arise from our innovative technology. We would be pleased to arrange a presentation for yourself and your advisors to provide further detail on the attached and answer any questions you may have. We would also like to invite you to visit our installation in Edmonton in order to obtain a better understanding of how the process works and how it could be incorporated into the planned facilities in the CRD.

We look forward to further discussions with you regarding our possible role in improving the sustainability of wastewater treatment in BC's Capital Regional District. We are very excited at the prospect of having an installed facility showcasing our British Columbia based innovation in our home province.

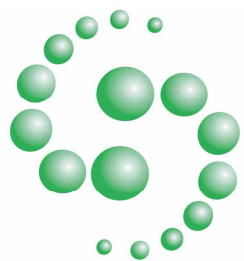
Regards,



F. Phillip Abrary  
President



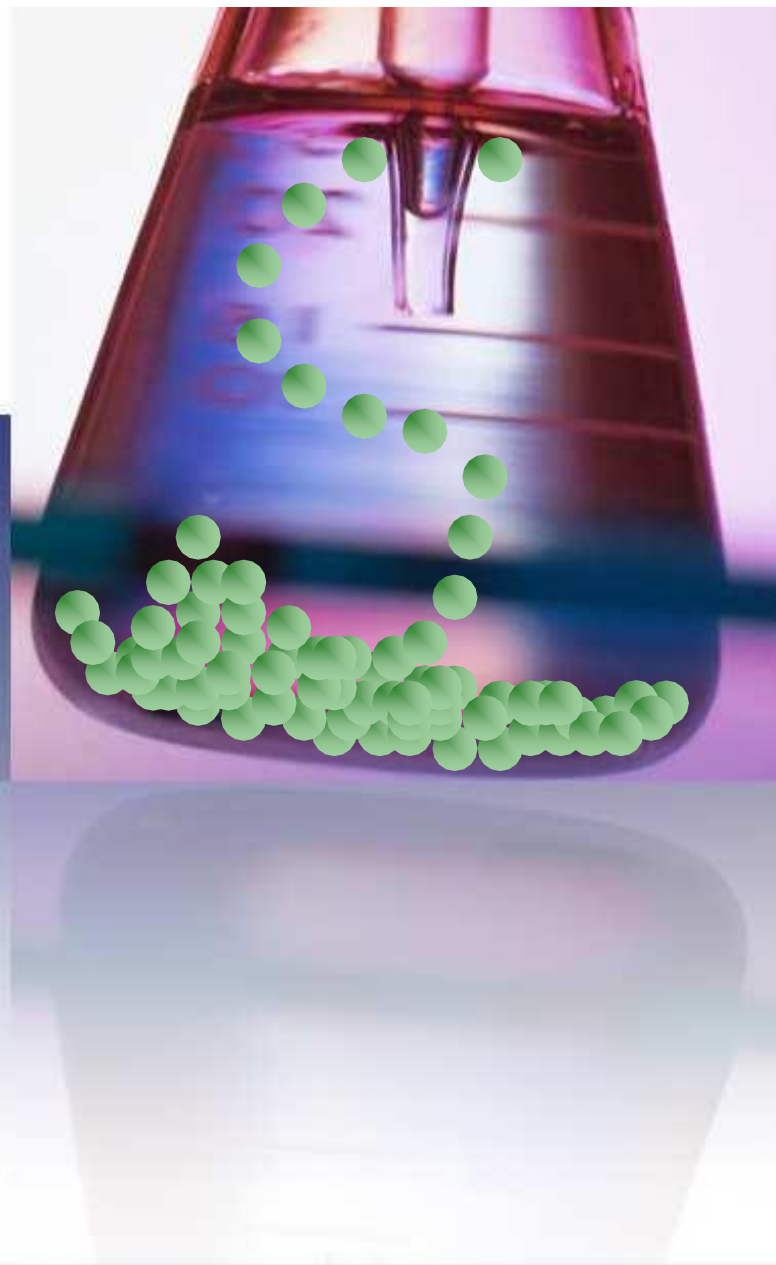
Ahren Britton  
Chief Technology Officer



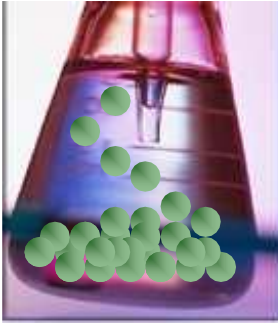
**Ostara**  
NUTRIENT RECOVERY TECHNOLOGIES INC.

# Value From Waste

CRD – Victoria, BC  
Expression of Interest

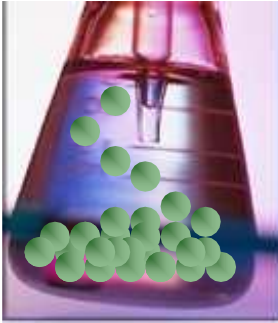


[www.onrti.com](http://www.onrti.com)



# Ostara Nutrient Recovery Technologies Inc.

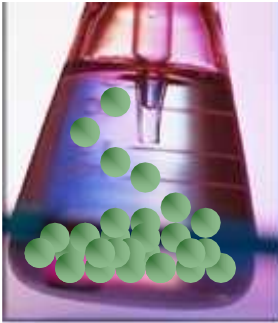
- Established May 2005
- Vancouver, BC based private company
- Resource recovery technologies
- Struvite recovery technology licensed from the University of British Columbia
- Full scale plant under construction in Edmonton, AB



# Ostara's Technology

- Unique High Rate Chemical Reactor (HRCR)
- Scaleable Design
- Retrofit to Existing Treatment Plants
- Output is High Value Fertilizer





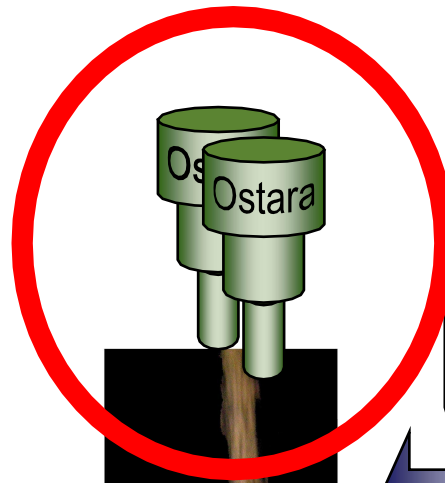
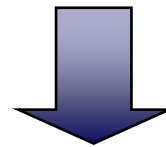
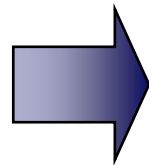
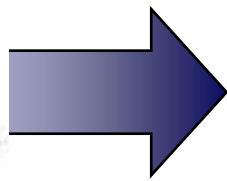
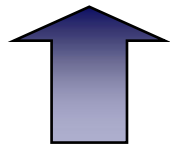
# Process Overview



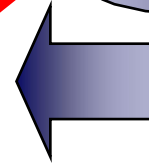
**Primary Treatment**



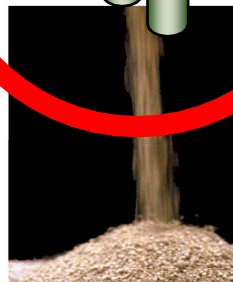
**Secondary Treatment**

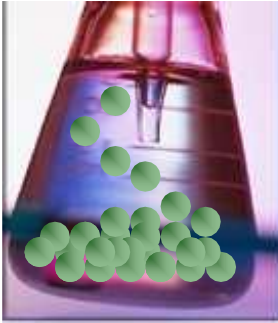


Sludge

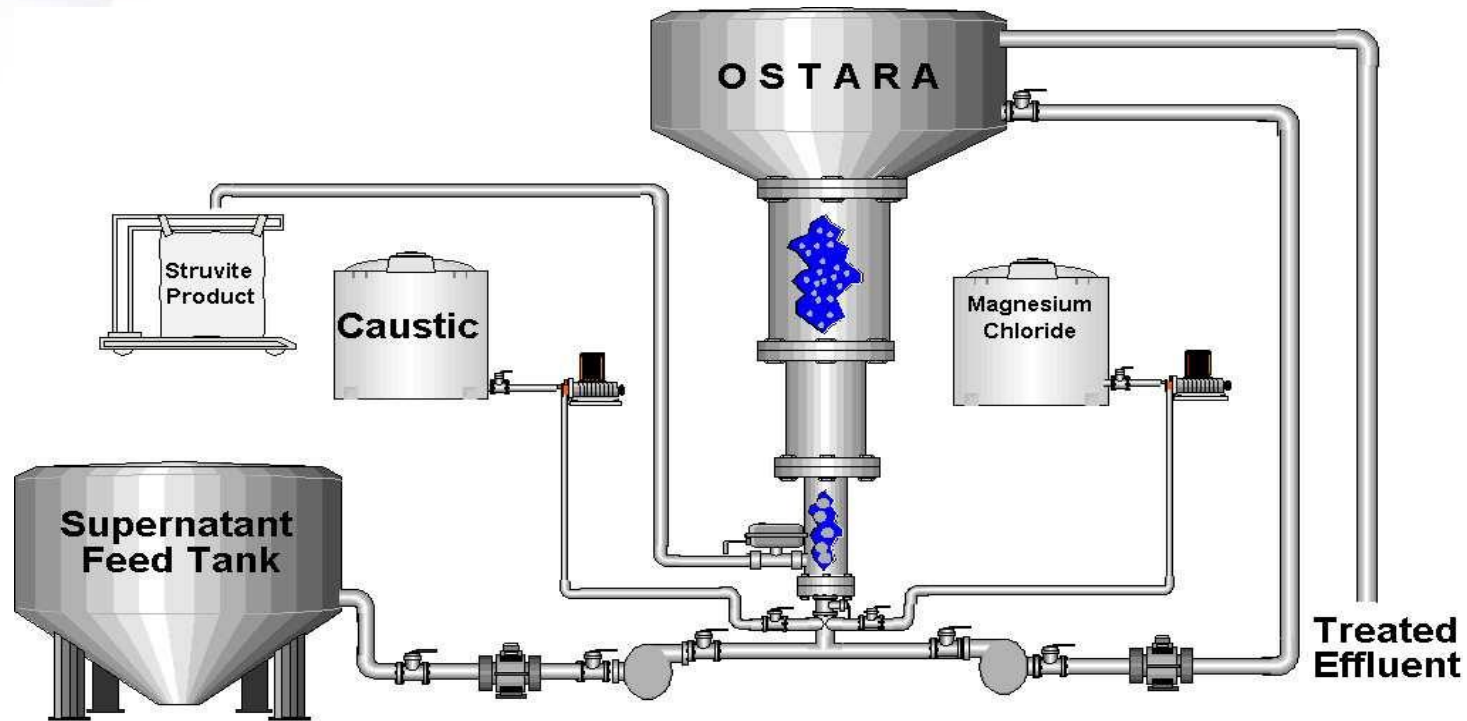


Dewatering





# The Ostara Reactor

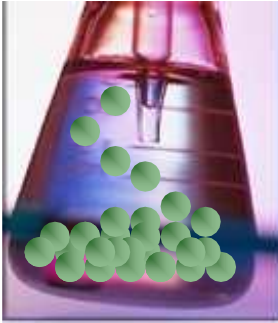




# WWTP Benefits

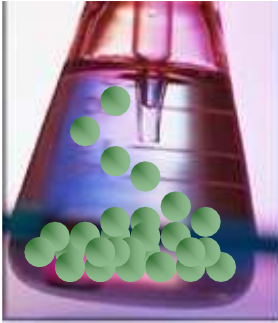
	HIGHER Plant Capacity	IMPROVED Nutrient Discharge Compliance	SAVINGS Capital Costs (\$\$)	SAVINGS Operating Costs (\$\$)
Return P reduction	✓	✓	✓	✓
Return N reduction	✓	✓	✓	✓
Eliminate chemical dosing			✓	✓
Struvite scale prevention				✓
Sludge volume reduction			✓	✓
Resource recovery		✓		





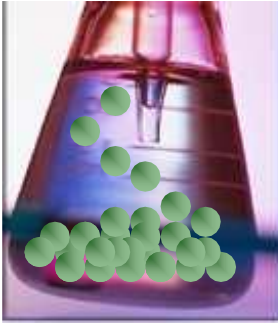
# Environmental Benefits

- Resource recovery
  - Offset mined phosphorous practices
- Nutrient export from watershed
  - Nutrient credit eligibility
- Slow release fertilizer
  - Environmentally friendly nutrient re-release



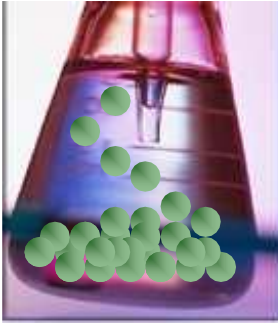
# Typical WWTP Benefits

- P - ↓ 25% total plant load (80% centrate P recovery)
- N - ↓ 5% total plant load (30% centrate N recovery)
- Sludge volume reduction (2% - 5%)
- Reduce chemical dosing for phosphate control
- Revenue sharing from sale of Crystal Green™
- Operating costs subsidized by Ostara from fertilizer revenue
- Sustainable use of resources



# Current Sites

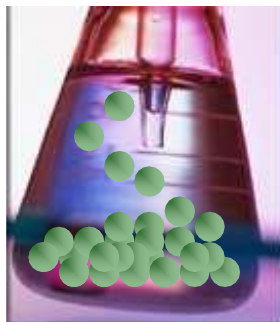
- Edmonton (Goldbar plant)
  - Recovery:  $>75\%P$  /  $>15\%N$
- Suffolk, VA (Nansemond plant)
  - Recovery:  $>85\%P$  /  $>50\%N$
- Richmond, BC (Lulu Island plant)
  - Recovery:  $>75\%P$  /  $>10\%N$
- Penticton, BC
  - Recovery:  $>85\%P$  /  $>10\%N$



# Fertilizer Operations

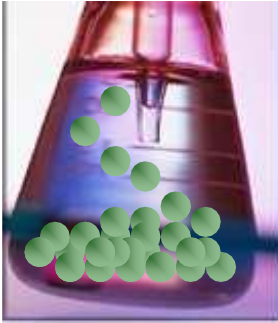


- Product distribution and sales undertaken by Ostaro
- End-users identified and targeted
  - Turf
  - Specialty Agriculture
  - Horticulture
  - Silviculture \ Aquaculture
- Distribution channel
  - End-use specific blender distributors



# NC State Bent Grass Fairways

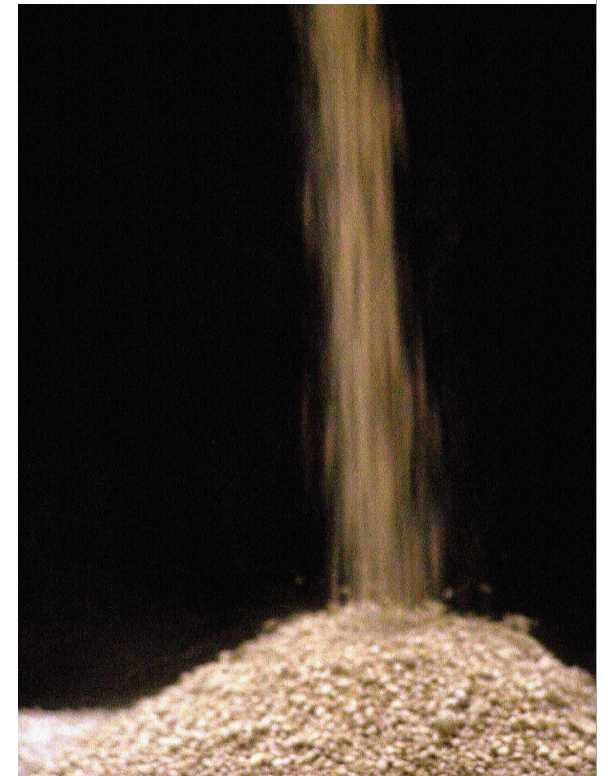


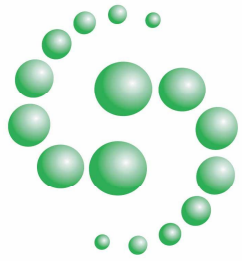


# Summary Results

## Crystal Green™

- Consistent release profile
- 7+ months longevity
- Mg & P release simultaneously
- Highly insoluble
- Slow starting
- Safe (no burn)
- Turf denser & darker green





# Ostara

NUTRIENT RECOVERY TECHNOLOGIES INC.

**Value From Waste**

**Thank You**

**F. Phillip Abrary**  
**President**  
**Ahren Britton**  
**Chief Technology Officer**

