

The Solaire - New York

Distributed Water Reuse System Schematic

- Wastewater collected for treatment
- Stormwater collected for treatment where appropriate
- Biological treatment
- Final polishing and disinfection
- Storage for reposable water

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Dockside Green - Victoria, BC

SYSTEM DESCRIPTION

Location: Victoria, British Columbia, Canada (latitude: 48° 26' N; longitude: 123° 22' W)

Treatment: Zenon membrane bioreactor plant with UV disinfection.

Product disposition: Reclaimed water reused for landscape irrigation, toilet and on-site stream.

Flowrate: Initially, the plant will process 140 m³/d, or 1 L/s of treated water. At full build-out, treated flows from the site will equal 380 m³/d (100 000 gpd).

Service area: Mixed use urban community including residential, office, commercial and light industrial uses. Service area was established on a 6.5-ha (16-ac) brownfield site in downtown Victoria and is controlled by Vancity.

Case study type: Development-scale wastewater and rainwater harvesting/stormwater reuse for high-density mixed-use redevelopment.

Management type: Private

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Septic Systems in Urban Areas

Challenges left over from previous paradigm:
Septic systems installed until sewer could be extended:

- Limited information about # and location
- Failing
- Undersized
- Old
- Not designed to today's standards
- Impacts to collection and sewer system
- Benefiting from but not sharing cost of sewers

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Decentralized Wastewater Management

- Decentralized wastewater systems are a reality today and usage will likely increase in the future
- Ensuring proper operation and maintenance is critical to their success
- Understanding the local impacts from failing systems is important for protecting ground and surface water
- It makes sense to manage wastewater systems in your jurisdiction!

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Decentralized Wastewater Management - Resources

- Management includes:
 - Knowing where systems are located
 - Knowing the type of system – old system, straight pipe, steel tank, cesspool?
 - Ensuring it functions as designed
 - Assessing risks
 - High number of failing systems
 - Areas where water (ground or surface) degradation is occurring (nitrogen loading can be a concern, even when systems function as designed)
 - Public exposure – reuse inside of buildings
 - Drinking water – using rain catchment

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How to Get Started

- Assess local conditions and need
- Work with interested stakeholders and the local health jurisdiction to develop a management program – incorporate a funding mechanism! *Implementing a management program costs \$!*
- Consider incorporating decentralized systems into your jurisdiction's wastewater management plan

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Decentralized Wastewater Management - Resources

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Funding Considerations

EXAMPLE – (different infrastructure – similar problem):
Arizona Approves Grid-Connection Fees for Solar Rooftops
 By Christopher Martin Nov 15, 2013

Arizona will permit the state's largest utility to charge a monthly fee to customers who install photovoltaic panels on their roofs, in a closely watched hearing that drew about 1,000 protesters and may threaten the surging residential solar market.

The Arizona Corporation Commission, which regulates utilities in the state, agreed in a 3-to-2 vote at a meeting yesterday in Phoenix that Arizona Public Service Co. may collect about \$4.90 a month from customers with solar systems.

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Example

Metro Vancouver

- Inventoried OSS by querying each of its member municipalities databases for lots with improvements greater than \$20 000 where the lot was not connected to the central system.
- From this they deduced the presence of an onsite system.
- Useful for assessing the nitrogen load in one particular area and suggesting improvements and possible management scenarios for the onsite systems.

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Local Examples?

If there is enough time,
 please share your
 examples.
Questions?

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Don't Panic! Resources are Available

- Lynn Schneider – lynn.schneider@doh.wa.gov
 (360) 236-3379
- USEPA - <http://water.epa.gov/infrastructure/septic/manual.s.cfm>
- Decentralized Water Resources Collaborative (DWRC) - <http://www.ndwrcdp.org/default.asp>

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